

Study: The Moldovan electricity and thermal energy market

Business Opportunities





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Project

Economic Policy Advice to the Moldovan Government Project

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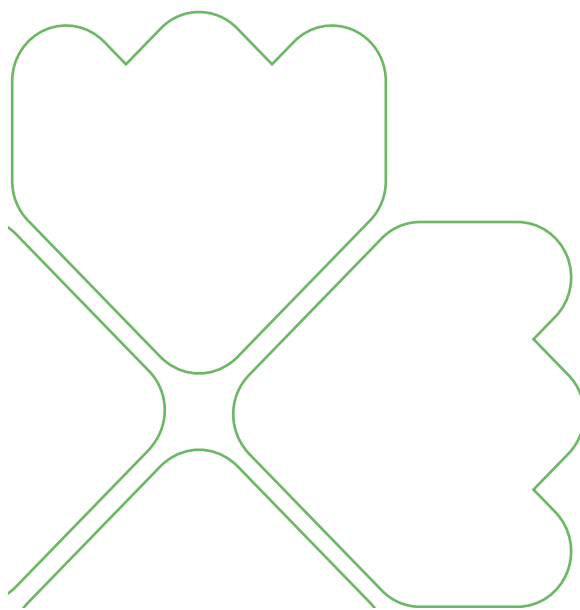
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Introduction

Moldova's energy market is a very dynamic, with a potential for rapid growth in consumption. Thus, household energy consumption by population in 2020 was about 30% lower than in Romania and 70% lower than in the EU. Therefore, energy consumption in the Republic of Moldova will increase faster than in other countries in the region, due to the effect of the small base. Following the Republic of Moldova's accession to the Energy Community Treaty (2010) and the signing of the Association Agreement with the EU (2014), the Community acquis on the energy dimension (including Energy Package III), renewable energy (including Directive 2009/28/EC) and energy efficiency (including Directive 2012/27/EU) has been fully implemented.



The main public institutions, which ensure governance in the sector are:

Ministry of Infrastructure and Regional Development (MIDR)

Central specialized body of the public energy administration responsible for drafting and promoting state energy policy;

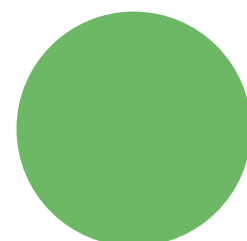
National Energy Regulatory Agency (ANRE)

Regulatory authority under parliamentary control, vested with regulatory and monitoring powers for licensed activities in the energy sectors, which also performs the state energy surveillance tasks (according to the model of the similar Romanian Authority);

Energy Efficiency Agency (AEE)

Authority responsible for the implementation of state policies in the fields of energy efficiency, energy performance of buildings and the exploitation of renewable energy sources, inclusively by attracting and managing financial resources to finance projects in those areas.

Furthermore, on the basis of Government's Decision No. 1276/2000 and with the support of the World Bank, there was founded the **Consolidated Unit for the Implementation and Monitoring of Energy Projects (UCIPE)**, which is a public, non-profit institution responsible for the efficient implementation of energy infrastructure projects, their management, coordination and monitoring in line with the requirements of the international financial bodies that finance these projects.



Executive summary

The market growth potential (especially the electricity market) in the Republic of Moldova is much higher compared to other countries in the region and throughout Europe, as currently the average electricity consumption per capita is more than 3 times lower than the EU average. Meanwhile, international private investors present on the Moldovan energy markets have shown positive results over the years, and the degree of moderate risk has been compensated

with a premium: for example, the Union Fenosa group (subsequently merged into Gas Natural Fenosa and renamed Naturgy, and currently owned by the international group Duet Private Equity Limited) bought the largest electricity distribution business in 2000 for around USD 27 million and sold it in 2019 for EUR 141 million, earning also over time dividends in the total amount of EUR 95 million.

Therefore, it is now appropriate to enter the Moldovan energy market from several points of view:

1 Firstly, the process of separating operators in the electricity market is already complete in the Republic of Moldova. Intensive work is being done to build infrastructure that would ensure the asynchronous interconnection between the Moldovan electrical energy system and the ENTSO-E, and towards 2024 the Republic of Moldova will become a new interface between the IPS/UPS system and the ENTSO-E system. At the same time, a model of the electricity

market is being developed, which provides for the creation of: the market for bilateral contracts, the next day market, the intraday market, the balancing electricity market, the system services market, based on Romanian model. Respectively, the early presence on this market will make it possible to make a decisive contribution to the formation of these markets and to exploit them.

2 Secondly, the privatization process of state-owned enterprises in the energy sector is not yet complete in the Republic of Moldova. Thus, the state holds 100% of the ownership shares in both companies operating centralized thermal supply systems (SACET) on cogeneration basis –Termoelectrica J.S.C. (Chisinau) and CET-Nord J.S.C. (Balti), and other generation assets such as the S.E. Nodul Hidroenergetic Costesti. Likewise, the state holds 100 per cent in RED-Nord J.S.C., the second largest operator of the energy distribution system, which serves nearly 500 thousand of final customers, and was removed from the list of goods that cannot be privatized, and respectively it is expected to be put to privatization.

3 Thirdly, the next 5-10 years will be the most serious in terms of realization of investment projects, since the independence of the Republic of Moldova has been proclaimed. The total volume of investments in electricity and thermal energy infrastructure is estimated at over Euro 750 million over the next 10 years.

In addition, the Republic of Moldova has untapped investment potential in energy efficiency. Despite the fact that the Community acquis in the field of energy efficiency and renewable energy has been fully transposed in terms of implementation, state funding for this

area is small (the Energy Efficiency Agency's budget for 2021 constitutes only around EUR 1.5 million) leaving space for private investors with innovative technological solutions and financing, especially on medium and long term.



Photo credit: Invest Moldova, 2018

In terms of immediate opportunities for investors, these are:

- Participation in tenders for the construction of infrastructure for the (asynchronous) interconnection of energy systems in Romania and the Republic of Moldova conducted by TSO S.E. “Moldelectrica”;
- Participation in tenderers for the reconstruction of generation groups 2 and 3 in Source No. 1 of Termoelectrica J.S.C.;
- RED-Nord privatization - state-owned DSO, listed as an enterprise susceptible to privatization. This asset is also of interest in terms of investment needs, which is even higher than in the area served by DSO Premier Energy Distribution, as these investments recover at a profitability rate of around 8.3% annually of the net value of the investment. Together with that one, „Furnizare Energie Electrica Nord” J.S.C. could be also acquired as the last-choice supplier and provider of universal service for the area served by DSO RED-Nord J.S.C. If the entry into the Moldovan energy distribution segment succeeds, it will also facilitate the development of other related activities such as energy efficiency services or distributed power generation through the “net metering” mechanism.
- Distributed production of electricity from renewable sources, in particular by taking advantage of the “net metering” mechanism, which enables consumers to become “prosumers”, setting up generation capacities and partly or entirely substituting the energy consumed from the grid with that produced at the consumption site. Given the energy prices to end-users of up to 7.58 and 10.23 ¢Euro/kWh (depending on the distribution area), investors may offer technical solutions and financing to make these investments attractive for the consumers of the Republic of Moldova.
- Energy audit services, coupled with the implementation and financing of energy efficiency measures, especially for large enterprises. Over the next two years more than 700 large enterprises in the Republic of Moldova will have to carry out energy audits and improve energy performance, while foreign investors can come not only with modern technical solutions but also with financial solutions to implement the proposed measures, for example based on the ESCO model.

Legislative, institutional and policy framework

Applicable law

The main normative acts regulating the operation of the electricity and thermal energy sectors in the Republic of Moldova is:

Energy Law No.174/2017 of 21.09.2017¹ laying down the legal framework for organizing, regulating and insuring an efficient and secure operation of the energy sectors. The Energy Law aims to:

- establishing the basic conditions necessary to ensure the independence of the regulatory authority;
- creating the necessary conditions for limiting monopoly activity, liberalizing energy markets and promoting competition in energy markets;
- creating a legal framework for ensuring the country's energy security.
- establishing basic principles for ensuring quality energy consumers under fair, transparent and non-discriminatory conditions;
- creating a legal framework for organizing and carrying out activities in energy sectors in conditions of accessibility, availability, reliability, continuity, competitiveness, quality and transparency;
- regulating legal relationships between energy enterprises, energy enterprises and consumers, system users, as well as between energy enterprises and specialized central bodies, other central government authorities, regulators, other public authorities, and local government authorities;

Among other things, the Law on energy establishes the legal framework for the operation of the regulatory authority – the National Energy Regulatory Agency (ANRE), including the functions of the Board of

Directors of ANRE, the modalities for financing ANRE, parliamentary and judicial control of ANRE, criteria and conditions for selecting the directors of the Board of Directors of ANRE, etc.

Law on electricity, no. 107/2016 of 27.05.2016², partially transposes EU Directive 72/2009 on common rules of the electricity market and aims to establish a general legal framework for the organization, regulation, efficient operation and monitoring of the electricity sector to supply final consumers with electricity in conditions of accessibility, availability, reliability, continuity, quality and transparency. Among other things, the Law establishes the necessary mechanisms for:

- ensuring free access to the electricity market;
- developing the electricity market and integrating into a competitive electricity market;
- establishing measures to ensure the security of electricity supply; proper fulfilment of public service obligations;
- promoting electricity production; ensuring adequate balance between supply and demand, the appropriate level of interconnector capacity to facilitate cross-border exchanges of electricity;
- ensuring respect for the rights of end-users, as well as environmental protection rules.

¹ Official Gazette No. 364-370 art. 620 of 20.10.2017: https://www.legis.md/cautare/getResults?doc_id=110368&lang=ro

² Official Gazette No. 193-203 art. 413 of 08.07.2016: https://www.legis.md/cautare/getResults?doc_id=105978&lang=ro

Law on thermal energy and promotion of cogeneration, no. 92 of 2014³, partially transposing Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC,

published in the Official Journal of the European Union No. L 315 of 14 November 2012. The law establishes a legal framework for efficient functioning and regulation of centralized heat supply systems, promotion of cogeneration based on useful heat demand.

Law on promoting the use of energy from renewable sources No. 10/2016 of 26.02.2016⁴, creating the necessary framework for the application of Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources, amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, published in the Official Journal of the European Union No. L 140 of 5 June 2009. The law aims to establish a legal framework for

the promotion and use of renewable energy and sets compulsory national targets for the share of renewable energy in gross final energy consumption, as well as the share of renewable energy in final energy consumption in transport. The law lays down the rules on support schemes for the production of renewable energy, guarantees of origin, administrative procedures, access of renewable electricity producers to power grids, etc.

Law on energy efficiency No. 139 of 19.07.2018⁵, transposing Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, published in the Official Journal of the European Union No. L 315 of 14 November 2012, as adapted and approved by Decision of the Energy Community Ministerial Council No. D/2015/08/MC-EnC. The law creates the legal framework needed to promote and improve energy efficiency by carrying out energy efficiency action plans, developing the energy services market, and implementing other energy efficiency measures. The law sets out policy measures in the field of energy efficiency throughout the energy chain: primary resources, production,

transport, distribution, storage, supply and final energy consumption regulate activities aimed at improving both energy production and use, increasing the country's energy security and reducing the negative environmental impact of energy sectors by reducing greenhouse gas emissions. Among other things, the Law establishes the status of obligated parties for a chain of energy market operators: obligated party – distribution system operator operating under Law No. 107/2016 on electricity and Law No. 108/2016 on natural gas and an importer of oil products operating in accordance with Law No. 461/2001 on the market in oil products to which the energy efficiency obligation scheme applies in accordance with art. 8 of the Law on energy efficiency No. 139/2018.

Law on regulating the authorization of entrepreneurial activity No. 160 of 22.07.2011⁶ consists in the establishment of uniform provisions on the regulating procedure by authorizing the entrepreneurial activity, which

is applied by the issuing authorities to natural persons and legal entities for carrying out the entrepreneurial activity or other activities provided for by law, related to entrepreneurial activity and necessary for it.

³ Official Gazette No. 178-184, art. 415 of 11.07.2014: https://www.legis.md/cautare/getResults?doc_id=106077&lang=ro

⁴ Official Gazette No. 69-77 art. 117 of 25.03.2016: https://www.legis.md/cautare/getResults?doc_id=106068&lang=ro

⁵ Official Gazette No. 309-320 art. 476 of 17.08.2018: https://www.legis.md/cautare/getResults?doc_id=105498&lang=ro

⁶ Official Gazette No. 170-175, art. No. 494 of 14.10.2011: https://www.legis.md/cautare/getResults?doc_id=117045&lang=ro



In addition to the above-mentioned laws, license holders in the electricity and thermal energy sectors are subject to one more series of Laws and Government Decisions:

- Law on normative acts No.100 of 22.12.2017⁷.
- Administrative Code of the Republic of Moldova No. 116 of 19.07.2018⁸.
- Contravention Code of the Republic of Moldova No. 218 of 24.10.2008⁹.
- Law on consumer protection No. 105 of 13.03.2003¹⁰.
- Civil Code of the Republic of Moldova No. 1107 of 06.06.2002¹¹.
- Law on transparency in decision-making No. 239 of 13.11.2008¹².
- Law on procurement in the energy, water, transport and postal services sectors No. 74 of 21.05.2020¹³.

