ELECTRICITY SALES STRATEGY

2023-2026

Whereas:

Emergency Ordinance No. 119 of September 1, 2022 on amending and supplementing Government Emergency Ordinance No. 27/2022 on measures applicable to end-users of the electricity and gas market during April 1, 2022 – March 31, 2023, as well as for amending and supplementing some pieces of legislation from the energy sector, providing at Art. V (1):

"The Ministry of Energy is authorized to mandate its representatives in the General Meeting of Shareholders of electricity production companies, where it is the majority shareholder, to request economic operators to prepare and to approve the electricity sales strategy for the next 4 years, within General Meetings of Shareholders, by November 1, 2022".

The Electricity Sales Strategy 2023-2026 was drafted by taking into account **the letter of the Ministry of Energy** (Romgaz registration no. 33545/12.09.2022) that requested to prepare and to approve within the GMS the electricity sales strategy for the following four years, by November 1, 2022.

1. BACKGROUND

Europe is facing an unprecedented energy crises. EU countries cooperate to find an answer to the high prices and to ensure energy supplies to European citizens. We are mainly facing measures to mitigate high energy prices.

Main objectives of EU measures to the energy crises are the following:

- to ensure competitive energy at accessible prices for EU consumers;
- to increase EU energy security and readiness in emergency cases;
- to strengthen energy resilience and autonomy of EU countries;

Transforming the European energy market in the energy security context:

- EU energy prices hit record highs in 2022;
- global wholesale energy prices increased since 2021 following the COVID-19 pandemic and the high international demand;
- Russia invading Ukraine;
- climate conditions had an aggravating effect, with heat waves in summer 2022 placing additional pressure on energy markets.

Energy prices reached record levels and remain volatile. Even before Russia invaded Ukraine, gas wholesale prices were approximately 200% higher than the previous year (February 2022). Wholesale electricity prices followed a similar pattern. High energy prices, were initially driven by a high global gas demand in the context of economic recovery after the COVID-19 pandemic, and Russia's invasion of Ukraine further exacerbated the energy crisis. Uncertainties over energy supplies from Russia, Europe's main supplier, are adding to market uncertainty, contributing to increased volatility and higher prices. The medium-term outlook indicates that energy prices will remain higher than recent average prices for some time.

EU gas stocks are sufficient to cover our need until the end of this cold season, even in the event of a total disruption of energy supplies from Russia. As provided by the Regulation on security of gas supply, Member States prepared emergency plans, which can be activated, if necessary, to guarantee supply. We can rely on a complex network with pipeline interconnections between Member States (including reverse flows) and connected liquefied natural gas (LNG) terminals. Today, all regions have access to several gas sources. As a result, we are less vulnerable than in the past to a reduction of supplied energy amounts of by a particular supplier. The Commission monitored the situation very closely and is in constant contact with Member States.

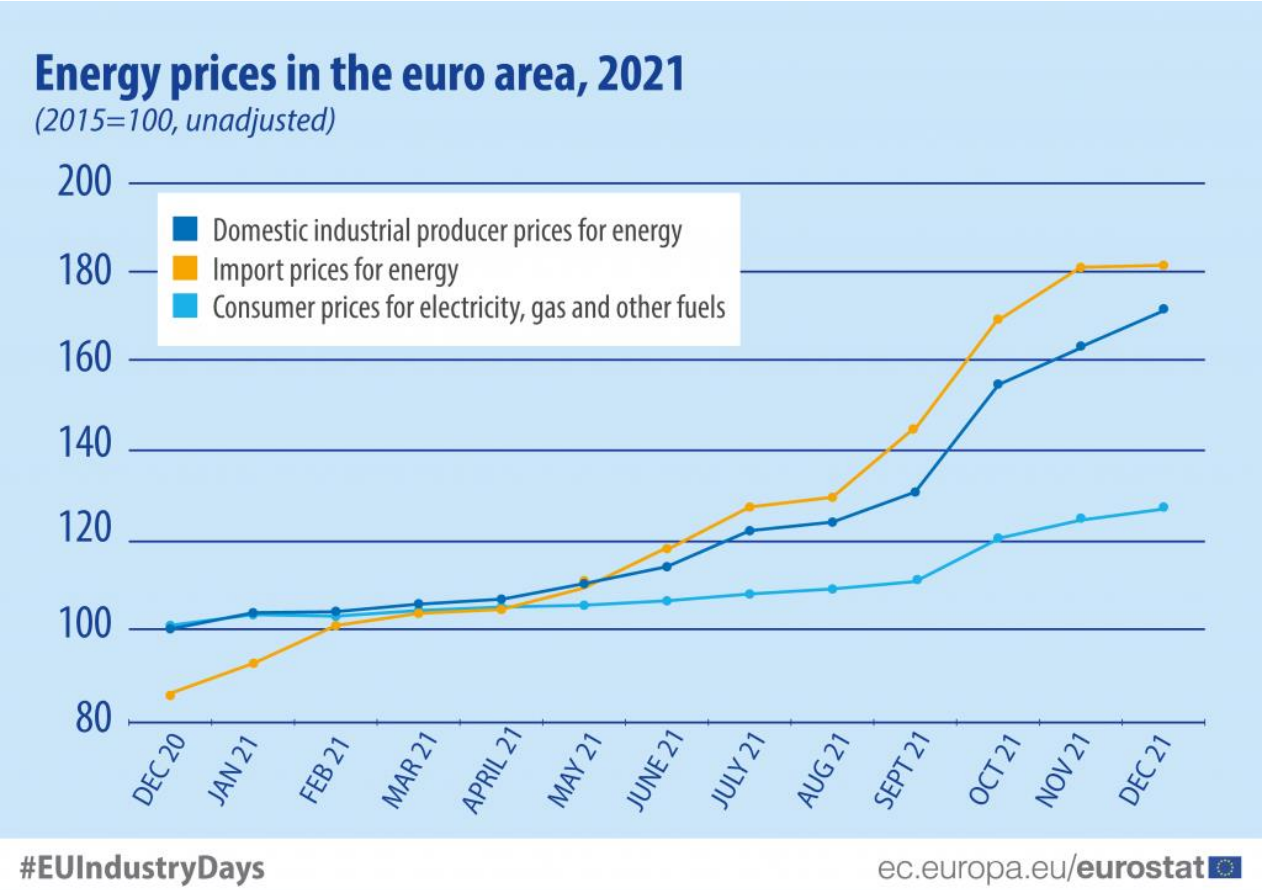
Moreover, Europe made all efforts to constantly diversify energy supply routes and sources. The Southern Gas Corridor, which transports gas from Azerbaijan, is operational and we cooperate with several countries, including Norway, Qatar, Japan, South Korea and the US. In 2022, there was a strong increase in LNG imports into the EU. These imports reached 10 billion cubic metres in January (the highest ever recorded) and provisional figures show that volumes remained high in February.

- To cover its energy needs, EU depends on imports of fossil fuels (gas, oil and coal), which represented in the last 5 years 57% - 60% from the gross energy consumption. Although the internal production of energy from renewable sources increased significantly over the last years, due to the fact that production of coal, lignite and gas decreased in the EU; the European Union is still dependent on gas, oil and coal imports.
- In the **gas sector**, Russia supplied in 2021, approximately 45% from the total EU gas imports. For the last years, gas imports weighted in the EU almost 40%. The other main gas suppliers were Norway (23 %), Algeria (12 %), the United States (6 %) and Qatar (5 %).

Energy import prices in the Euro zone nearly doubled during December 2000 – December 2021, while the price of energy from internal production increased by 73%, according to Eurostat. These evolutions led to a 25% increase of electricity, gas and other fuel prices between December 2020 and December 2021.

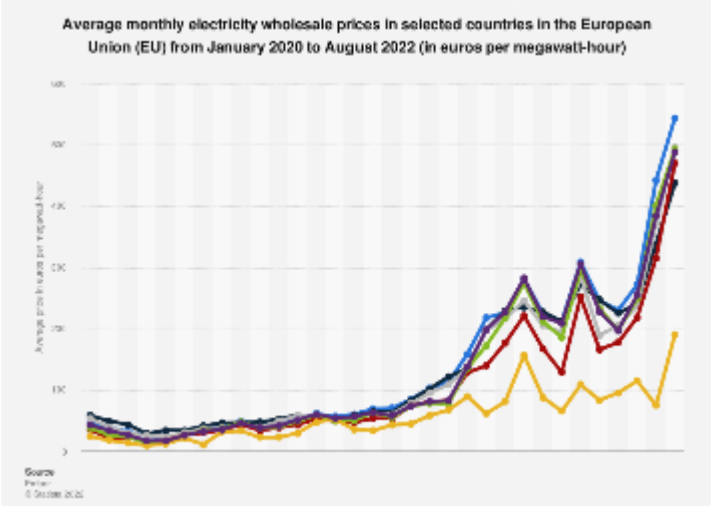
Recent developments in energy prices are unprecedented. Energy import prices, although quite volatile, have not changed by more than about 30% per year in the past and domestic production prices have not changed by more than about 10% per year.

This development is in stark contrast to the relative stability of prices for imported energy over the years 2010-2019 (in 2020, prices even fell by 31%). The price of domestic production also followed the same trend, with a slight increase of only 0.9% over the same period, and even falling by almost 10% in 2020.