⁷ Official Gazette No. 7-17 art. 34 of 12.01.2018: https://www.legis.md/cautare/getResults?doc_id=105607&lang=ro

⁸ Official Gazette No. 309-320 art. 466 of 17.08.2018: https://www.legis.md/cautare/getResults?doc_id=16072&lang=ro

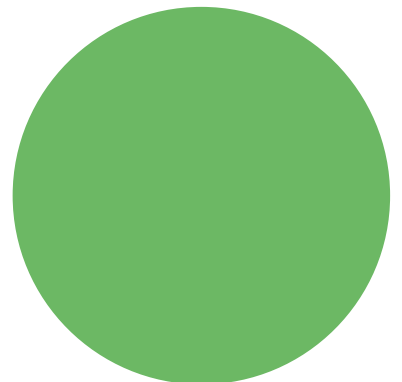
⁹ Official Gazette No. 78-84 art. 100 of 17.03.2017: https://www.legis.md/cautare/getResults?doc_id=119550&lang=ro

¹⁰ Official Gazette No. 176-181, art. No. 513 of 21.10.2011: https://www.legis.md/cautare/getResults?doc_id=110237&lang=ro

¹¹ Official Gazette No. 82-86 art. 661 of 22.06.2002: https://www.legis.md/cautare/getResults?doc_id=112573&lang=ro

¹² Official Gazette No. 215-217 art. 798 of 05.12.2008: https://www.legis.md/cautare/getResults?doc_id=106638&lang=ro

¹³ Official Gazette No. 153-158 art. 278 of 26.06.2020: https://www.legis.md/cautare/getResults?doc_id=121896&lang=ro



The rules and mechanisms applicable to the electricity and thermal energy sectors are detailed in the normative acts approved by the National Energy Regulatory Agency (ANRE), the most important of which are:

- Rules of the electricity market, approved by the Decision of the Board of Directors of ANRE No. 283/2020 of 07.08.2020

- Power grid code

- Technical rules for thermal grids approved by Decision of the Board of Directors of ANRE No. 136/2018 of 05.04.2018.

- Regulation on access to electricity transmission networks for cross-border exchanges and congestion management in the electricity system

- Regulation on electricity supply

- Regulation on thermal energy supply, approved by Decision of the Board of Directors of ANRE No. 23/2017 of 26.01.2017

- Regulation on connection to electrical grids and provision of electricity transmission and distribution services

- Regulation on the quality of electricity transmission and distribution services approved by Decision of the Board of Directors of ANRE No. 537 of 24.12.2020

- Regulation on quality indicators for thermal energy distribution and supply services, approved by Decision of the Board of Directors of ANRE No. 484/2017 of 13.12.2017.

- Regulation on the measurement of electricity for commercial purposes

- Regulation on the guarantee of origin for electricity produced under high-efficiency cogeneration, approved by Decision of the Board of Directors of ANRE No. 201/2017 Of 19.05.2017.

- Methodology for the calculation, approval and application of tariffs for energy distribution service, ANRE Decision No. 64/2018 of 22 February 2018

- Methodology for the calculation, approval and application of regulated prices for the supply of electricity by the supplier of last resort and universal service provider, ANRE Decision No. 65/2018 of 23 February 2018

- Methodology for the calculation, approval and application of regulated tariffs for the electricity transmission service approved by ANRE Decision No. 486 of 13.12.2017

- Methodology for the calculation, approval and application of regulated tariff for the operation service of electricity market

- Methodology for determining the regulatory values of thermal energy losses, heating agent and the values of the regulatory indices for the operation of water-based thermal networks approved by Decision of the Board of Directors of ANRE No. 742 of 18.12.2014

- Methodology for the calculation, approval and application of regulated prices and tariffs for electricity and thermal energy production, for thermal energy distribution and supply services approved by ANRE Decision No. 396/2019 of 01.11.2019.



Institutional framework

The main public institutions, which ensure governance in the sector are:

Ministry of Infrastructure and Regional Development (MIDR)—central specialized body of the public energy administration responsible for drafting and promoting state energy policy;

National Energy Regulatory Agency (ANRE) – regulatory authority under parliamentary control, vested with regulatory and monitoring powers for licensed activities in the energy sectors, which also performs the state energy surveillance tasks (according to the model of the similar Romanian Authority);

Energy Efficiency Agency (AEE) – authority responsible for the implementation of state policies in the fields of energy efficiency, energy performance of buildings and the exploitation of renewable energy sources, inclusively by attracting and managing financial resources to finance projects in those areas.

Framework of relevant strategies and policies for the thermal energy and electricity sector

The main strategic documents relevant to the electricity sector are the Energy Strategy of Republic of Moldova by 2030, approved by Government Decision No. 102 of 05.02.2013¹⁴ and Low-Emission Development Strategy of Republic of Moldova by 2030, approved by Government Decision No. 1470 of 30.12.2016¹⁵.

The Energy Strategy of Republic of Moldova is structured into 2 phases (2013-2020 and 2021-2030) and sets out three general objectives and specific targets for the electricity and gas sectors as follows:

1 Objective 1) ensuring security of energy supply. There have been established the following specific targets for the electricity sector, to be achieved by 2020:

- achieving the 20% share of renewable energy sources from gross total energy consumption. This target was achieved because of the change in the methodology for establishing the energy balance and of the inclusion by households of estimates relating to solid biomass consumption for heating.

- increasing domestic electricity production capacity by up to 800 MW, including: 400 MW due to upgrading the main energy cogeneration source in Chisinau Municipality and 400 MW due to generation on the basis of renewable sources. This target was not reached by the end of 2020. For the construction of a “combined cycle and cogeneration” power plant it is important to take into account that suppliers can only be required to procure the electricity produced under cogeneration, but not all the electricity produced by such a power plant, and in the absence of centralized cooling systems, during the hot season the heat load is too small to justify such an investment. With regard to renewable energy, details of the achievement of this target will be presented below – see targets for Objective 3).

¹⁴ https://www.legis.md/cautare/getResults?doc_id=68103&lang=ro

¹⁵ https://www.legis.md/cautare/getResults?doc_id=114408&lang=ro



2 Objective 2) development of competitive markets and their regional and European integration. As a specific target for the electricity sector, to be achieved by 2020, was:

- construction of 139 km high voltage LEA for interconnection with Romania's transmission system (interconnections were expected at the approval stage on the axes Balti-Suceava and Straseni-Ungheni-Iasi). In fact, in the implementation process of the Strategy, the priority was given to the asynchronous interconnection on the Chisinau-Vulcanesti-Isaccea axis, with the construction of 400 kV OHTL Chisinau-Vulcanesti and a back-to-back station in Vulcanesti, but until now and towards the end of this year these investments will not be realized.

3 Objective 3) ensuring the sustainability of the energy sector and combating climate change. Within this objective, the targets relevant to the electricity sector, to be achieved by 2020, were:

- reducing losses in electricity transmission and distribution networks to 11%. This target is achieved as in 2020 the loss of electricity in the electricity transmission and distribution networks amounted to $\approx 9.46\%$.
- ensuring the share of the annual production of electricity from renewable energy sources of 10%. This objective was not achieved, as of 3 mechanisms to support the production of energy from renewable sources provided for by Law No. 10/2016 in fact only two are working – the “net metering” mechanism, implying the possibility of turning consumers into “prosumers” by setting up a capacity of up to 200 kW and the “feed-in tariff” mechanism for a capacity of up to 1 MW (for wind power stations – up to 4 MW). The main mechanism, aimed at promoting investments in higher generation capacities, has not yet been implemented. Currently, more than 60 MW of renewable power generation capacities are installed in the Republic of Moldova (investments under support mechanisms that worked until the adoption of the Law on promoting the use of energy from renewable sources No. 10/2016) but for achieving a 10% share there is required to install some capacities of around 250 MW (at an average capacity utilization factor of 0.25). However, given that the average load in the system is slightly above 500 MW and the load peak – below 865 MW¹⁶ (2020), the installation of 400 MW of uncontrolled (intermittent) generation is practically unattainable in the medium term.

¹⁶ For the Republic of Moldova controlled by the constitutional authorities of Chisinau. Along with the Transnistrian region, the peak reaches about 1100 MW.



Photo credit: Esco-Voltaj

The Low-Emission Development Strategy of Republic of Moldova (LEDS-2030) aims as general objective the unconditional reduction, by 2030, of net greenhouse gas emissions by at least 64% compared to 1990. This objective could increase to 78% on a conditional basis if there is a comprehensive agreement, which would address key issues such as low cost financial resources, technology transfer and technical cooperation, access to everything appropriate to the challenges of global climate change. The energy sector is targeted in LEDS-2030 at the specific objective 1, which requires an unconditional reduction of greenhouse gas emissions from the energy sector until 2030 by 74% and a conditional greenhouse gas reduction of up to 82% compared to 1990. In this respect, the Action Plan for the implementation of the LEDS-2030 provides, inter alia:

- **Action 1.2:** the construction of electrical interconnections with Romania's electrical energy system (ENTSO-E). This action is already in the process of implementation (at the stage of technical studies), and the construction of an overhead transmission line (OHTL) 400 kV Vulcanesti-Chisinau and the back-to-back station in Vulcanesti will ensure the asynchronous interconnection with Romania's electricity transmission system.
- **Action 1.3:** the implementation of distributed energy generation at high-efficiency thermal heating plants operating on natural gas, i.e. 40 high-efficiency thermal power plants with a total power of 20 MW. For now, no progress has been achieved and no progress has been officially announced on it, but the timetable for implementation is 2030, so action can still be achieved.
- **Action 1.5:** the promotion and construction of wind power plants connected to the power grid – 400 MW to achieve the unconditional objective and 400 MW to achieve the conditional objective. Some progress has been made in this action, with the total capacity of wind power plants connected to the network exceeding 40 MW. However, implementation of this action in the parameters and in the terms set out in the Action Plan is almost impossible, given that the maximum load of the current electrical energy system is 865 MW¹⁷ (2020) and the average load in the system is about 500 MW.
- **Action 1.6:** the promotion and construction of photovoltaic plants connected to the power grid – 20 MW to achieve the unconditional objective and 200 MW to achieve the conditional objective. The realization of the action to the extent that it has assumed to achieve the unconditional objective (20 MW) is realistic and is most likely to be met and even exceeded before the deadline (2030), as it corresponds to Government Decision No. 689 of 11.07.2018 on approval of capacity limits, maximum quotas and capacity categories in the field of renewable electricity by 2020. However, implementation of this action in the parameters assumed to achieve the conditional objective (200 MW additional) is unlikely, given that the maximum load of the current electrical energy system is 865 MW (2020) and the average load in the system – around 500 MW;
- **Action 1.7** on the use of biogas electrogenic groups for the production of electric and thermal energy – 5 MW for the achievement of the unconditional objective and an additional 25 MW for the achievement of the conditional objective. The action has already been carried out within the limits prescribed to achieve the unconditional objective, as the installed biogas power capacity already exceeds 5.7 MW. Implementing the action in line with the parameters assumed to achieve the conditional objective (25 MW more) in principle is possible, but will depend on carrying out other activities, especially those related to reducing greenhouse gas emissions in the livestock sector of agriculture (biogas recovery from animal waste) and managing solid waste (biogas recovery from landfill gas).

¹⁷ For the Republic of Moldova controlled by the constitutional authorities of Chisinau. Along with the Transnistrian region, the peak reaches about 1100 MW.

Electricity market

Licensed operators

Currently, for carrying out licensed activities in the electricity sector¹⁸ there are valid 53 licenses issued by ANRE, including:

1 For electricity transmission – 1 license also for the centralized management of the electricity system – 1 license owned by the transmission system operator (TSO) The State Enterprise

“Moldelectrica” (S.E. “Moldelectrica”). A more detailed analysis of the work of the OST, S.E. “Moldelectrica”, will be presented below.

2) For electricity distribution – 2 licenses owned by distribution system operators (DSOs):

- F.C.C. “Premier Energy Distribution” J.S.C. – 100% private operator, majority shareholder in Czech holding “Emma Capital” (about 70%).

- “RED-Nord” J.S.C. – 100% of shares held by the Public Property Agency (APP) of the Republic of Moldova.

A more detailed analysis of the work of both DSOs will be presented below.

3 For producing electricity – 8 licenses¹⁹, of which 3 license holders for the production of electricity from renewable sources:

- “CET Nord” J.S.C. - 100 per cent of the APP’s shares. The second largest electricity producer on the right side of Dniester – installed power capacity is of 37 MW, in cogeneration, with heat delivered to the second largest SACET in Balti Municipality.

- “Termoelectrica” J.S.C. - 100 per cent of the APP’s shares. It is the largest electricity producer on the right side of Dniester – the installed electricity capacity is 306 MW, in cogeneration, with heat delivered to the largest SACET in the Republic of Moldova in Chisinau Municipality. Currently, there are carried out upgrading works of a part of the electrical groups, as is expected to increase the generation capacity.

- S.E. “Nodul Hidroenergetic Costesti” – State enterprise, managed by APP, operating from the Republic of Moldova’s Costesti-Stanca hydropower plant, located on Prut river. Generation capacity for the Republic of Moldova – 16 MW.

- License holders for the production of electricity from renewable sources are: JCG SOLAR LLC, FLY REN ENERGY GROUP LLC and EDTRANS-GROUP LLC.

- “Moldovan Thermal Power Plant” (MGRES) closed type J.S.C. – the largest electricity producer of the Republic of Moldova with a total installed capacity exceeding 2500 MW located in Dnestrovsk city in the Transnistrian region. The shares are owned by the Russian holding company “Inter RAO-UES”²⁰.

4 For electricity supply – 45 licenses, of which only 6 suppliers have operated in recent years, including:

- Two universal service providers and suppliers of last resort: F.C.C. “Premier Energy Prime” L.L.C. and “Furnizarea Energiei Electrice Nord” J.S.C., which is required to provide the service, in areas of service of DSO Premier Energy Distribution and RED-Nord, respectively.

- Energoacom J.S.C., an electricity supplier, which is also a central electricity supplier. The State (through APP) owns 100 per cent of this company shares. Further details of its work will be presented below.

- Another 3 suppliers, providing small quantities of electricity at negotiated prices.

¹⁸ <http://www.anre.md/registru-de-licentiere-3-134>

¹⁹ <https://www.anre.md/registru-de-licentiere-3-134>; <https://www.anre.md/registru-de-licentiere-3-79>

²⁰ The results of the “privatizations” of enterprises from the left side of Dniester are not legally recognized by the authorities of Chisinau.

Operation of the electricity market

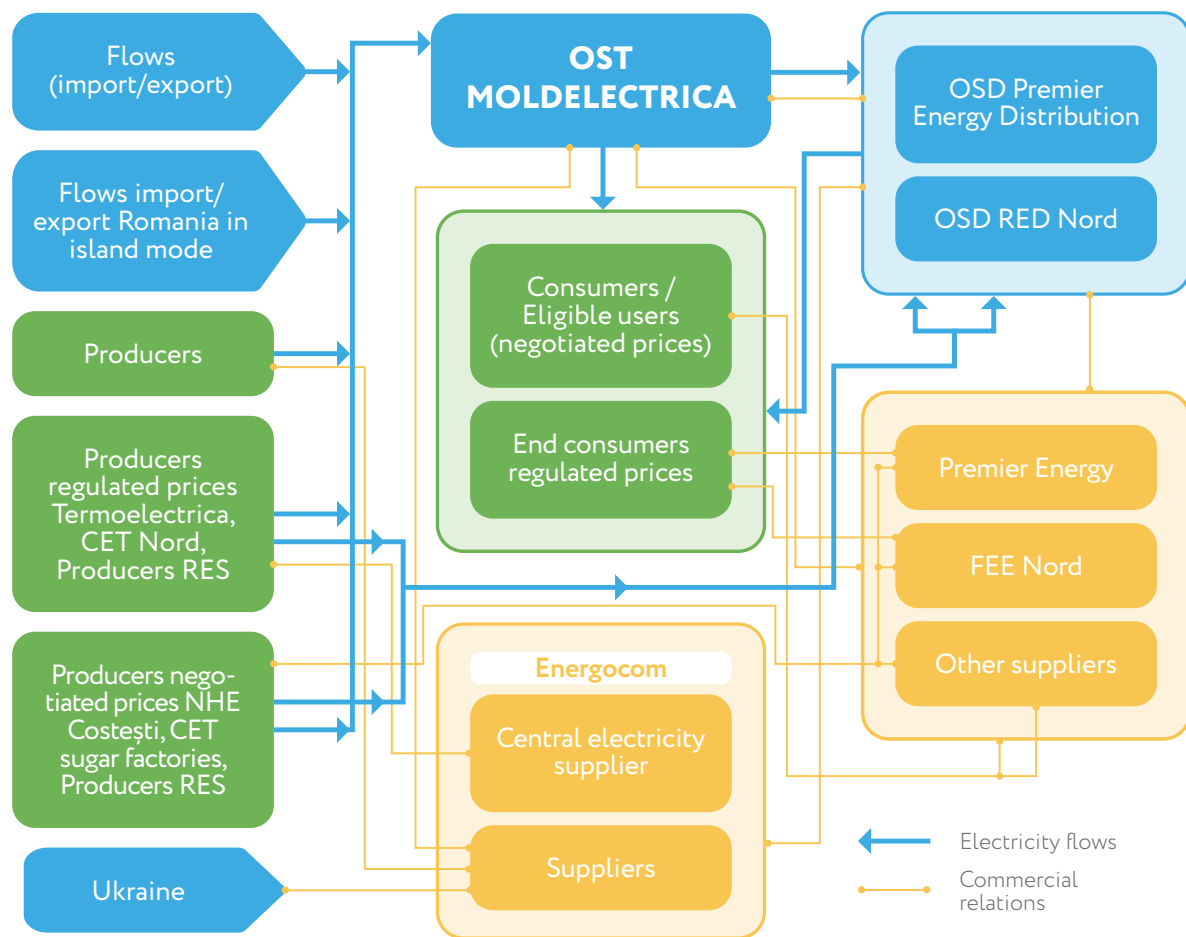
Currently, the supply of electricity to final customers is carried out on the basis of contracts concluded with electricity suppliers, on the basis of the Regulation on electricity supply, approved by Decision of the Board of Directors of ANRE No.169/2019 of 31.05.2019 and the Law on electricity. Schematically, the model of the electricity market is as follows:

For the purchase of the quantities of electricity necessary to cover the electricity demand of final customers with whom it has contracts for the supply of electricity, suppliers shall conclude

contracts for the purchase of electricity with other suppliers, producers or from imports. Electricity produced from urban heating power plants and electricity produced from renewable energy sources for which ANRE has approved tariffs, is necessarily procured by the central electricity supplier "Energocon" J.S.C.

DSOs and TSOs are obliged to conclude electricity procurement contracts to cover technological consumption and losses from electricity transmission and distribution networks.

Figure 1. Schematic functioning model of the electricity market in the Republic of Moldova



For the transmission of electricity through electricity transmission networks and delivery to final consumers whose electrical installations are connected to electricity transmission grids or electricity supply to electricity transmission networks, suppliers shall conclude contracts for the supply of electricity transmission service.

For the supply of electricity to final consumers, whose electrical installations are connected to the power distribution networks, suppliers shall conclude contracts for the supply of the power distribution service with distribution system operators.

The relations between the transmission system operator and electricity suppliers, distribution system operators shall be established on the basis of contracts for the provision of the electricity transmission service. Those contracts shall be concluded within the time limits and conditions laid down in the Regulation on connection to electricity networks and the provision of electricity transmission and distribution services, as approved by Decision of the Board of Directors of ANRE No. 168/2019 of 31.05.2019 and must comply with the provisions of the Law on electricity No. 107/2016.

For the transport of electricity purchased by DSO to cover technological consumption and power losses from power distribution networks, DSO conclude contracts with TSO.

Until 2020, “Energoecom” J.S.C. was the main electricity supplier on the market, which procured electricity both at negotiated prices (from MGRES and imports from Ukraine – on the basis

of the power supply license) and at regulated prices, set by ANRE for urban heating plants and producers of electricity from renewable sources (on the basis of obligations established to the central supplier by Law on electricity No. 107/2016). Quantities of electricity purchased by “Energoecom” J.S.C. as a central electricity supplier shall be distributed to other suppliers, including final consumers served by the central supplier in accordance with ANRE Decision, in proportion to the share of the retail market. Quantities of electricity procured by “Energoecom” J.S.C. from MGRES and imported from Ukraine is provided, as necessary, on the basis of contracts and prices negotiated with other suppliers. The S.E. “Nodul Hydroenergetic Costesti” produces and supplies electricity to suppliers at negotiated prices. Likewise, the electricity produced by some producers of electricity from renewable sources and heat plants for which no prices are approved by ANRE is purchased at negotiated prices.

At the same time, the future model of the electricity market (including market operator, licensees’ roles, solution of system balancing, etc.) is set out in the Electricity Market Rules, which will enter into force on 01.01.2022, approved by the Board of Directors of ANRE, in accordance with the provisions of the Law on electricity.

The rules of the electricity market provide for the following markets: the bilateral contract market, the next day market, the intraday market, the balancing electricity market and the system services market.

Thus, in charge of the bilateral contract market, the next day and intraday markets will be the operator of the electricity market, to be designated by the Government under the provisions of the Law on electricity, within 4 months of the finding by the Ministry of Infrastructure and Regional Development, on the basis of ANRE opinion, that there are available conditions for the procurement of electricity on the national liberalized market, the Energy Community or other third countries and/or favorable conditions for the creation and functioning of organized competitive markets.

Responsible for the balancing electricity market is the TSO S.E. “Moldelectrica”. All parties responsible for balancing under the Law on electricity are obliged to conclude balancing contracts and assume responsibility for imbalances. The parties responsible for balancing will also be able to delegate this responsibility to another party responsible for the balancing group. TSO will determine the imbalances for each hour and issue invoices for imbalances, respectively, with responsibility for the system services. TSO will also be responsible for allocating interconnections capabilities to other electrical energy systems.

The market for system services and the organized market for bilateral contracts will be established within the deadlines set out in the Rules on the electricity market. The rules for the functioning of organized electricity markets are laid down in the Rules on the electricity market approved by ANRE, which will enter into force on 01.01.2022.

Size of the market and forecasts of its evolution

The quantities of electricity purchased, transported, distributed and delivered to final consumers are shown in Table 1.

Table 1. Procurement, energy supplies in 2020, mil. kWh²¹

Indicator	Volume
Total electricity procured, including:	269.8
• Termoelectrica J.S.C.	
• CET Nord J.S.C.	
• S.E. NHE Costesti	
• Renewable sources	
• Other local producers	
• MGRES	3251.3
• Imports from Ukraine	
Loss of electricity transmission network	
Loss of electricity distribution network F.C.C. Premier Energy Distribution J.S.C.	225.97
Loss of electricity distribution network RED Nord J.S.C.	74.31
Delivered to end-users, in total, including:	3866.2
• FCC Premier Energy LLC	2543.9
• FEE Nord	949
• Other suppliers	373.3
Distribution of final consumption by type of end-user:	
• Household consumers	1721.3
• Non-household customers	

Taking into account the trends in electricity consumption over the past years, Table 2 shows the forecasts for electricity consumption over the period up to 2030 according to the Republic of Moldova Energy Strategy by 2030 and that

indicated in the Republic of Moldova's Four²² National Communication to be reported to the United Nations Framework Convention on Climate Change, which can be considered to reflect around existing realities.

Table 2. Forecasts of electricity consumption over the period up to 2030²³

Year	Forecast of the Ministry of Economy and Infrastructure (MEI)		Indicated in the National Communication IV	
	Total electricity consumption, mil. kWh	Maximum power, Pmax, MW ²⁴	Total electricity consumption, mil. kWh	Maximum power, Pmax, MW ²⁵
2016	4101	743	-	-
2017	-	-	4410	801
2020	4439	804	4675	847
2025	4892	886	5177	938
2030	5396	978	5766	1045

According to the information indicated in the Plan for the Development of Electricity Transmission Networks for the period 2018-2027, the minimum task under consideration is 348 MW.

²¹ The figures relate to the right bank of the Dniester river, controlled by the constitutional authorities of the Republic of Moldova

²² Energy Strategy Project by 2030: https://cancelaria.gov.md/sites/default/files/document/attachments/proiectul_88.pdf

²³ Projections refer to the right bank of the Dniester river, controlled by the constitutional authorities of the Republic of Moldova

²⁴ Own calculations

²⁵ Own calculations

Transmission System Operator, S.E. “Moldelectrica”

The electricity transmission system operator (TSO) is the State Enterprise “Moldelectrica” founded on the basis of Decision No. 1000 of 02.10.2000 “On creation of state-owned enterprises in the electricity sector” and Order of the Ministry of Industry and Energy of the Republic of Moldova No. 92 of 19.10.2000. S.E. “Moldelectrica” operates as TSO under the license for electricity transmission AA No. 064574 of 10.06.2008, issued by ANRE and valid until 20.04.2026 and the license for centralized management of the electricity system valid until 29.06.2046.

TSO’s main tasks include electricity transmission through electricity transmission networks, centralized management of the electricity system, operating electricity transmission networks and operating interconnections with other countries electricity systems, granting electricity transmission services to system users, including in case of electricity transit. Length of transmission lines of TSO S.E. “Moldelectrica” is presented in Table 3.

The electrical energy system of the Republic of Moldova is interconnected and operates in synchronous mode with Ukraine’s electrical energy system through 7 interconnections of 330 kV voltage and 11 interconnections of 110 kV voltage. In 2021, the electricity transmission capacity of these interconnections constitutes 600 MVA²⁶. Interconnections with Ukraine’s electrical energy system are shown in Table 4.

In addition, R. of Moldova’s electrical energy system has 5 interconnections with Romania’s electrical energy system to ensure that it operates with Romania’s electrical energy system under the “island regime”: 4 voltage interconnections of 110 kV and one interconnection of 400 kV (see Table 5 for details). The electricity transmission capacity of these interconnections constitutes 310 MVA. Currently these interconnections are not being used.

Table 3. The length of the power lines of the TSO S.E. “Moldelectrica”

Voltage	Length, km
35 kV	807.59
110 kV	3337.04
330 kV	377.34
400 kV	203.00
Total	4724.97

Table 4. The length of the power lines of the TSO S.E. “Moldelectrica”

Rated voltage	Name of overhead transmission line (OHTL)
Southern Electricity system (ES) (Odessa city)	
330 kV	Moldovan CERS - Novoodeskaia
330 kV	Moldovan CERS - Usatovo
330 kV	Moldovan CERS - Kotovsk
330 kV	Moldovan CERS - Artiz
330 kV	Kotovsk - Ribnita 1
330 kV	Kotovsk - Ribnita 2
110 kV	Moldovan CERS - Beleaevka
110 kV	Moldovan CERS - Razdelinaia
110 kV	Moldovan CERS - Starokazacie
110 kV	Vasilievka - Kr. Ocnii
110 kV	Vulcanesti - Bolgrad 1
110 kV	Vulcanesti - Bolgrad 2
35 kV	Etulia - Nagornaia
Southwest Electricity System (Vinita city)	
330 kV	Balti - CHE Dnestrovsk
110 kV	UZ Briceni - CHE Dnestrovsk
110 kV	Ocnita - Sahti
110 kV	Otaci - Nemia
110 kV	Larga - Nelipovti
110 kV	Poroghi - Soroca
10 kV	Mamaliga - Criva

Table 5. Interconnections of R. of Moldova’s electrical energy system with that of Romania

Rated voltage	Name of overhead transmission line (OHTL)
400 kV	Vulcanesti - Isaccea
110 kV	Costesti - Stinca
110 kV	Ungheni - Tudora
110 kV	Cioara - Husi
110 kV	Gotesti - Falciu

²⁶ https://www.moldelectrica.md/ro/network/annual_report

Number of power transformers operated by the TSO S.E. "Moldelectrica" in 2021 constituted 650 units with a total capacity of 4775.2 MVA (TSO holds 183 power stations) and the power of force transformers is within 0.4 to 250 MVA. Annex 1 sets out the number of power stations, their capabilities and the length of power lines operated by the subsidiaries of the TSO S.E. "Moldelectrica".