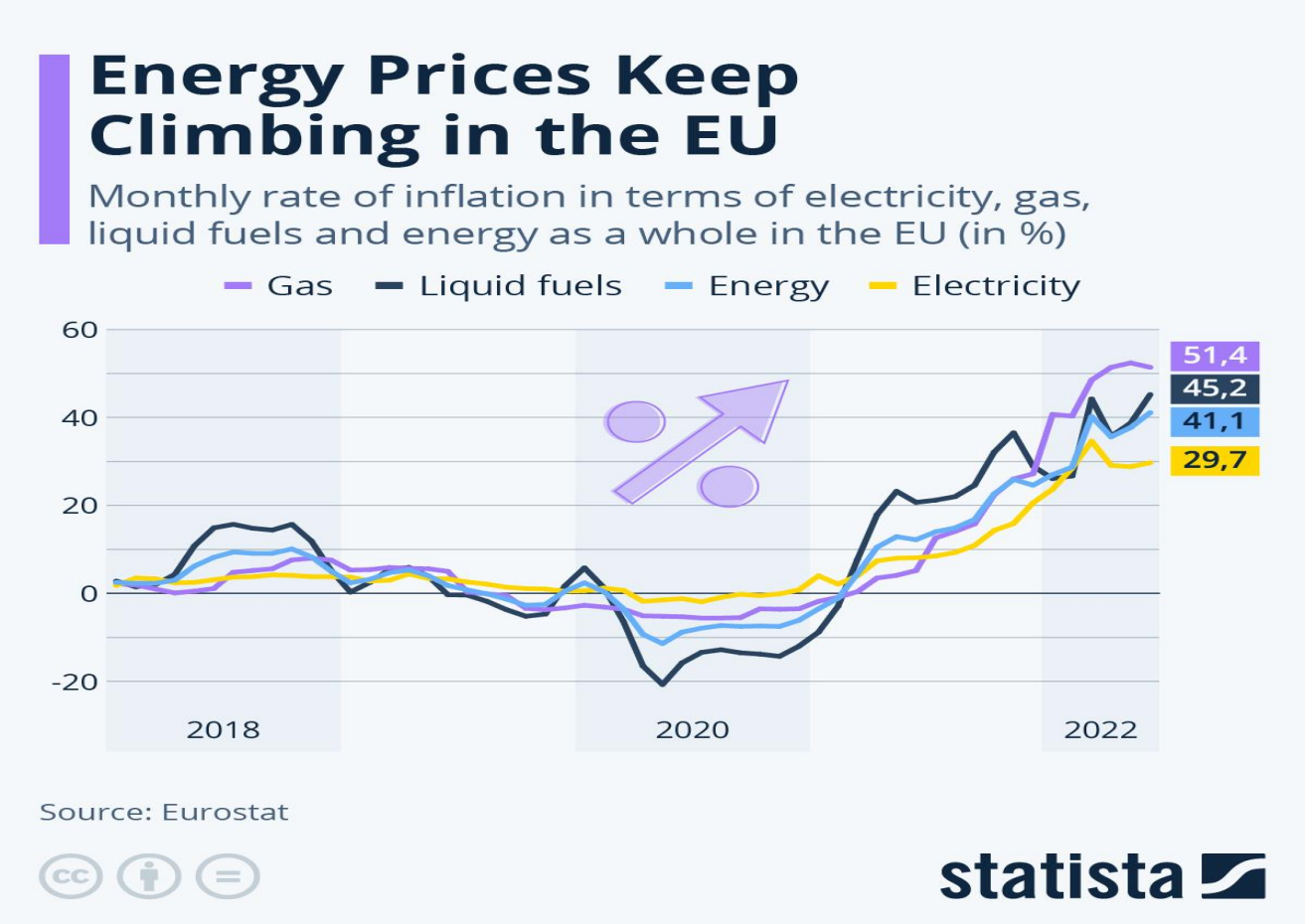


Average monthly prices in European Union countries

https://www.statista.com/statistics/1267500/eu-monthly-wholesale-electricity-price-country/



Average monthly prices in Europe reached almost 600 Euro/MWh in August 2022.

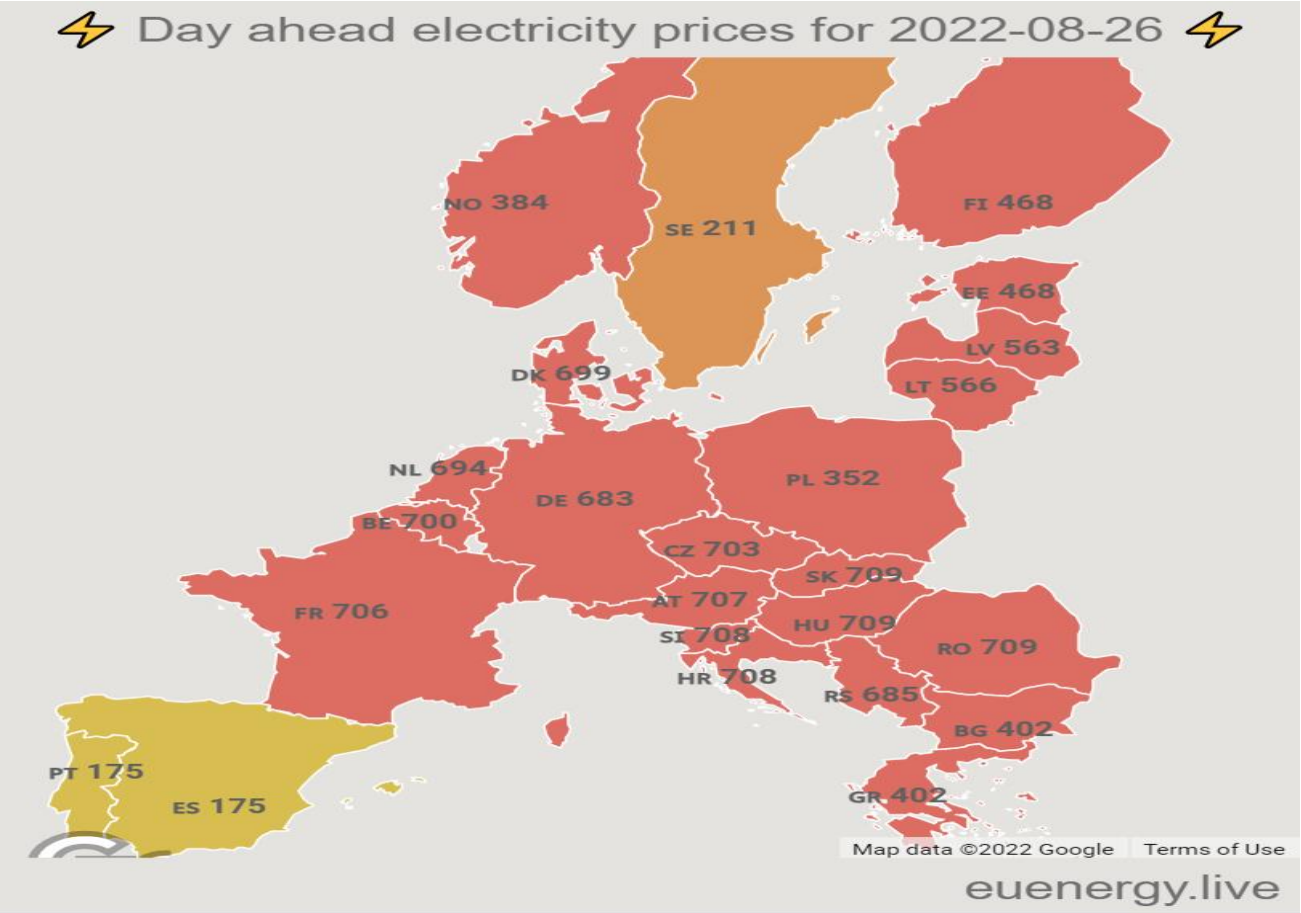


The highest price in Europe (https://www.economica.net/nou-maxim-istoric-al-pretului-energiei-electrice-spot-in-romania-709-euro-mwh-cel-mai-mare-pret-din-europa_607459.html**)**: The closing price for the day ahead market in Bucharest for the energy traded on 25.08.2022, with delivery the following day is 3,461 RON/MWh, or **709 Euro/MWh**. According to our data, this is the highest average daily price since the Bucharest market exists.

The previous three price records were set in the same months, the last one on August 24, when the day ahead energy was sold for an average price of 631 Euro/MWh.

The spot market is very liquid in Romania - for example, in July 2022, the last month with available official data, more than 52% of the country's total consumption was traded on the day ahead market, i.e. approximately 2.35 TWh of electricity, with a transaction value of RON 4.35 billion.

In July 2022, the average closing price on the day ahead market was 1,813 RON/MWh, up from RON 1,138 in June and RON 1,000 in May. Thus, compared to the previous month, the spot price increased by 59%, an increase that overlapped however on a high base. Compared to the monthly price a year ago in July, the one recorded now is almost four times higher (3.8 times) - in July 2021, the closing price on the day ahead market was 474 RON/MWh.