More than 83% of overhead power lines and more than 80% of the power transformation stations have an operational duration of more than 30 years, and 67% of them have an operational duration of more than 40 years²⁷. These power lines and transformation stations have a very high degree of wear and pose an increased risk in operation and substantial investments are needed for their renovation and renewal. In 2006 the maximum electrical load of the electricity transmission networks constituted 1127 MW. The transmission system operator shall conduct the single operational and technological

management of the electrical energy system and the coordination of power flows from the electrical energy system by controlling production facilities, including those located on the left side of Dniester river.

The quantities of electricity entered into the electricity transmission network in 2020 constituted 4254.3 mil. kWh, and their distribution by sources is shown in Table 6.

Table 6. Quantities of electricity entered into the electricity transmission network, 2020

Electricity source	Quantity, mil. kWh
Moldovan CTEM (MGRES)	3251.3
Termoelectrica	621
CET Nord	100.5
NHE Costesti	46.7
Renewable sources	65.8
Other local sources (sugar factories)	1.9
Imports from SE of Ukraine	167.1

In 2020, the technological consumption and electricity losses in electricity transmission networks constituted 103.4 mil kWh or \approx 2.43%, with a total electricity transported in value of 4150.9 mil. kWh, including:

For regulated tariff suppliers	3480.5 mil. kWh
For DSO (coverage of technological consumption and losses)	300.3 mil. kWh
Final consumers	370.1 mil kWh

The number of used installations of non-household consumers connected to the electricity transmission network is 105.

The organizational structure of the enterprise provides for a staff in size of 1361 units. According to the situation as of 01.01.2021, the registered number of enterprise staff constituted 1335 employees.

The main economic and financial indicators of the TSO S.E. "Moldelectrica" for 2020:

Indicator ²⁸	mil. MDL ²⁹	mil. EURO ³⁰
Revenue from operational activity	611.7	30.99
Operational costs including:	562.9	28.51
Amortization of fixed assets and intangible assets	138.9	7.04
EBIT from operational activity	48.8	2.47
EBIT		
Income tax	0	0.00
Net profit	-7.6	-0.38
Value of fixed assets and intangible assets on 31.12.2020	1198.21	60.70

²⁷ Energy Strategy Project by 2030: https://cancelaria.gov.md/sites/default/files/document/attachments/proiectul_88.pdf

²⁸ TSO S.E. "Moldelectrica" reflects the economic-financial situation based on national accounting standards differing from IFRS

²⁹ Annual activity report of the S.E. "Moldelectrica" in 2020: <https://www.moldelectrica.md/files/docs/raport/RAPORT%20ANUAL%202020.pdf>

³⁰ Calculated on the basis of the average exchange rate for 2020 – 19.7414 MDL/Euro

The tariffs for the electricity transmission service shall be determined and approved in accordance with the Methodology for the calculation, approval and application of regulated tariffs for the electricity transmission service

approved by Decision of the Board of Directors of ANRE No. 486 of 13.12.2017³¹. The tariffs for electricity transmission service, approved by the ANRE Decision No. 152 of 17.07.2015, equal to 14.5 bani/kWh (≈ 0.73 EUR $\text{¢}/\text{kWh}$), net of VAT.

NOTE

After approval of basic costs for the TSO S.E. "Moldelectrica", taking into account the actual parameters of the operation of the TSO during the period following the entry into force of the tariff for the transmission service, the enterprise registered negative tariff deviations to be recovered during the following tariff

periods. With their inclusion in the tariffs, the profit of the TSO will increase. The S.E. "Moldelectrica" does not carry the accounts according to IFRS, therefore, tariff deviations are not accounted for over the period during which they occurred, with a record of revenues based on the invoicing principle.

The provision of the electricity transmission service shall be carried out on the basis of contracts for the provision of the electricity transmission service concluded between the TSO S.E. "Moldelectrica" and system users.

System users who can conclude contracts for the provision of electricity transmission service are suppliers, distribution system operators and system users applying for electricity transmission for transit.

The plan for the development of electricity transmission networks from 2018 to 2027

In accordance with the provisions of Article 34 of the Law on electricity No. 107 of 27.05.2016³², the transmission system operator S.E. "Moldelectrica" has drawn up the plan for the development of electricity transmission networks for 10 years, taking into account the Republic of Moldova's Energy Strategy, the current and forecasted demand and supply of electricity, which was approved by the National Energy Regulatory Agency on 27 December 2017³³.

Investments planned by the TSO S.E. "Moldelectrica" for the years 2018-2020 are presented in Table 7, and details on the implementation status of investment projects planned for this period are set out in Annex 2.

Table 7. Investments planned by the TSO S.E. "Moldelectrica" for the years 2018 to 2020³⁴

Investment Category		Planned	
		mil. MDL	mil. Euro
A	Construction of new networks and production capacities	154.3	7.77
B	Existing production networks and capabilities	1059.5	53.38
C	Means of transport, machines, mechanisms, mechanical machinery	23.2	1.17
D	Measuring equipment, control and diagnostic equipment, including network equipment	15	0.76
E	Buildings and construction, including related to networks	18.8	0.95
F	Computing technique, telecommunications	33.3	1.68
G	Intangible assets	1.5	0.08
H	Other investments related to the licensed activity	1.5	0.08
Total		1307.1	65.85

³¹ Official Gazette No. 18-26, Art. No. 72 of 19.01.2018:

³² http://www.legis.md/cautare/getResults?doc_id=105978&lang=ro

³³ <http://www.moldelectrica.md/files/docs/TYNNDP.pdf>

³⁴ Calculated on the basis of the average exchange rate for 2018 – 19.8492 MDL/Euro

The most important project in the Plan for the development of electricity transmission networks is the project for the asynchronous interconnection of the energy systems of R. of Moldova and Romania through back-to-back

- back-to-back (B2B) station at the existing Vulcanesti power station to realize the asynchronous connection of the electrical energy systems of Romania and the Republic of Moldova, implicitly ENTSO-E and Integrated Energy System/Unified Energy System (IES/UES);

- the electricity transmission line with a voltage of 400 kV between Vulcanesti and Chisinau power stations;

- extension of the Chisinau power station comprising the construction of a new 330/400 kV self-transformer cell and a new self-transformer (AT 400/330 kV);

stations. As a result of these investments, about 2.4 TWh of electricity will be possible to import annually from Romania. The project includes investments in:

- extension of the Vulcanesti electrical station; changes of existing OHTL (overhead transmission line) of 330 kV, 110 kV and 35 kV in areas where they are crossed by the new OHTL of 400 kV Vulcanesti - Chisinau, consisting of the relocation and/or modification of certain pillars;

- changes of existing OHTL of 400 kV Isaccea – Vulcanesti at the side of the Vulcanesti power station, consisting in the replacement of existing pillars and repositioning of new pillars to allow OHTL to be connected with B2B³⁵ station.

The amount of investments calculated for the asynchronous interconnection of the electricity systems of the Republic of Moldova and Romania planned for the years 2018 to 2027 is over 300 mil. Euro - main elements are presented in Table 8. Details of the purpose, objectives and duration of implementation of the first part of the project are set out in Annex 3.

Table 8. Investments calculated for the interconnection of MD-RO electrical energy systems

	Name of the investment project	Investment
1	1 B2B type station with 2x300 MW at SE Vulcanesti 400 kV	200 mil. Euro
2	IDE Construction of 400 kV with IDE reconstruction of 330 kV at SE Chisinau 330 kV	14 mil. USD
3	OHTL Construction of 400 kV Vulcanesti-Chisinau - 158 km	49 mil. USD
4	OHTL Construction of 400 kV Balti-Suceava (with expansion of SE Balti 330 kV) – 52 km	36.9 million. Euro

If the construction of the B2B Station in Vulcanesti and the construction of OHTL (overhead transmission line) of 400 kV Vulcanesti -Chisinau is expected to be completed by 2024, a feasibility study will first be conducted with the planning of the investment by the TSO S.E.. “Moldelectrica” for the years 2026-2027.

On 12 November 2021, the contract for the construction of the overhead transmission line of 400 kV for Vulcanesti-Chisinau was signed³⁶. The document was signed between the Consolidated Unit for Energy Project Implementation and Monitoring (UCIPE) and the Indian company KEC International, nominated the winner of the international tender. The project envisions construction of an overhead transmission line (OHTL) of 400 kV and about 158 km in the direction of Vulcanesti-Chisinau, which will cross the territory of 35 localities in 9 parts of the country.

³⁵ http://www.moldelectrica.md/files/docs/md_ro_project/ESIA_Anexe_Interconectare_Md_Ro_RO_julie.pdf

³⁶ <https://www.zdg.md/importante/viceprim-ministrul-spinu-anunta-ca-a-fost-semnat-contractul-de-constructie-a-liniei-electrice-aeriene-de-400-kv-de-transport-a-energiei-electrice-pe-directia-vulcanesti-chisinau/>

Distribution system operators

Currently, there are two electricity distribution system operators (DSOs) on the market: F.C.C. “Premier Energy Distribution” J.S.C. (100% private capital) and “RED-Nord” J.S.C. (100% state

owned, managed by the Public Property Agency – APP). DSOs operate on licenses for electricity distribution. Detailed information on the work of each of them is given below.

Premier Energy Distribution

The DSO F.C.C. “Premier Energy Distribution” J.S.C. operates in the distribution of electricity on ≈ 70% of the territory of the Republic of Moldova on the right side of Dniester river, particularly in the central and southern areas, including Chisinau Municipality. The license for electricity distribution issued to F.C.C. “Premier Energy Distribution” J.S.C. is valid until 21.07.2025.

In 2020, the DSO F.C.C. “Premier Energy Distribution” J.S.C. delivered electricity to 920'825 consumption places, including 27 consumption places connected to high voltage power transmission networks (35-110 kV); 5'466 consumption places – at average voltage (6-10 kV); and 915332 consumption places – low voltage (0.4 kV).

Length of power grids of the DSO F.C.C. “Premier Energy Distribution” J.S.C., according to voltage levels is shown in Table 10.

The number of power transformers operated by the DSO F.C.C. “Premier Energy Distribution” J.S.C. in the third quarter of 2021 was of 9'476 units with a total capacity of 3'653 MVA and the electrical power of power transformers is within the limits of 5.20 to 25000 kVA.

Table 9. Length of distribution power lines of Premier Energy Distribution

110 kV lines, km	510.1
35 kV lines, km	1'292.6
6-10 kV lines, km	14'508.9
0.4 kV lines, km	19'241.6
Total	35'553.2

Main indicators for power volumes in the distribution network of the DSO Premier Energy Distribution in 2020:

Electricity entered into the distribution power grid	mil. kWh	2'984.87
Technological consumption and loss of electricity	mil. kWh	225.97
Technological consumption and loss of electricity	%	7.57
Electricity distributed to end-users, including:	mil. kWh	2,758.91
• Household consumers	mil. kWh	1'208.20
• Non-household consumers, including:	mil. kWh	1'550.7
• Supplied by F.C.C. “Premier Energy” LLC	mil. kWh	1'335.68
• Supplied by other suppliers	mil. kWh	215.02

The tariffs for power distribution service by the DSO F.C.C. “Premier Energy Distribution” are approved by ANRE according to the Methodology for the calculation, approval and

application of tariffs for the power distribution service approved by Decision of the Board of Directors of ANRE No. 64 of 22.02.2018³⁷.

³⁷ Official Gazette No. 77-83 art. 374 of 09.03.2018: https://www.legis.md/cautare/getResults?doc_id=103739&lang=ro



The tariffs approved by ANRE Decision No. 40 of 26.01.2021 are currently in force:

Table 10. Tariffs for the distribution service of Premier Energy Distribution

Categories of electrical distribution networks	Tariff, VAT excluded	
	bani/kWh	€ Euro/kWh ³⁸
through high voltage power transmission networks (35; 110 kV)	2	0.1
through medium voltage electric distribution networks (6; 10 kV)	13	0.62
low voltage power transmission networks (0.4 kV)	39	1.86

The volume of the regulated profit shall be determined on the basis of the rate of return calculated using the weighted average cost of capital (WACC) method applied to the net

amount of investments accepted for tariff purposes (RAB). In setting the tariffs for 2021, the rate of profitability of 7.84% was applied.

Main indicators of regulated profit, assets and amortization accepted for tariff purposes, based on the calculation of tariffs for 2020:

Indicator ³⁹	mil. MDL	mil. EURO ⁴⁰
Entry value of fixed assets and intangible assets	5820.569	294.841
Accumulated wear of fixed assets and intangible assets	2262.000	114.582
Net amount of investments accepted for tariff purposes	3558.569	114.582
Regulated profit	277.385	14.051
Amortization of fixed assets and intangible assets	216.277	10.955
Total discounted cost of the distribution service	852.577	43.187

The main economic and financial indicators of the DSO F.C.C. "Premier Energy Distribution" for 2020⁴¹:

Indicator ⁴²	mil. MDL	mil. EURO ⁴³
Sales revenue	1075.294	54.469
Cost of sales	613.021	31.053
Net profit	254.855	12.910

Staff of the DSO F.C.C. "Premier Energy Distribution" at the end of 2020 constituted 620 employees, a good part of services of the DSO F.C.C. "Premier Energy Distribution" being outsourced (sub-contracted).

Investments made by the DSO F.C.C. "Premier Energy Distribution" during 2020 and planned for the 2021 are shown in Table 11.

³⁸ At the average exchange rate for 2021 – 21.0174 MDL/Euro

³⁹ F.C.C. "Premier Energy Distribution" Reports in accordance with IFRS

⁴⁰ Average exchange rate for 2020 – 19.7414 MDL/Euro

⁴¹ According to the Financial Statements for 2020 https://premierenergydistribution.md/sites/default/files/2021-09/%20financiar_2020_PED.pdf Report

⁴² F.C.C. "Premier Energy Distribution" reports in accordance with IFRS

⁴³ Calculated on the basis of the average exchange rate for 2020 -19.7414 MDL/Euro

Table 11. Investments made and planned by F.C.C. “Premier Energy Distribution” J.S.C.