Day ahead electricity prices for 2022-08-26
NO 384
SE 211
FI 468
EE 468
LV 563
LT 566
DK 699
NL 694
DE 683
PL 352
BE 700
CZ 703
SK 709
AT 707
FR 706
HU 709
SI 708
RO 709
HR 708
RS 685
BG 402
PT 175
ES 175
GR 402
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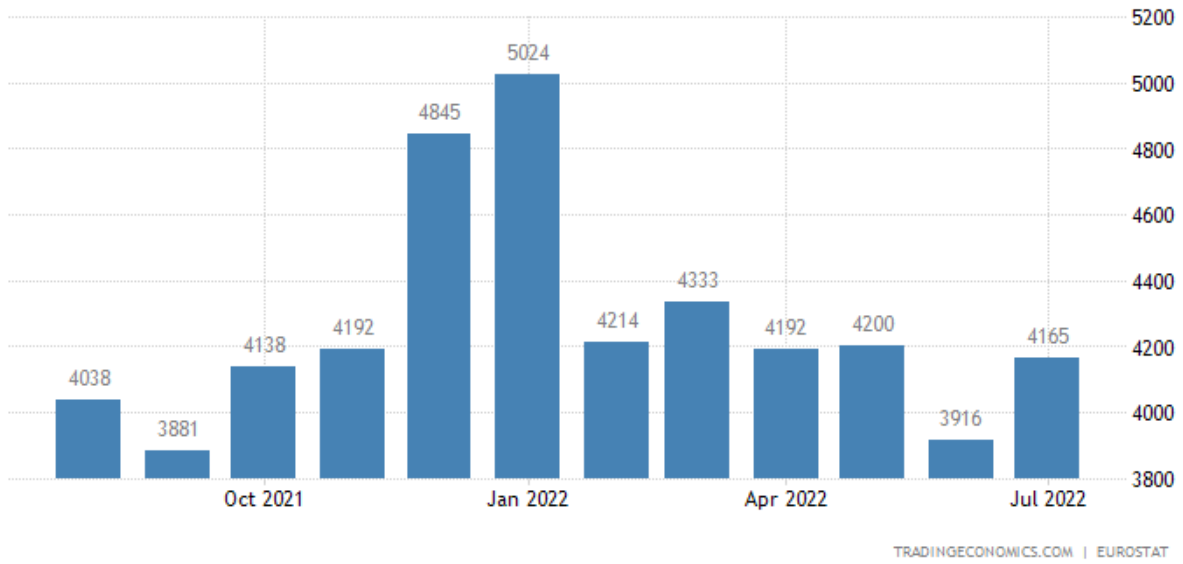
euenergy.live

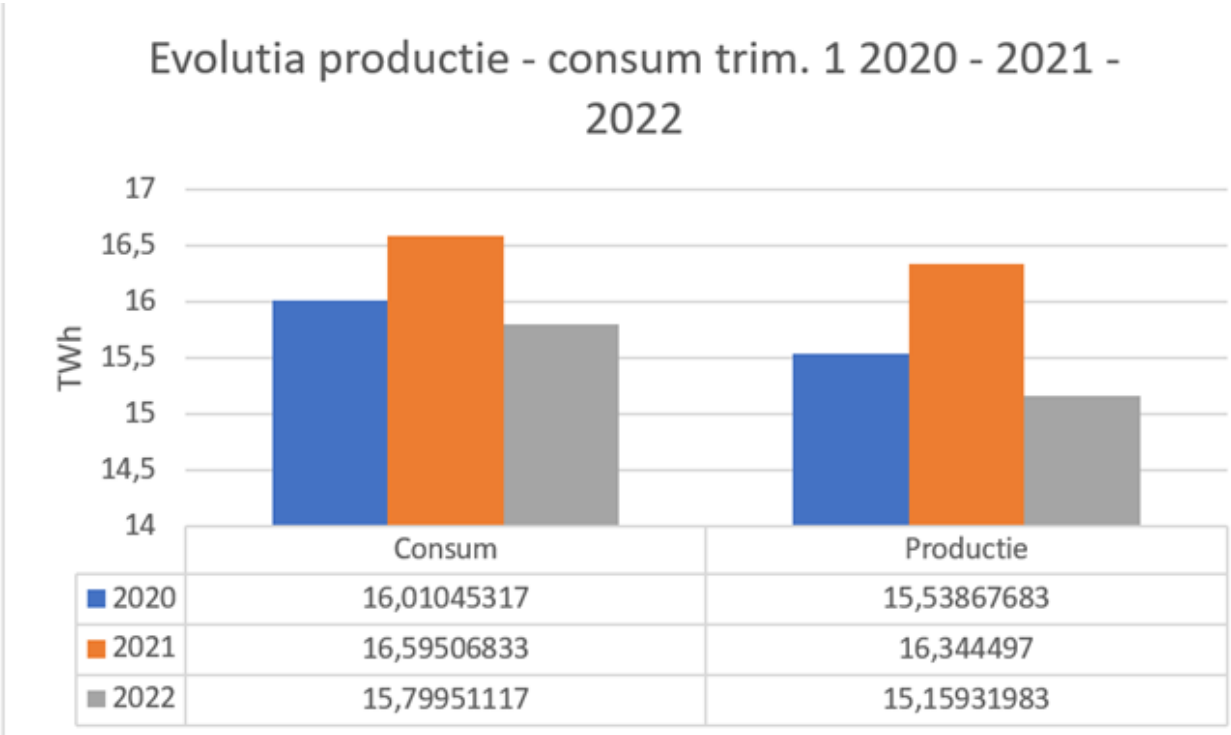
Electricity production in Romania

(https://tradingeconomics.com/romania/electricity-production)