Investment Category	Achieved, 2019		Achieved 2020		Planned 2021	
	mln. MDL	mln. Euro ⁴⁴	mln. MDL	mln. Euro ⁴⁵	mln. MDL	mln. Euro ⁴⁶
A Construction of new networks and new production capacities	7.50	0.38	32.06	1.62	28.71	1.37
B Existing production networks and capabilities	216.87	11.02	202.14	10.24	220.13	10.47
C Means of transport, machines, mechanisms, mechanical machinery	6.32	0.32	4.93	0.25	10.61	0.50
D Measuring equipment, control and diagnostic equipment, including network equipment	14.23	0.72	38.38	1.94	33.75	1.61
E Buildings and construction, including for networks	6.32	0.32	12.32	0.62	3.64	0.17
F Computing technique, telecommunications	0.20	0.01	5.41	0.27	5.02	0.24
G Intangible assets	7.93	0.40	29.96	1.52	14.54	0.69
H Other investments related to the licensed activity	0.84	0.04	0.62	0.03	0.24	0.01
Total	260.20	13.23	325.83	16.50	316.64	15.07

The supply of the power distribution service shall be carried out on the basis of contracts for the provision of the distribution service concluded by the DSO F.C.C. “Premier Energy Distribution” J.S.C. with electricity suppliers, inclusively with F.C.C. “Premier Energy” LLC, which fulfils the obligations of universal service provider and supplier of last resort, within 10 years of the entry into force of the Law on electricity (08 July 2016), within the territory established by ANRE – authorized territory of DSO F.C.C. “Premier Energy Distribution” J.S.C.

Electricity prices provided by universal service suppliers and of last resort shall be approved by ANRE in accordance with the Methodology for the calculation, approval and application of regulated prices for the supply of electricity by the supplier of last resort and universal service provider, approved by the Decision of the Board of Directors of ANRE No. 65/2018 of 23.02.2018⁴⁷.

The regulated prices for the supply of electricity in force are those approved by ANRE Decision No. 42 of 26.01.2021 and are shown in Table 12:

Table 12. Regulated prices for the supply of electricity by “Premier Energy” L.L.C.

Delineation points and demand points for electricity supply by F.C.C. “Premier Energy” L.L.C.	Price, VAT excluded	
	bani/kWh	€ Euro/kWh ⁴⁸
- at points of entry into electricity transmission networks	98	4.66
- at exit points of the electricity transmission networks	112	5.33
- final consumers, whose installations are connected to high voltage power distribution networks (35; 110 kV)	114	5.42
- final consumers, whose installations are connected to medium voltage distribution systems (6; 10 kV)	125	5.95
- final consumers, whose installations are connected to low voltage power distribution networks (0.4 kV)	151	7.18

The main economic and financial indicators of the F.C.C. “Premier Energy” L.L.C., which fulfils the obligations of universal service provider and supplier of last resort⁴⁹:

Indicator ⁵⁰	mil. MDL	mil. EURO ⁵¹
Sales revenue	4692.96	237.72
Cost of sales	4602.58	233.14
Net profit	90.38	4.58

⁴⁴ Calculated on the basis of the average official exchange rate of NBM for 2019 -19.6737 MDL/Euro

⁴⁵ Calculated on the basis of the average official exchange rate of NBM for 2020 - 19.7414 MDL/Euro

⁴⁶ Calculated on the basis of the average official exchange rate of NBM for 2019 - 21.0174 MDL/Euro

⁴⁷ Official Gazette No. 77-83 art. 375 of 09.03.2018: https://www.legis.md/cautare/getResults?doc_id=103740&lang=ro

⁴⁸ Average official exchange rate for 2021 - 21.0174 MDL/Euro

⁴⁹ According to the Financial Statements for 2020: https://premierenergy.md/wp-content/uploads/2021/09/Raport_financiar_2020.pdf

⁵⁰ F.C.C. “Premier Energy” L.L.C. reports in accordance with IFRS

⁵¹ Calculated on the basis of the average exchange rate for 2020 - 19.7414 MDL/Euro

RED-Nord

The DSO “Retelele Electrice de Distribuție Nord” (RED-Nord) operates for the distribution of electricity on ≈ 30% of the territory of the Republic of Moldova on the right side of Dniester river, particularly in Northern areas, including Balti municipality. The power distribution license issued to RED-Nord is valid until 04.06.2023.

In 2020, RED-Nord delivered electricity to 490'801 consumer places. Number of household consumers served by the DSO “RED Nord” J.S.C. in 2020 constituted 460.902.

The length of RED-Nord’s electrical distribution lines is shown in Table 13.

The number of power transformers operated by the DSO “RED Nord” J.S.C. in the second quarter of 2021 was of 5'658 units with a total capacity of 995.3 MVA.

The tariffs for the power distribution services for the DSO RED Nord shall be approved by ANRE in accordance with the Methodology for the calculation, approval and application of tariffs for the power distribution service, approved by decision of the Board of Directors of ANRE No. 64 of 22.02.2018.

Table 13. Length of power distribution lines of the DSO “RED Nord” J.S.C.

6-10 kV lines, km	7'381.22
0,4 kV lines, km	14'666.3
Total	22'047.52

Main indicators for power volumes in the RED-Nord distribution network in 2020:

Electricity entered into the distribution network	mil. kWh	963.345
Technological consumption and loss of electricity	mil. kWh	74.31
Technological consumption and loss of electricity	%	7.71
Electricity distributed to consumers, including:	mil. kWh	889.04
• Household consumers	mil. kWh	513.08
• Non-household consumers	mil. kWh	375.96

Currently, the tariffs approved by ANRE Decision No. 41 of 26.01.2021 are in effect:

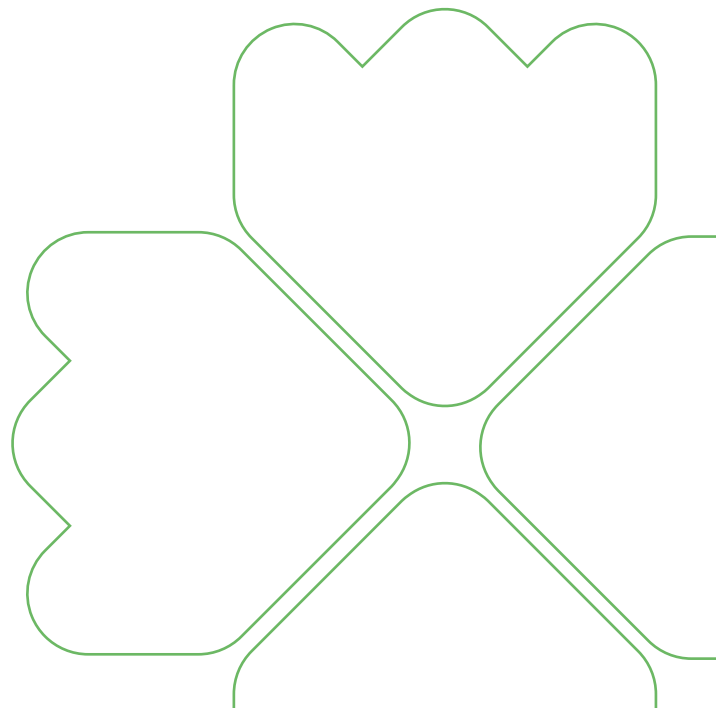
Table 14. Regulated tariffs for RED Nord distribution service⁵²

Categories of electrical distribution networks	Tariff, VAT excluded	
	bani/kWh	€ Euro/kWh ⁵³
through medium voltage power distribution networks (6; 10 kV)	28	1.33
through low voltage power distribution networks (0,4 kV)	89	4.23

The volume of the regulated profit shall be determined on the basis of the rate of return calculated using the weighted average cost of capital (WACC) method applied to the net amount of investments accepted for tariff purposes (RAB). In setting the tariffs for 2021, the rate of profitability of 7.84% was applied.

⁵² The tariff for the year 2021 includes a tariff supplement amounting to 10.5 bani/kWh intended to recover the tariff deviations accumulated in previous years.

⁵³ Average exchange rate for 2021 – 21.7414 MDL/Euro



Main indicators of the DSO RED-Nord on regulated profit, assets and amortization accepted for tariff purposes, based on the calculation of tariffs for 2021:

Indicator	mil. MDL	mil. EURO ⁵⁴
Entry value of fixed assets and intangible assets	2188.622	104.134
Accumulated use of fixed assets and intangible assets	864.277	41.122
Net amount of investments accepted for tariff purposes	1324.345	63.012
Regulated profit	103.814	4.939
Amortization of fixed assets and intangible assets	130.788	6.223
Total discounted cost of the distribution service	599.922	28.544

Recorded number of the DSO "RED Nord" J.S.C. personnel in the first semester of 2020 constituted 1627 people. Investments made by the DSO "RED Nord" during the years 2019 and 2020 amounted respectively to 256.78 mil. MDL (13.05 mil. Euro⁵⁷) and 238.03 mil. MDL (12.06 mil. Euro⁵⁸). Investments made and planned by the DSO "RED Nord" during the years 2019 to 2021 are presented in Table 15.

Main economic and financial indicators of the DSO RED-Nord for 2020⁵⁵:

Indicator	mil. MDL	mil. EURO ⁵⁶
Sales revenue	677.634	34.326
Cost of sales	640.252	32.432
Net profit	37.382	1.894

Table 15. Investments made and planned by the DSO RED-Nord for the years 2019 to 2021

Investment Category	Achieved, 2019		Achieved 2020		Planned 2021	
	mln. MDL	mln. Euro ⁵⁹	mln. MDL	mln. Euro ⁶⁰	mln. MDL	mln. Euro ⁶¹
A Construction of new networks and new production capacities	0.93	0.05	0.22	0.01	4.21	0.20
B Existing production networks and capabilities	221.64	11.27	212.05	10.74	268.81	12.79
C Means of transport, machines, mechanisms, mechanical machinery	12.06	0.61	8.93	0.45	8.04	0.38
D Measuring equipment, control and diagnostic equipment, including network equipment	5.44	0.28	5.85	0.30	15.59	0.74
E Buildings and construction, including for networks	3.45	0.18	7.70	0.39	6.75	0.32
F Computing technique, telecommunications	0.20	0.01	3.05	0.15	2.75	0.13
G Intangible assets	13.06	0.66	0.23	0.01	2.56	0.12
H Other investments related to the licensed activity	0.00	0.00	0.00	0.00	0.00	0.00
Total	256.78	13.05	238.03	12.06	308.70	14.69

⁵⁴ Average exchange rate for 2021 – 21.7414 MDL/Euro

⁵⁵ According to the annual report from RED Nord J.S.C.: <https://rednord.md/doc/dezvinfo/Rapoarte%20privind%20activitatea/2020/Raport%20anual%202020.pdf>

⁵⁶ Calculated on the basis of the average exchange rate for 2020 – 19.7414 MDL/Euro

⁵⁷ Calculated on the basis of the average official exchange rate of BNM for 2019 – 19.6737 MDL/Euro

⁵⁸ Calculated on the basis of the average official exchange rate of BNM for 2020 – 19.7414 MDL/Euro

⁵⁹ Calculated on the basis of the average official exchange rate of BNM for 2019 – 19.6737 MDL/Euro

⁶⁰ Calculated on the basis of the average official exchange rate of BNM for 2020 – 19.7414 MDL/Euro

⁶¹ Calculated on the basis of the average official exchange rate of BNM for the year 2021 – 21.0174 MDL/Euro



The supply of the power distribution service shall be carried out on the basis of contracts for the provision of the distribution service concluded by the DSO RED-Nord with electricity suppliers, including with „Furnizarea Energiei Electrice Nord” J.S.C. (FEE-Nord), which fulfils the obligations of universal service supplier and supplier of last resort, for a period of 10 years after the entry into force of the Law on electricity (08 July 2016), within the limits of the territory established by ANRE (authorized territory of the DSO RED Nord).

Electricity prices provided by universal service suppliers and of last resort shall be approved

by ANRE in accordance with the Methodology for the calculation, approval and application of regulated prices for the supply of electricity by the supplier of last resort and by the universal service provider, approved by Decision of the Board of Directors of ANRE No. 65/2018 of 23.02.2018⁶².

The prices regulated for the supply of electricity by FEE-Nord in force are those approved by ANRE Decision No. 43 of 26.01.2021 and presented in Table 15.

Table 16. FEE-Nord regulated energy supply prices

Delineation points and demand points for electricity supply by FEE-Nord	Price, no VAT	
	bani/kWh	€ Euro/kWh ⁶³
- at points of entry into electricity transmission networks	101	4.81
- at exit points of the electricity transmission networks	115	5.47
- final consumers, whose installations are connected to medium voltage power distribution networks (6; 10 kV)	143	6.80
- final consumers, whose installations are connected to low voltage power distribution networks (0.4 kV)	204	9.71

Main economic and financial indicators of “FEE-Nord” J.S.C., which fulfils the obligations of universal service provider and of supplier of last resort⁶⁴:

Indicator ⁶⁵	mil. MDL	mil. EURO ⁶⁶
Sales revenue	1931.25	97.83
Cost of sales	1728.08	87.54
Net profit	203.17	10.29

Central electricity supplier

In accordance with the provisions of the Law on electricity, by Government Decision of the Republic of Moldova No. 885 of 01.11.2017, “Energoacom” J.S.C. was designated as the central electricity supplier for the period of 3 years until 1 April 2021. The central electricity supplier “Energoacom” J.S.C. started its operation on 1 April 2018.

According to Art. 83 para. (4) of Law No. 107 of 27.05.2016 on electricity the central electricity supplier acquires electricity on the market from eligible power plants producing from renewable energy sources and electricity produced

from urban heating power plants and re-sells electricity to regulated price suppliers approved by the National Energy Regulatory Agency in the quantities determined by it, in accordance with the provisions of the law, as well as normative acts approved by ANRE. Article 83 para. (10) Law No. 107 of 27.05.2016 on electricity obliges suppliers to procure from the central electricity supplier the quantities of electricity determined by ANRE in accordance with the Electricity Market Rules, depending on their shares in the electricity retail market, at regulated prices approved by ANRE.