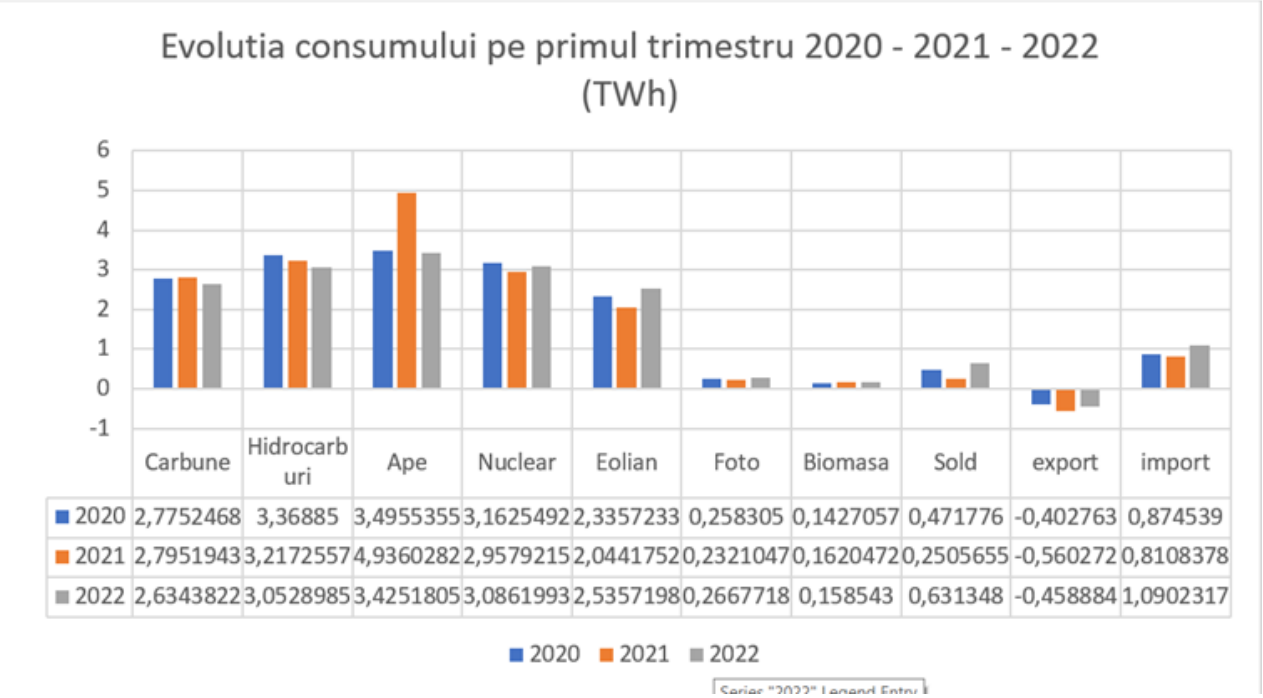
Related	Last	Previous	Unit	Reference
Electricity Production	4165.00	3916.00	Gigawatt-hour	Jul 2022

https://www.contributors.ro/energia-electrica-primele-trei-luni-din-ultimii-trei-ani/



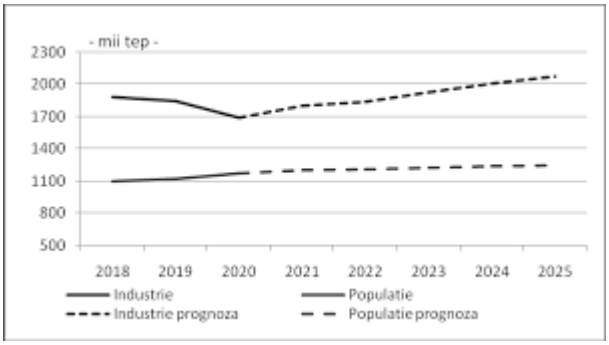
	Consum	Productie
2020	16,01045317	15,53867683
2021	16,59506833	16,344497
2022	15,79951117	15,15931983

	Twh	MWh	MWh	MWh	MWh
	Productie	**productie medie orara**	**import mediu orar**	**export mediu orar**	**sold mediu orar**
2020	15,53867683	7193,83	404,88	-186,46	218,41
2021	16,344497	7566,90	375,39	-259,39	116,00
2022	15,15931983	7018,20	504,74	-212,45	292,29



The domestic electricity consumption (total use less exports) recorded an average annual growth rate of 2.1% between 2022 and 2025. This growth is mainly driven by electricity consumption in industry, services and the residential sector.

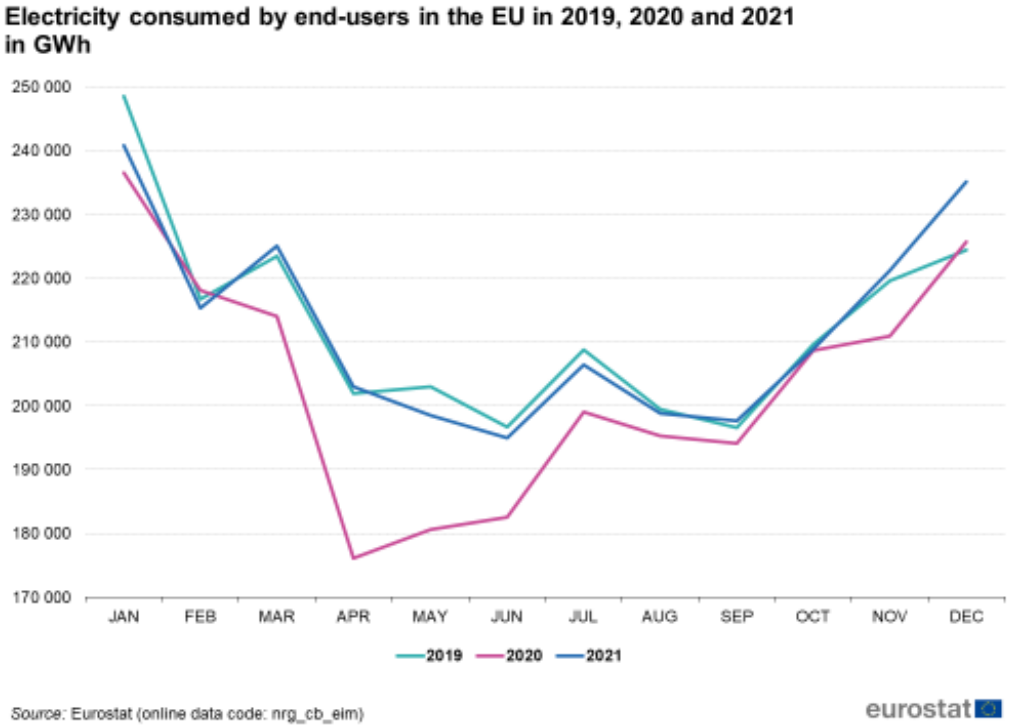
The industry, excluding the energy sector, has the energy consumption forecast based on estimated electricity consumption intensity. Consumption in the residential sector is estimated on the basis of a multi-year trend. The forecasted energy consumption trends for industry and the residential sector are shown in the graph below.