⁶² Official Gazette No. 77-83 art. 375 of 09.03.2018: https://www.legis.md/cautare/getResults?doc_id=103740&lang=ro

⁶³ Average exchange rate for 2021 – 21.0174 MDL/Euro

⁶⁴ According to the Financial Statements for 2020: https://fee-nord.md/wp-content/uploads/2021/06/Situatiile_financiare_anul_2020.pdf

⁶⁵ F.C.C. “Premier Energy” L.L.C. reports in accordance with IFRS

⁶⁶ Calculated on the basis of the average exchange rate for 2020 – 19.7414 MDL/Euro.

To comply with the provisions of the Law on electricity No. 107 of 27.05.2016 and in order to ensure the activity of the central electricity supplier, ANRE approved the Methodology for the calculation, approval and application of regulated prices for the supply of electricity by the central electricity supplier by Decision of the Board of Directors of ANRE No. 483/2017 of 13.12.2017⁶⁷. The central electricity supplier “Energocom” J.S.C. concludes contracts for the purchase of electricity with producers generating electricity at urban heating power plants (currently the thermal heating plants of „Termoelectrica” J.S.C. and „CET Nord” J.S.C.) and with producers of electricity produced from renewable sources to which the support scheme applies under the Law on promoting the use of electricity from renewable energy sources No. 10 of 26.02.2016⁶⁸. Currently, electricity procurement contracts are concluded with producers of electricity from renewable

sources for which ANRE has approved tariffs for the electricity produced from renewable sources in accordance with the Law on renewable energy No. 160 of 12.07.2007, which was repealed on 26.03.2018. ANRE has so far confirmed the status of eligible renewable electricity producer to 27 electricity producers under the Law on promoting the use of electricity from renewable energy sources No.10 of 26.02.2016⁶⁹.

The average electricity purchase price of the central electricity supplier “Energocom” J.S.C. in 2020 constituted ≈ 1.372 MDL/kWh and the average sales price – i.e. ≈ 1.41 MDL/kWh. Details of the total quantities, prices and costs of electricity purchased in 2020 by “Energocom” J.S.C. as a central supplier, are shown in Table 17.

Table 17. Electricity purchased and supplied by the central supplier in 2020

Power sources purchased by the central supplier	Amount of electricity	Price		Monetary value	
	mil. kWh	MDL/kWh	€Euro/kWh ⁷⁰	mil. MDL	mil. Euro
Termoelectrica J.S.C., Source 1	601.233	1.311	6.642	788.341	39.933
Termoelectrica J.S.C., Source 2	20.726	1.378	6.980	28.558	1.447
CET Nord J.S.C.	100.463	1.627	8.243	163.477	8.281
Hydro	0.147	1.990	10.080	0.293	0.015
Sunlight	2.246	1.888	8.983	4.240	0.202
Wind	20.425	1.069	5.415	21.834	1.106
Biogas	27.719	1.934	9.797	53.609	2.716
TOTAL purchased	772.959			1060.352	53.699
Average purchase price		1.372	6.949		
TOTAL purchased	772.959			1089.872	55.207
Average purchase price		1.41	7.142		

At the public hearing on 20.11.2021 by Decision of the Board of Directors of ANRE No. 554 the provisional price for electricity supplied by the central electricity supplier “Energocom” J.S.C. was approved (net of VAT) of 242 bani/kWh (equivalent to 11.51 €Euro/kWh⁷¹). If other prices for electricity produced from urban heating power plants are approved, the central supplier’s electricity supply price will also be reviewed. This price has to be applied as from 01.11.2021.

Under the Law on promoting the use of electricity from renewable energy sources, the central electricity provider “Energocom” J.S.C. issues guarantees of origin for electricity produced from renewable energy sources within the time limits and conditions set out in the Regulation on guarantees of origin for electricity produced from renewable energy sources approved by ANRE Decision No. 376 of 28.09.2017⁷².

⁶⁷ Official Gazette No. 7-17, Art. 37 of 12.01.2018: https://www.legis.md/cautare/getResults?doc_id=103985&lang=ro

⁶⁸ Official Gazette No. 69-77 Art. 117 of 25.03.2016: http://www.legis.md/cautare/getResults?doc_id=106068&lang=ro

⁶⁹ <https://www.anre.md/registru-producatorilor-eligibili-3-339>

⁷⁰ Calculated on the basis of the average official exchange rate of NBM for 2019 – 19.6737 MDL/Euro

⁷¹ Calculated on the basis of the average official exchange rate of NBM for 2021 – 21.0174 MDL/Euro

⁷² Official Gazette No. 390-395, Art. 1989 of 10.11.2017: https://www.legis.md/cautare/getResults?doc_id=111854&lang=ro



Thermal Energy Market

Licensed operators

The license holders for the production, distribution and supply of thermal energy are shown in Table 18. Currently all license holders are engaged in the production, distribution and supply of thermal energy. Although the Law on thermal

energy and promotion of cogeneration allows for the issuing of licenses for separate production, distribution or supply activities, licenses are not issued for the separate conduct of licensed activities.

Table 18. License holders in the thermal energy sector⁷³

	Name of the company	Legal address	Tax code	Series, number and date of issue of the license	Period of validity of the license
1	"Termoelectrica" JSC ⁷⁴	MD-2024, Chisinau mun., 6, Tudor Vladimirescu Street	1003600026295	AC No. 000535/of 02.10.2015	02.10.2040
2	JV "Termogaz Balti"	MD-3100, Balti mun., 19/A, Feroviarilor Street	1003602009014	AC No. 000536/of 02.10.2015	02.10.2040
3	"Comgaz Plus" JSC	MD-3601, Ungheni city, 15, Boico Street	1002609001375	AC No. 000540/of 13.10.2015	13.10.2040
4	"Apa-Canal Chisinau" JSC	MD-2005, Chisinau mun., 38, Albisoara Stret	1002600015876	AC No. 000545/of 27.10.2015	27.10.2040
5	JV of "Retelelor si Centralelor Termice Comrat"	MD-3801 ATU Gagauzia, Comrat mun., 79, Pobedi Street	1003611003223	AC No. 000546/of 27.10.2015	27.10.2040
6	"CET-NORD" JSC	MD-3100, Balti mun., 168, Stefan cel Mare Street	1002602003945	AC No. 000552/of 01.12.2015	01.12.2040
7	JV "Servicii Comunale Glodeni"	MD-4901, Glodeni city, 7, Lev Tolstoi Street	1008602006801	AC No. 000588/of 03.03.2016	03.03.2041
8	JV "ANTERMO"	MD-6501, Anenii Noi city, 6, A. Suvorov Street	1003600092663	AC No. 001472 of 18.08.2020	17.08.2045
9	JV "RETELELE TERMICE FLORESTI"	MD-5001, Floresti city, 2, Libertatii Street	1007607006728	AC No. 001492 of 25.11.2020	24.11.2045

The indicators for the production and consumption of thermal energy by license holders during the period 2018-2020 are given in Table 19.

⁷³ <http://www.anre.md/registrul-licensing-3-145>

⁷⁴ SA "Termoelectrica" is also a lecturer for electricity generation, valid until 04.06.2023

Table 19. Thermal energy production and consumption indicators 2018-2020⁷⁵

Licence holder	Heat supplied to the thermal network, thousands of Gcal			Heat loss in the thermal network, thousands of Gcal			Delivered useful to consumers, thousands of Gcal			The weight of the total quantity delivered, %		
	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
"Termoelectrica" JSC	1710,1	1532,3	1498,3	335,8	304,1	285,1	1374,2	1228,2	1213,2	86,28	87,15	87,19
"CET-NORD" JSC	211,8	175,7	175,4	45,0	38,1	40,2	166,8	137,6	135,2	10,47	9,76	9,72
"Apa-Canal Chisinau" JSC	28,2	24,0	23,0	3,2	3,5	2,2	25,0	20,5	20,8	1,57	1,46	1,49
JV "Termogaz Balti"	12,4	10,7	10,0	1,3	1,2	1,2	11,0	9,5	8,8	0,69	0,67	0,63
"Comgaz Plus" JSC	7,1	6,2	5,2	0,9	1,1	0,7	6,2	5,1	4,5	0,39	0,36	0,32
I. M. R. C.T. Comat	7,9	6,8	6,6	0,3	0,2	0,2	7,6	6,6	6,4	0,48	0,47	0,46
JV "Servicii Comunale Glodeni"	2,0	2,0	1,9	0,1	0,2	0,1	1,9	1,8	1,8	0,12	0,13	0,13
JV "ANTERMO"	0,0		0,3			0,0		0,0	0,3	0,00	0,00	0,02
JV "RETELELE TERMICE FLORESTI"	0,0		0,4			0,0		0,0	0,4	0,00	0,00	0,03
Total per licence holders	1979,5	1757,7	1721,1	386,6	348,4	329,7	1592,7	1409,3	1391,4	100	100	100

The consumption of thermal energy by different categories of consumers served by license holders in 2020 is presented in Table 20.

Below are the main license holders performing licensed activities in the thermal energy sector, with key activity indicators.

Table 20. Energy delivery by consumer category in 2020, thousands of Gcal

Categories of consumers	2020
Household consumers	1084.6
Budgetary institutions	185.3
Economic operators	121.7
Total delivered quantity to consumers	1391.5

"Termoelectrica" J.S.C.

"Termoelectrica" Joint Stock Company is the main producer of electricity under cogeneration, producer, distributor and heat supplier regime of Chisinau Municipality⁷⁶.

"Termoelectrica" J.S.C. is a joint venture with a state share of 100% managed by the Public Property Agency.

"Termoelectrica" J.S.C. was created as a result of merger reorganization of "CET-1" JSC, "CET-2" JSC and subsequent takeover of its functional assembly (thermal energy distribution) "Termocom" J.S.C. in

bankruptcy proceedings, in accordance with the provisions of the existing legislation and the creation of a new company on the basis of the assets of the 3 enterprises⁷⁷.

The company has a large system of thermal power installations and expertise in the field of thermal energy, and is an enterprise specializing in the production and distribution of thermal energy through a centralized heat supply system and the supply of hot water to the consumers of Chisinau city and its suburbs.

⁷⁵ <http://www.anre.md/raport-activity-3-10>

⁷⁶ https://www.termoelectrica.md/ro_RO/despre/cine-we-are

⁷⁷ Government Decision No. 983 of 22.12.2011 on corporate, institutional and financial restructuring of the centralized thermal power supply system of Chisinau Municipality.

The enterprise's business objectives are:

- electricity production;
- production, distribution and supply of thermal energy to consumers, municipal housing fund organizations, state institutions, budgetary/social and cultural institutions, economic operators and so on.

"Termoelectrica" J.S.C. delivers thermal energy to more than 4000 buildings, including:

- 675 budgetary institutions, 577 economic agents,
- 315 private homes,
- about 210000 apartments located in 2860 residential blocks in the municipality
- every year, consumers are delivered a quantity of ≈ 1370 million Gcal of thermal energy for heating and hot water supplies.

"Termoelectrica" J.S.C. owns two thermal heating plants with the capacity of 66 MW and 240 MW⁷⁸.

Both thermal heating plants use natural gas as fuel, while fuel oil can be used as reserve fuel.

Total amount of electricity produced by "Termoelectrica" J.S.C. at heating power plants is purchased by "Energoacom" J.S.C. as a central electricity supplier, as required by the Law on electricity No. 107 of 27.05.2016.

The technical characteristics of the basic machinery of the thermal heating power plant (CET) Source 1 (3, M. Manole Street) are:

- Rated capacity of power generators – 240 MW (3 x 80MW)
- Rated heat capacity – 1200 Gcal/h

Source 1 is equipped with 3 energy groups with an electrical power of 80 MW each, endowed with aggregates:

- 3 energy boilers TGM-965
- 3 turbines ПТ-80 /100-130/13
- 3 power generators ТВФ-120-2У3
- 3 hot water boilers ПТБМ-100
- 2 hot water boilers КВГМ-180

The technical characteristics of the basic equipment of CET Source 2 (5, Vadul lui Voda Street) are:

- Rated capacity of power generators – 66 MW
- Installed heat capacity – 239 Gcal/h

Source 2 is equipped with 2 types of energy boilers:

- 6 energy boilers ГМ 50 working at 3 turbines of 12 MW each;
- 2 boilers БК3-120/100-ГМ working on turbines of 27 and 6 MW capacity
- 5 turbines:

● P-12-35-3M ● ПТ-12/15-35/10M ● ПР-10-35/10-1,2 ● P-5-90/37 ● P-27-90/1, 2

- Generators - 5 pcs.

● ТГ-1 Т-12-2 ● ТГ-2 Т-12-2-2У3 ● ТГ-4 Т-12-2 ● ТГ-5 ТBC-30 ● ТГ-6 Т2-6-2

⁷⁸https://www.termoelectrica.md/ro_RO/despre/informatii-technical/

Characteristics of the basic thermal plant machinery:

Currently, "Termoelectrica" J.S.C. has 2 thermal plants located in Chisinau city and 19 thermal plants located in Chisinau suburbs, with a thermal installed summary capacity of 805 Gcal/h. All thermal plants use natural gas as fuel.

The West thermal power plant is equipped with:

- 4 hot water boilers ПТБМ 100
- 2 steam boilers ДКБР-6, 5/13

The South thermal power plant is equipped with:

- 2 hot water boilers ТВГМ-30
- 1 hot water boiler ПТБМ-50
- 2 hot water boilers КВГМ-100
- 1 steam boiler ДЕ-6, 5/13

The thermal networks of "Termoelectrica" J.S.C. have a length of ≈ 529 km, including ≈ 269 km of magisterial thermal networks and ≈ 260 km of neighborhood thermal networks. The hot water

network has a length of ≈ 180 km. Heat loss in the thermal grids of "Termoelectrica" J.S.C. constituted 19.03% in 2020.

Table 22. Technical parameters for the functioning of the CET of "Termoelectrica" J.S.C., 2020⁷⁹

Nº	Indicator	Unit of measure	CET 2 (Source 1)	CET 1 (Source 2)
1	Installed power of electrical generators	MW	240	66
2	Available power of electrical generators	MW	93	34
3	Installed thermal power	Horse/h	1200	239
4	Available thermal power	Horse/h	351	91
5	Maximum electrical load	MW	231	10,5
6	Maximum heat load	Horse/h	342	47
7	Quantity of electricity produced	mil kWh	693.599	27.794
8	Quantity of electricity delivered	mil kWh	601.233	20.726
9	Quantity of heat delivered to collectors	Horse	1058343	125240
10	Efficiency of the power plant in the production of energy	%	76.86	89.44

The prices for electricity produced by "Termoelectrica" J.S.C. and the tariffs for the supply of thermal energy to consumers shall be approved by ANRE in accordance with the Methodology for the calculation, approval and application of regulated prices and tariffs for the production of electricity and thermal energy supply and distribution services, approved by

Decision of the Board of Directors of ANRE No. 396 of 01.11.2019.

The provisional price of electricity approved at the public meeting of the Board of Directors of ANRE by Decision No. 547 of 20.11.2021 is currently in effect, so as not to allow accumulation of the debts for natural gas used. The given price will be applied as of 01.11.2021.

⁷⁹ https://www.termoelectrica.md/ro_RO/despre/indicatori-tehnic-economici/

Table 23. Provisional price of electricity delivered by “Termoelectrica” J.S.C.

Electricity delivered by:	Price, MDL/kWh (excluding VAT)
Source 1 (CET 2)	237
Source 2 (CET 1)	237

The price of electricity applied by “Termoelectrica” J.S.C. until 01.11.2021 was approved at ANRE public meeting of 10.03.2020, in amount of **116 bani/kWh⁸⁰** (excluding VAT).

The provisional tariff for heat supplies to consumers of **1772 MDL/Gcal** was approved at the public meeting of the Board of Directors of ANRE of 20.11.2021, with the aim of failing to accrue the debts for natural gas used. This tariff will be applied with effect from 01.11.2021. The tariff

for the thermal energy delivered to consumers by “Termoelectrica” J.S.C. until 01.11.2021 was approved at the public meeting of the Board of Directors of ANRE of 10.03.2020, in amount of **1122 MDL/Gcal⁸¹** (excluding VAT), i.e. the current tariff for thermal energy of 01.05.2017, approved by ANRE Decision No. 109/2017 of 17.03.2017 was maintained.

Main economic indicators related to the activity of “Termoelectrica” J.S.C. in 2020 is shown in Table 24.

Table 24. Economic indicators related to the activity of “Termoelectrica” J.S.C. in 2020.

Indicator ⁸²	mil. MDL	mil. EURO ⁸³
Value of fixed assets and intangible assets	3670.721	185.940
Total sales income, including:	2178.103	110.332
Thermal energy	1361.204	68.952
Electricity	816.899	41.380
Total Sales Cost	2003.016	101.463
Net profit	175.087	8.869

The main parameters included in the calculation of the electricity price and thermal energy tariff delivered to consumers by “Termoelectrica” J.S.C. in 2020 are shown in Table 25⁸⁴:

Table 25. Parameters included in the calculation of the electricity price and thermal energy tariff delivered by “Termoelectrica” J.S.C. in 2020.

Indicator	Measure Unit	Electricity	Thermal energy
Quantity of electricity delivered	mil. kWh	643.9	
Quantity of thermal energy	thousands of Gcal		1362.68
Wear of fixed assets and intangible assets	mil. MDL	13.489	163.219
Profitability	mil. MDL	10.581	106.237
Total Regulated Income	mil. MDL	782.083	1429.391
Tariff deviations	mil. MDL	- 35.418	+93.556
Price for electricity supplied	bani/kWh	116.00	
Tariff for thermal energy supplied	MDL/Gcal		1122

According to the Consolidated Governance Report⁸⁵ at the end of 2020, the staff of “Termoelectrica” J.S.C. constituted 1868 employees.

For 2021 “Termoelectrica” J.S.C. plans investments worth 650.857 mil. MDL. ANRE approved the

investment plan of “Termoelectrica” J.S.C. in amount of 551.252 mil. MDL. Investments planned by “Termoelectrica” J.S.C. by category of tangible and intangible assets are shown in Table 26.

⁸⁰ <http://www.anre.md/proiecte-approvers-3-28>

⁸¹ <http://www.anre.md/proiecte-approvers-3-28>

⁸² <https://www.termoelectrica.md/wp-content/uploads/2021/06/Financial-Consolidated-Financial-2020.pdf>

⁸³ Average exchange rate for 2020 – 19.7414 MDL/Euro

⁸⁴ <http://www.anre.md/proiecte-approvers-3-28>

⁸⁵ <https://www.termoelectrica.md/wp-content/uploads/2021/06/Raportul-Consolidat-al-Conducerii-2020-1.pdf>

Table 26. Investment plan of “Termoelectrica” J.S.C. for 2021, mil. MDL.

	Investment compartment	Requested by “Termoelectrica” J.S.C.	Approved by ANRE ⁸⁶
A	Construction of new networks and new production capacities	21.524	21.524
B	Existing production networks and capabilities	580.875	482.639
C	Means of transport, machines, mechanisms, mechanical machinery	0.630	0.130
D	Measuring equipment, control and diagnostic equipment, including network equipment	4.054	3.984
E	Buildings and construction, including for networks	18.544	18.284
F	Computing technique, telecommunications	21.735	21.395
G	Intangible assets	0.390	0.190
H	Other investments related to the licensed activity	3.107	3.107
	Total	650.857	551.252

“CET Nord” J.S.C.

“CET Nord” Joint Stock Company is an electricity producer in cogeneration regime and a producer, distributor and supplier of Balti Municipality⁸⁷. The Public Property Agency exercises the position of holder of 100% shares of “CET-Nord” J.S.C.



The company’s business objectives are:

- electricity production;
- production, distribution and supply of thermal energy to consumers, municipal housing fund organizations, state institutions, budgetary/ social-cultural institutions, economic operators and so on.

The company has a large system of thermal power installations and expertise in the field of thermal energy, and is a specialized thermal energy producer with a centralized thermal energy supply system for Balti consumers.

“CET Nord” J.S.C. delivers thermal energy approximately to 100 thousand people from Balti Municipality. Total habitable surface in Balti Municipality, according to statistical data from 2018 constitutes 1777000 m², of them 1034180 m² receive centralized heating from the “CET Nord” J.S.C. About 72% of thermal energy is delivered to household consumers, ≈ 21% to public institutions and ≈ 7% to economic operators⁸⁸.

“CET Nord” J.S.C. owns a thermal heating plant with a capacity of 37.4 MW for the production of electric and thermal energy in cogeneration regime and a thermal power plant⁸⁹.

The thermal heating plant uses natural gas as a fuel and the oil can be used as a reserve fuel.

The total quantity of electricity produced by “CET Nord” J.S.C. is purchased by “Energoecom” J.S.C. as a central electricity supplier, as required by the Law on electricity No. 107 of 27.05.2016.

⁸⁶ <https://www.anre.md/2021-3-346>

⁸⁷ https://www.termoelectrica.md/ro_RO/despre/cine-suntem/

⁸⁸ <http://www.ie.asm.md/assets/files/Rezumat-IE-final.pdf>

⁸⁹ <http://cet-nord.md/ro/station/history>

Technical characteristics of the basic equipment of “CET Nord” J.S.C.⁹⁰ are:

General features:

- Installed electrical capacity – 37.4 MW;
- Installed thermal capacity – 153 Gcal/h;
- Operating arrangements – heating systems;
- Heating scheme - closed.

Steam boilers:

Source 1:

- Boiler № 2 type ГМ-40/39 – 40 t/h;
- Boiler № 3 type ГМ-40/39 – 40 t/h;
- Boiler № 4 type БК3-75/39 – 40 t/h;
- Boiler №5 type БК3-75/39-40 t/h;
- Boiler № 6 type БК3-75/39 – 40 t/h;
- Boiler № 7 БК3-75/39 ГМА-2 – 40 t/h.

Hot water boilers:

- Boiler № 1 type КВГМ-100 – 100 Gcal/h;
- Boiler № 2 type КВГМ-100 – 100 Gcal/h.

Steam turbines:

- Steam turbine № 1 type ПТ-12/35 – 100 Gcal/h;
- Steam turbine № 3 type ПТ-12/35 – 100 Gcal/h.

Generators:

- Generator № 1 type Т2-12-2 – 100 12MW;
- Generator № 2 type Т2-12-2 – 100 12MW.

Source 2:

- 4 internal combustion engine type J620GS-J01 – 13.4MW.

Thermal networks: total length 205.7 km

- Magisterial – 92.6 km;
- Interior – 113.1 km.

Thermal energy loss in heating networks of “CET Nord” J.S.C **constituted 20.92%** in 2020.

Fuel:

- Basic – natural gas;
- Reserve - fuel oil.

CET-Nord includes the thermal power plant “Molodovo”, in service since 2001.

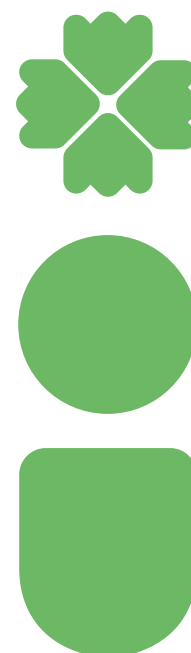
- Universal type boiler 4 pcs. – 2 Gcal/h;
- Heating scheme - closed;
- Fuel - coal.

Technical parameters of the operation of the thermal heating plant “CET Nord” J.S.C in 2020 are presented in Table 28.

Table 28. Technical parameters for the operation of the thermal heating plant of “CET Nord” J.S.C in 2020

№	Indicator	Unit of measure	Value
1	Installed power of electrical generators	MW	37.4
2	Available power of electrical generators	MW	37.4
3	Installed thermal power	Gcal/h	153
4	Available thermal power	Gcal/h	153
5	Quantity of electricity produced	mil. kWh	113 544.3
6	Quantity of electricity delivered	mil. kWh	100 463.1
7	Quantity of heat delivered to collectors	Gcal	175 855
8	Efficiency of the power plant in the production of energy	%	83

⁹⁰ <http://cet-nord.md/ro/station/power>



The price for electricity produced by “CET Nord” J.S.C and the tariff for the thermal energy delivered to consumers shall be approved by ANRE in accordance with the Methodology for the calculation, approval and application of regulated prices and tariffs for the production of electricity and thermal energy, for thermal energy distribution and supply services approved by Decision of the Board of Directors of ANRE No. 396 of 01.11.2019.

At ANRE public meeting of 27.12.2019 by ANRE Decision No. 540/2019 it was approved the price of

electricity in amount of **162** bani/kWh (excluding VAT), which has been in force since 17.01.2020. By decision of ANRE No. 540/2019 of 27.12.2019 it has also been approved the tariff for thermal energy supplies to consumers by “CET-Nord” J.S.C. in amount of **1220** MDL/Gcal (excluding VAT).

Main economic indicators related to the activity of “CET-Nord” J.S.C. in 2020 are shown in Table 29.

Table 29. Economic indicators related to the activity of “CET-Nord” J.S.C. in 2020

Indicator ⁹¹	mil. MDL	mil. EURO ⁹²
Value of fixed assets and intangible assets	585.39	29.655
Total sales income, including:	330.094	16.680
Thermal energy	164.977	8.357
Electricity	163.477	8.28
Total Sales Cost	305.708	15.486
Net profit	-0.6	-0.03

The cost of generating electricity in 2020 constituted 87280.8 thousand MDL or 162.04 bani/kWh (price - 170 bani/kWh) and the cost of producing, distributing and supplying heat in 2020 constituted 166839.1 thousand MDL or 1169 MDL/Gcal (tariff - 1220 MDL/Gcal).

The main parameters included in the calculation of the electricity price and tariff for thermal energy delivered to consumers by “CET-Nord” J.S.C. in 2020 are presented in Table 30⁹³.

Table 30. Parameters included in the calculation of the electricity price and tariff for thermal energy delivered by “CET-Nord” J.S.C. in 2020

Indicator	Unit of measure	Electricity	Thermal energy
Quantity of electricity delivered	mil kWh	113.544	-
Quantity of thermal energy	thousands Gcal	-	191.808
Wear of fixed assets and intangible assets	mil. MDL	2.793	5.325
Profitability	mil. MDL	0.570	3.651
Total regulated income	mil. MDL	112.284	145.708
Tariff deviations	mil. MDL	+3.822	+41.186
Price for electricity delivered	bani/kWh	162.00	-
Tariff for thermal energy delivered	MDL/Gcal	-	1120

According to the information available on the website of “CET-Nord” J.S.C. the company’s staff constituted 457 employees at the end of 2020⁹⁴.

For the year 2020 “CET-Nord” J.S.C. has planned investments worth 29.564 mil. MDL. ANRE

approved the investment plan of “CET-Nord” J.S.C. in amount of 29.344 mil. MDL. Investments planned by “CET-Nord” J.S.C. by category of tangible and intangible assets are shown in Table 31.

Table 31. Investment plan of “CET-Nord” J.S.C. for 2020, mil. MDL

Investment compartment	Requested by “CET-Nord” J.S.C.	Approved by ANRE ⁹⁵
Investment in thermal networks and capital repairs	11.977	11.977
Other investments related to heat supply	17.587	17.367
Total	29.564	29.344

⁹¹ https://www.cet-nord.md/images/docs/sa/RAPORT_DE_ACTIVITATE_DG_2020.pdf

⁹² Average exchange rate for 2020 – 19.7414 MDL/Euro

⁹³ <http://www.anre.md/proiecte-supuse-aprobarii-3-28>

⁹⁴ https://www.cet-nord.md/images/docs/sa/RAPORT_DE_ACTIVITATE_DG_2020.pdf

⁹⁵ <https://acc.md/istorie/>

“Apa-Canal Chisinau” J.S.C.