The current version of the energy balance forecast envisages an increase in primary energy resources at an average annual rate of 1.5%, supported by both import and domestic production growth. The projected dynamics of domestic primary energy production are positive, gradually slowing down to an increase of 1.2% in 2025. The increase is underpinned by the use, in the first part of the forecast period, of an increasing quantity of coal, with favourable evolutions expected for energy from renewable sources.

Source : Energy balance forecast

https://cnp.ro/wp-content/uploads/2022/03/Nota_Prognoza_Echilibrului_energetic_martie_2022.pdf



Electricity consumed by end-users in EU (electricity available on the internal market) in 2019, 2020 and 2021 in GWh

Source: Eurostat (nrg_cb_eim)

In drawing up the strategy, the company had in mind the importance of Iernut Combined Cycle Gas Turbine Power Plant in increasing the operational safety of the National Power System and in strengthening the national energy security through:

- Increasing the adequacy of the National Power System (the capacity of the electrical-energy system to permanently meet the power and energy demand of consumers), by ensuring the necessary electricity production during electricity deficit periods at other types of power plants (reduced hydropower during periods of drought, reduced solar power during periods of high cloud cover, reduced wind power during periods of low wind speeds);
- Ensuring ancillary services to compensate high variations of electricity production from renewable sources, by higher technical capacities of fast charge/discharge units;
- Increasing and improving voltage stability conditions and electricity quality by ensuring a large reserve of reactive power and efficient voltage regulation.

2. SCOPE OF THE STRATEGY

- Predictability of production and electricity sales price;
- Sustainable increase of added value for the company, employees and shareholders, long-term resilience;
- Making profit from the production and sale of electricity, including from renewable sources;
- Low-carbon electricity generation by using renewable energy sources.

3. OBJECTIVES

- Aligning the investment policy with European and national objectives for renewable electricity;
- Reduce carbon emissions by producing electricity from natural gas with low emission;
- Sustainable energy by generating solar power;
- Increase Romgaz share on the electricity market.

4. LINES OF ACTION

- Safe and continuous operation of conventional condensing power plant (Unit 5);
- Completion of remaining works to be executed, commissioning and commercial operation of the Combined Cycle Gas Turbine Power Plant (CCGT);

- Prepare a Feasibility Study, a Tender Specification for the design and execution of a photovoltaic park of 60 MW installed capacity;
- Increase Romgaz market share as electricity producer to 5% and portfolio diversification;

4.1 Safe operation of the conventional condensing power plant (Unit 5)

The conventional Iernut power plant consists of:

- Unit 5 of 200 MW (one condensing steam turbine, type K12-130-1 and two steam boilers PK-47-2);
- hydro-technical circuit;
- chemical waste water treatment facility;
- hydrogen production plant;
- electrical part of the power plant;

Measures for the safe operation of the conventional power plant:

- carrying out current maintenance works and prophylactic tests according to technical instructions;
- carrying out corrective maintenance works in a timely manner;
- carrying out scheduled maintenance works on Unit 5 (April 2023 and October 2023)
- carrying out scheduled maintenance works on the hydrogen production plant (October – November 2022).

4.2 Completion of remaining works to be executed, commissioning and commercial operation of the Combined Cycle Gas Turbine Power Plant (CCGT);

The Combined Cycle Gas Turbine Power Plant (CCGT)

The gas-steam combined cycle is the most efficient power generation technology currently used in thermal power plants. The principle of operation consists in overlapping two thermal cycles: a Brayton-gas cycle and a Rankine steam cycle with overheating.

This results in a combined cycle with a higher efficiency than the Brayton and Rankine cycles taken separately. The high efficiency results from exploiting the gas turbine's ability to introduce heat at a high temperature into the cycle, together with the steam turbine's ability to remove heat at a very low temperature. In the combined gas-steam cycle the entire fuel quantity is burned in the combustion chamber of the gas turbine. In the balance of power produced, gas turbines produce about 2/3 of the total installed power of the combined cycle.

The agreed construction version of the new thermal power plant is a gas-steam combined cycle, with an installed capacity of 430 MW, with gross electrical efficiency at base load >56%.

4.3 Design and construction of a 60 MW photovoltaic park

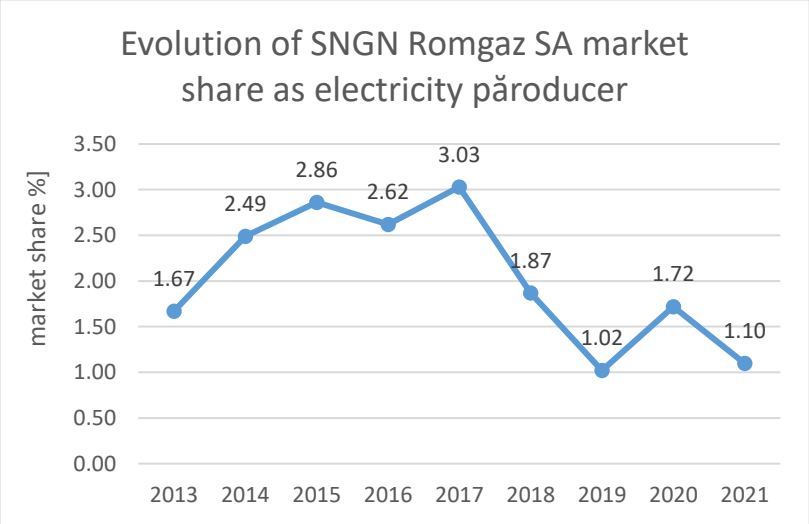
Romgaz supports and promotes the concept of diversified energy mix with low emissions and high energy efficiency which gives balance to the company’s resource portfolio. An important objective of the company is the production of solar energy at a minimum level of 1-2% of Romgaz total energy market contribution.