“Apa-Canal Chisinau” J.S.C. is the largest water supplier in the Republic of Moldova.

“Apa-Canal Chisinau” J.S.C. is a major communal enterprise of Chisinau Municipality and has a leading role in the area of water supply in the Republic of Moldova. Since 1997, it has been reorganized into a Stock Company with a state capital of 100 per cent, and in 2000 it has been

transferred to the public ownership of Chisinau Municipality⁹⁶.

“Apa-Canal Chisinau” J.S.C. is also a producer, distributor and supplier of thermal energy in some parts of Chisinau Municipality, with small centralized heat supply systems in Codru town, Airport District, SCP “Costiujeni”.

For the production of thermal energy “Apa-Canal Chisinau” J.S.C. has 3 thermal plants:

- CT “Airport” with a capacity of ≈ 10.43 Gcal/h;
- CT “Codru” with a capacity of ≈ 8.71 Gcal/h;
- CT “Costiujeni”, with a capacity of ≈ 7.48 Gcal/h.

The total number of heat consumers on 31.12.2020 constituted 609 customers, including 583 household consumers and 28 non-household customers (58 housing blocks, 6 health institutions, 4 economic operators, 3 schools, 2 kindergartens and one cultural institution located in the Airport area, Muncesti road and Codru town).

In 2020, the company registered revenue from thermal power supplies amounting to 23.2 million MDL, up by 0.5 million MDL or 1.8% from the previous period.

Main economic indicators related to the activity of “Apa-Canal Chisinau” J.S.C. in 2020 are shown in Table 32.

Table 32. Economic indicators concerning the supply of thermal energy by “Apa-Canal Chisinau” J.S.C. in 2020

Indicator	mil. MDL	mil. EURO ⁹⁸
Sales income	23.2	1.17
Cost of sales	30.3	1.53
Net profit	-	-

The payment for thermal energy supplied to consumers in 2020 amounted to 93%, 3.5% less compared to 95.8% in 2019.

The Board of Directors of the National Energy Regulatory Agency (ANRE) approved at the public meeting of 28 February 2020, a new tariff for the thermal energy and the tariff for added water delivered to consumers by “Apa-Canal Chisinau” J.S.C. in amount of **1132** MDL/Gcal (excluding VAT)⁹⁷. Heat loss in the thermal energy networks of “Apa-Canal Chisinau” J.S.C. represented 11.25% in 2020.

Table 33. Parameters included in the calculation of the tariff for thermal energy delivered by “Apa-Canal Chisinau” J.S.C. in 2020

Indicator	Unit of measure	Thermal energy
Quantity of thermal energy delivered	thousands Gcal	26.04
Wear of fixed assets and intangible assets	mil. MDL	0.2
Profitability	mil. MDL	0.0488
Total regulated income	mil. MDL	27.2338
Tariff deviations	mil. MDL	+2.2452
Tariff for thermal energy delivered	MDL/Gcal	1132

⁹⁶ <http://www.anre.md/2020-3-325>

⁹⁷ <https://theworldnews.net/md-news/tarife-ajustate-pentru-energia-termica-si-apa-de-adaos-livrata-de-catre-apa-canal-chisinau>

⁹⁸ Average exchange rate for 2020 – 19.7414 MDL/Euro



The staff of “Apa-Canal Chisinau” J.S.C., which is involved in the production, distribution and supply of thermal energy constituted 26 employees at the end of 2020.

For the year 2020 “Apa-Canal Chisinau” J.S.C. planned investments in amount of 55.586 mil. MDL. ANRE approved the investment plan of “Apa-Canal Chisinau” J.S.C. in the required value. The investments planned by “Apa-Canal Chisinau” J.S.C. by category of tangible and intangible assets are shown in Table 34.

Table 34. Investment plan of “Apa-Canal Chisinau” J.S.C. for 2020, mil. MDL

Investment compartment	Requested by “Apa-Canal Chisinau” J.S.C.	Approved by ANRE ⁹⁹
Investments in thermal networks	4.11	4.11
Investments in equipment (pumps, meters, etc.)	1.476	1.476
Total	5.586	5.586

Opportunity for presence in Moldovan energy markets

In addition to investment opportunities in renewable energy, the Moldovan energy sector is very dynamic and attractive from several points of view:



The Moldovan energy markets are in the process of formation and preparation for integration into regional markets.

In terms of energy market formation, the Republic of Moldova is now at the beginning of the same road, on which EU countries began about 20 years ago. With the accession to the Energy Community Treaty in 2010 and the signing of the Association Agreement with the EU in 2014, the Republic of Moldova assumed a number of commitments concerning the functioning of the energy markets. Thus, in recent years, the provisions of the Energy Package III (for the electricity market) have been implemented. The process of separating operators in the electricity market is complete and a model of the electricity market is under way, which provides for the creation of the following markets: the bilateral contract market, the next day market, the intraday market, the balancing

electricity market and the system services market. Furthermore, intensive work is under way on the construction of infrastructure that would ensure the asynchronous interconnection between the Moldovan and ENTSO-E electrical energy systems, and the Moldovan market will be able to become a platform for trading electricity at regional level between the ENTSO-E and the IPS/UPS energy systems, and in the future the basis for forming the regional market. In practice, the Republic of Moldova will become a new interface between ENTSO-E and the IPS/UPS, and through its presence in Moldova’s electricity market at this early stage, investors will be able to help form rules on those markets.

⁹⁶ <http://www.anre.md/2020-3-325>

The positive experience of international private investors.

In Moldova's electricity market, several private international investors are successfully active. The largest generation source in the system, is the Moldovan Thermo-Electric Power Plant (CTEM, better known as the abbreviation of the Russian-language MGRES), located in the Transnistrian region, is owned by the Russian concern Inter RAO¹⁰⁰, while the largest operator of the electricity distribution system in 2019 changed its owner: Spain's Naturgy Group sold both the distribution and regulated tariffs (supplier of last resort and

universal service provider) to the Czech Republic's Emma Capital Group. For Naturgy, the presence in Moldova's energy market has been a success: after buying this business in 2000 for about \$27 million, it sold it in 2019 for EUR 141 million, earning also over time dividends in the total amount of EUR 95 million. Thus, despite the high-risk business environment perceived as high, investments in the energy sector in the Republic of Moldova provide a premium compensation for the risk assumed by investors.

The potential to increase the electricity market.

According to EuroStat data, the Republic of Moldova is the country with one of the lowest energy prices delivered to household consumers (EUR 0.1068/kWh in the first half of 2020¹⁰¹). Despite relatively low prices, the Republic of Moldova is also registering one of Europe's lowest per capita electricity consumption (including EU/EEA, Balkans and Eastern Partnership countries). Thus, in 2020 the total electricity consumption per capita was around 1205 kWh/person/year, while the average final consumption of a household –

of ≈ 1344 kWh/year¹⁰², or about 112 kWh/month. Household electricity consumption by population in 2020 constituted 486 kWh/(person*year). For comparison, the average for EU countries (28) in 2019 was 1581 kWh/year (over 3.25 times more!)¹⁰³. Therefore, even in light of trends in energy efficiency, energy consumption in the Republic of Moldova will continue to increase faster than in other countries in the region, especially due to the effect of the small base.

Potential for carrying out infrastructure projects.

Investment needs in the Republic of Moldova's electricity and thermal energy sectors are relatively high. A series of tenders are already under way to build infrastructure for the asynchronous interconnection of energy systems in the Republic of Moldova and Romania. Total estimated value of investments planned by TSO "Moldelectrica" J.S.C. by 2027 (TYNDP) exceeds 300 million Euro. The two DSOs annual networking budgets amount to more than 20 million Euro per year, with more than 80 per cent allotted for network modernization. In addition, in the thermal energy

sector, the annual volume of investments is over 15 million Euro. Likewise, in November 2020, the agreement between the Republic of Moldova and the International Bank for Reconstruction and Development (from the World Bank Group) on the realization of the Second Project for improvement of the efficiency of the centralized heat supply system in Chisinau city, worth 92 million Euro was ratified¹⁰⁴. Thus, over the next 5-10 years, the investment activity in the energy sector will be the most intense of the entire period of Republic of Moldova's independence.

So, in addition to opportunities

¹⁰⁰ Authorities in Chisinau politically do not recognise the results of privatisation in the Trans-Israeli region, but de facto, CTAM is registered with the Public Service Agency and has a license issued by ANRE.

¹⁰¹ https://ec.europa.eu/eurostat/statistics-explained/index.php/Electricity_price_statistics

¹⁰² Calculated for the right bank of Dniester river, controlled by constitutional authorities, based on ANRE data for 2020

¹⁰³ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Electricity_and_heat_statistics#Consumption_of_electricity_per_capita_in_the_households_sector

¹⁰⁴ Law No.193/2020, https://www.legis.md/cautare/getResults?doc_id=124251&lang=ro

TSO S.E. “Moldelectrica”

Although the S.E. “Moldelectrica” is expected to be restructured into a Joint Stock Company, there are no plans for its privatization, and the participation in the TSO’s capital is practically excluded. At the same time, interested investors

can participate successfully in tenders on the realization of investment projects in transport infrastructure, including those of interconnections with Romania’s electricity system.

Electricity distribution activity

As far as distribution activity is concerned, opportunities outline both DSOs present on the market.

Thus, for the shareholders of the SPV owner of DSO F.C.C. “Premier Energy Distribution” J.S.C. electricity distribution is a new area of activity. Furthermore, about 30% of the shares are owned by portfolio investors, who may exit the capital in case of more attractive investment opportunities.

The DSO “RED-Nord” J.S.C. is included in the list of enterprises susceptible to privatization, i.e. internal procedures can be initiated to prepare the investment in this company’s capital. As indicated above, in the area of servicing of DSO

“RED-Nord” J.S.C. investment needs is even higher than in the area served by DSO F.C.C. “Premier Energy Distribution” J.S.C., and according to the methodology for the calculation of tariffs, the company’s regulated profit is calculated as a factor from the value of net investments. The profitability rate applied in this sector, calculated on the basis of the weighted cost of capital method (WACC), is $\approx 7-8\%$.

At the same time, investors could enter the market for the provision of services and works contracted by the two DSOs, with their investment budgets in power distribution networks amounting to more than EUR 20 million annually.

Renewable energy

As mentioned above, ANRE confirmed the status of an eligible electricity producer in 2020 to 27 producers. No renewable electricity producer has been confirmed to date as an eligible producer under Law No. 10/2016 on promoting the use of electricity from renewable sources in the outcome of the tender for eligible producer status. In general, out of three support mechanisms for producers of electricity from renewable sources, only two are functioning currently.

The fixed price mechanism applicable to investments in power plants with a cumulative power > 1 MW (wind > 4 MW) can be applied after ANRE has approved the ceiling prices in its Decision No. 54/2020 of 28.02.2020¹⁰⁵ (which was subsequently amended by ANRE Decision No. 91 of 10.03.2021), as required by Law No. 10/2016 on promoting the use of energy from renewable

sources. On the basis of the ceiling prices, which were approved by ANRE for each generation technology separately, depending on the type of renewable source (wind, photovoltaic, biogas, etc.), the tender for granting the status of eligible producer was to be held under the Regulation on tenders conduct for granting the status of eligible producer approved by Government by Decision No. 690 of 11.07.2018¹⁰⁶.

The feed-in tariff mechanism, applicable to investments in power plants with a cumulative power up to 1 MW (for wind power < 4 MW), works after ANRE has approved feed-in tariffs for each generation technology separately, depending on the type of renewable source and has confirmed the status of eligible producer to 27 producers.

¹⁰⁵ <https://www.anre.md/tarife-3-81>

¹⁰⁶ https://www.legis.md/cautare/getResults?doc_id=108823&lang=ro

Also the net metering¹⁰⁷ mechanism applicable to end-users, which can become “prosumers” by installing central power plants with a cumulative power of up to 200 kW at the consumption site, but not more than the power contracted. Thus, final consumers who decide to invest in such installations will be able to substitute for part of the electricity consumption in the electricity network with their own production and at the end of each billing period they will pay only the difference between the energy consumed from the power grid and the energy delivered to the network of its generation installation. Currently, the electricity prices delivered to end-users whose

using installations are connected to low voltage power networks are ≈ 7.18 $\text{€}/\text{kWh}$ in the service area of DSO Premier Energy Distribution and ≈ 9.71 $\text{€}/\text{kWh}$ in the DSO RED-Nord service area. Taking into account that the significant gas price hike in the autumn will lead to an increase in the price of electricity produced by power plants operating on this type of combustion and with sufficiently long term access to financing, investment projects in rooftop solar-PV become feasible financially. In this respect, investors could offer both the technical and financial solution to make such investments attractive for the consumers of the Republic of Moldova.

Energy efficiency

According to Art. 19, para. (1) and Art. 30 para. (14) of Law No. 139/2018 on energy efficiency¹⁰⁸, all large enterprises (those not covered by Law No. 179/2016 on small - and medium-sized enterprises) will be required to carry out energy audits at least every 4 years, making the first one mandatory within one year of the publication of the Regulation on energy auditors and energy audit.

The Regulation on energy auditors and energy audit was approved by Government Decision No. 676 of 10.09.2020¹⁰⁹. Investors could offer

both technical expertise for conducting energy audits and technical solutions to improve energy efficiency, together with funding the implementation of such measures, for example based on the ESCO model.

Investors that succeed in entering the Moldovan electricity distribution segment will have easier access to the development of other business areas: supply of energy efficiency services and/or distributed power generation.

¹⁰⁷ See Art. 39 of Law No. 10/2016: https://www.legis.md/cautare/getResults?doc_id=106068&lang=ro

¹⁰⁸ See Art. 30 of Law No. 139/2018: https://www.legis.md/cautare/getResults?doc_id=105498&lang=ro

¹⁰⁹ https://www.legis.md/cautare/getResults?doc_id=123164&lang=ro





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