The main objective of the project is its contribution to increasing the NPS adequacy and reducing electricity imports through the development of renewable electricity generation capacities. The benefits of this project in terms of reducing emissions and combating climate change derive from using technologies that comply with European emission standards.

4.4 Increase of the market share in electricity production to 5% and portfolio diversification

Data from the Annual Reports on monitoring of the electricity market ANRE

YEAR	Market share evolution S.N.G.N. Romgaz S.A.
	%
2013	1.67
2014	2.49
2015	2.86
2016	2.62
2017	3.03
2018	1.87
2019	1.02
2020	1.72
2021	1.10



Data source: OPCOM, Transelectrica

5. Electricity Trading during 2020 – 2021 – 2022

During 2020 – 2021, until the amendment of Law No. 123/2012 as subsequently amended and supplemented, Romgaz sold electricity only on DAM (Day Ahead Market), IM (Intraday Market) and BM (Balancing Market), because at CCGT Iernut only one energy Unit (Unit 5) is in operation, without backup, and there is the possibility of failures with tripping the unit and its unavailability for longer or shorter periods of time due to accidental damages.

In 2022, due to legislative amendments, such as:

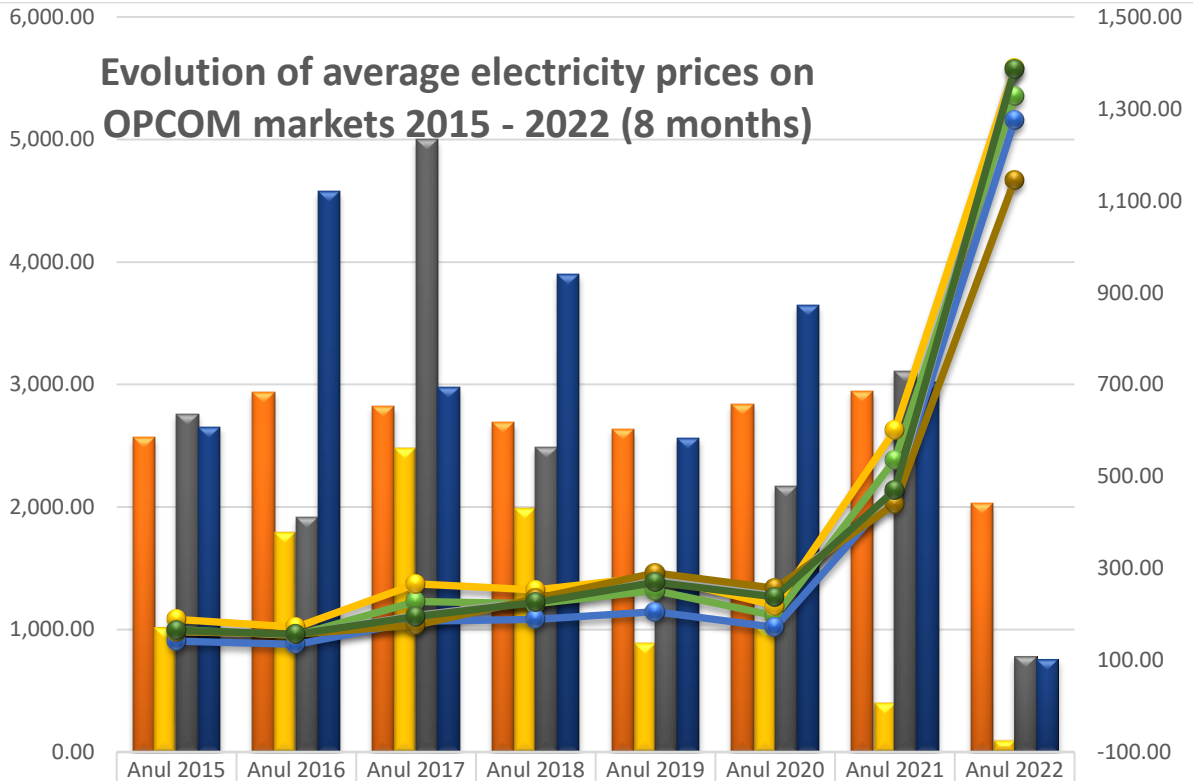
- The provisions of Article 28 paragraph (2) of Law No. 123/2012 as amended, according to which "*in order to maintain an adequate liquidity of the electricity market, the producers are required to trade at least 40% of their annual electricity production through contracts on electricity markets, other than DAM, IM and BM* (…)"
- The provisions of Article 14 paragraph (3) of the Emergency Ordinance No. 27 from March 18, 2022, as amended, according to which ***"electricity producers which are in the portfolio of the Romanian state****, which are subject to the provisions of the Government Emergency Ordinance No. 109/2011 on corporate governance of public enterprises, approved with amendments by Law No. 111/2016, as amended, and the titleholders of petroleum agreements producing electricity* ***shall respond within maximum 5 working days with partial or total sales offers to electricity purchase requests made by the transmission and system operator and licensed distribution operators,*** *individually or in aggregate****,*** *directly or through dedicated platforms in the organized market.*
- **The provisions of Article VII** of Government Emergency Ordinance No.119/2022**:**

Through bilateral contracts directly negotiated as of September 1, 2022, electricity producers are required to sell directly available electricity with delivery until December 31, 2022, only to electricity suppliers with end-users in their portfolio, exclusively intended for their consumption, to electricity distributors, to the national system operator, Compania Națională de Transport Energie Electrica Transelectrica - S.A., as well as to consumers that benefitted from the provisions of Government Emergency Ordinance No. 81/2019 amending and supplementing Government Emergency Ordinance No. 115/2011 on establishing the institutional framework and authorizing the Government, through the Ministry of Finance, to auction the greenhouse gas emission allowances allocated to Romania at European Union level, as well as for the establishment of a state aid scheme to support companies in sectors and subsectors exposed to a significant risk of relocation as a result of the transfer of the cost of greenhouse gas emissions in the price of electricity, approved with amendments by Law no. 262/2021, as amended.

S.N.G.N. ROMGAZ S.A. sold electricity on CMEC (Centralised Market for Electricity Bilateral Contracts) and CMEC-CN (Centralised Market for Electricity Bilateral Contracts – Continuous Negotiation) and directly negotiated contracts.

ROMGAZ

Societatea Națională de Gaze Naturale Romgaz S.A. - Mediaș - România



	Anul 2015	Anul 2016	Anul 2017	Anul 2018	Anul 2019	Anul 2020	Anul 2021	Anul 2022
Putere medie orara PZU [MWh/h]	2,569.72	2,937.45	2,823.60	2,690.17	2,634.59	2,837.91	2,944.97	2,026.21
Putere medie orara PCCB-NC [MWh/h]	1,017.47	1,791.17	2,474.84	1,986.51	890.73	1,022.84	402.57	98.67
Putere medie orara PCCB-LE [MWh/h]	2,759.90	1,912.60	5,002.25	2,485.80	1,453.63	2,169.21	3,108.15	780.60
Putere medie orara PCCB-PC [MWh/h]	2,652.28	4,574.26	2,976.41	3,895.32	2,562.37	3,644.64	3,015.31	760.86
PMP PZU baza [lei/MWh]	166.34	154.00	227.69	223.24	251.21	196.57	536.74	1,328.77
PMP PZU varf [lei/MWh]	188.51	171.75	266.21	253.16	282.37	218.43	600.45	1,389.32
PMP PZU gol [lei/MWh]	141.61	134.36	184.91	188.61	205.55	171.60	467.11	1,274.69
Pret mediu ponderat PCCB-NC	162.25	156.01	197.34	228.76	277.69	249.69	460.68	1,392.07
Pret mediu ponderat PCCB-LE	162.41	156.54	176.06	234.28	289.54	256.09	439.99	1,145.21
Pret mediu ponderat PCCB-PC	165.40	156.24	195.26	225.90	269.41	237.88	470.36	1,386.19

6. Sale Strategy for Electricity Produced at SPEE Iernut

6.1 2023 Sale Strategy for Electricity Produced at SPEE Iernut

SPEE Iernut will operate in 2023 with Unit No. 5, the only one authorized to operate according to the Environmental Integrated Permit no. MS1/27.02.2014, in respect of allowed NOx limits.

A series of works have been performed in 2020 resulting in reducing NOx emissions under 100 mg/Ncm which allows Unit no. 5 operation up until 27.03.2024.

The sale strategy for 2023 is prepared in respect of the following constraints:

- provisions of Article 28 paragraph (2) of Law no. 123/2012 as subsequently amended and supplemented, according to which „*in order to maintain an adequate level of liquidities on the electricity market,* ***the producers are under the obligation to trade at least 40% of the annual electricity production through contracts on electricity markets other than*** *DAM, IM and BM (…)*";
- current repairs are scheduled at unit no. 5 in April and in October 2023;
- due to operating a single energy unit (Unit no. 5) with no backup, there is risk of unit failure and tripping or unavailability due to accidental shut-down, therefore contracts on electricity markets, other than DAM, ID and BM will be concluded as close as possible to the delivery period;
- the maximum net power of Unit no. 5 is limited to 152 MW, on account of its technical condition due to its history, Unit no. 5 is operating since 1966. This power is reduced according to the temperature and quantity of cooldown water from Mures River.

Taking in account the above mentioned, the achievable physical indicators for 2023 are shown in Table 1 bellow.

Table 1

2023	**M.U.**	**Value**
annually produced electricity	MWh/year	1,130,880
annually delivered electricity	MWh/year	1,057,920
annual fuel consumption (HHV)	MWh/year	3,832,500

We mention that SNGN ROMGAZ SA own consumption facilities are supplied from the total electricity delivered into the NPS.

The electricity quantities delivered and traded in 2023 on the electricity markets, shall be influenced by the development of works at the 430 MWh Combined Cycle Gas Turbine Power Plant SPEE Iernut and by having to shut down Unit no. 5 for carrying out operation tests. **We mention that Unit no. 5 cannot operate simultaneously with the new power plant.**

6.2 Sale Strategy for the Electricity Produced at SPEE Iernut during 2024-2026

The 430 MW Combined Cycle Gas Turbine Power Plant shall operate **during 2024 – 2026.**

The annually electricity produced by SNGN Romgaz at the new 430 MW Combined Cycle Gas Turbine Power Plant **is 2.392.007 MWh**.

Annual produced and delivered electricity quantities, as well as fuel consumption, during 2024-2026 are shown in Table 2:

Table 2

	M.U.	**Value**
annually produced electricity	MWh/year	2,392,007
annually delivered electricity, out of which:	MWh/year	2,281,881
annual fuel consumption (HHV)	MWh/year	4,733,627

We mention that SNGN ROMGAZ SA own consumption facilities are supplied from the total electricity delivered into the National Power System.

Iernut combined cycle gas turbine power plant has a designed operating flexibility, therefore the power reserve will be made available to the National Energy Dispatch for ancillary services.

The sale strategy for the electricity produced at SPEE Iernut is prepared in accordance with the effective legislation and is achievable if all the scenarios considered are complied with.

CHAIRMAN OF THE BOARD OF DIRECTORS

DAN DRAGOȘ DRĂGAN

CHIEF EXECUTIVE OFFICER

RĂZVAN POPESCU

DEPUTY CHIEF EXECUTIVE OFFICER

ARISTOTEL MARIUS JUDE

CHIEF FINACIAL OFFICER

ANDREI BOBAR

SPEE IERNUT DIRECTOR
BALAZS BELA

2023-2026 ELECTRICITY SALES STRATEGY, as approved by ROMGAZ Board of Directors, can be consulted by stakeholders, at SNGN Romgaz SA headquarters, Piata C. I. Motas no.4, Medias, Sibiu County, Romania, conditional upon submitting an application and signing a confidentiality agreement in this respect.