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Balance of electric power

Year 2021

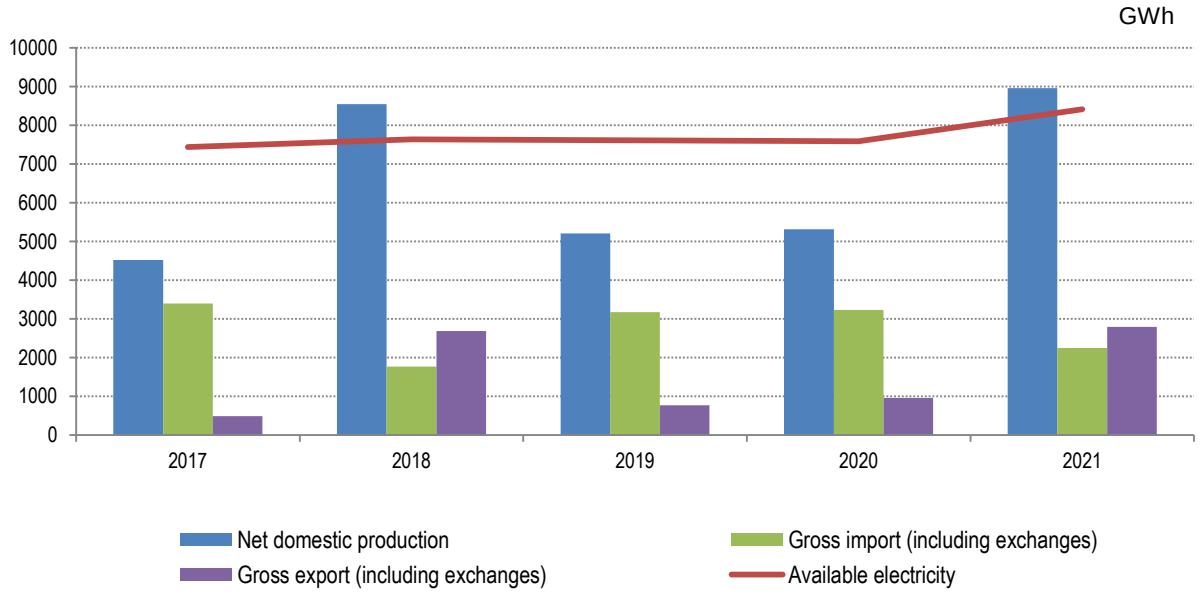
Tirana, March 3, 2022: During 2021, available electricity increased by 10.9 %.

Net domestic production of electric power in this period reached the value 8,963 GWh from 5,313 GWh of electricity produced in 2020, with an increase in production by 68.7 %.

This production was realized by public hydro plants at 59.6 % of net domestic production, by independent power producers to the extent 39.9 % and other producers (Photovoltaics) that generated 0.5 % of net domestic electricity production.

Gross import of electric power (including exchanges), reached the value 2,253 GWh from 3,239 GWh in the previous year, marking a decrease with 30.4 %. Gross export ((including exchanges) reached the value 2,800 GWh from 963 GWh marking an increase with 2.9 times (tab.1).

Fig. 1 Available electricity, net domestic production, gross import and export



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Tab. 1 Balance of electric power, yearly

MWh

Indicators		2020	2021
A	**Available electricity (A=1+2-3)**	**7,588,636**	**8,414,808**
1	Net domestic production (1=1.1+1.2+1.3)	5,313,032	8,962,703
1.1	Thermo	0	0
1.2	Hydro (1.2=a+b)	5,280,767	8,921,947
a	Net public producers (a=a.1-a.2)	3,090,198	5,343,974
a.1	Gross public producers	3,121,234	5,392,709
a.2	Losses and own consumption	31,037	48,735
b	Independent power producers	2,190,569	3,577,973
1.3	Other producers (Photovoltaics)	32,266	40,756
2	Gross import (including exchanges)	3,238,631	2,252,548
3	Gross export (including exchanges)	963,027	2,800,443
B	**Consumption of electricity (B=1+2)**	**7,588,636**	**8,414,808**
1	Electrical losses (1=1.1+1.2)	1,630,632	1,784,871
1.1	Losses in transmission	172,197	227,918
1.2	Losses in distribution (1.2=a+b)[1]	1,458,435	1,556,953
a	Technical losses in distribution	932,634	1,028,670
b	Non technical losses in distribution[2]	525,801	528,283
2	Consumption of electricity by domestic users (2=2.1+2.2)	5,958,004	6,629,937
2.1	Households	2,965,540	3,089,500
2.2	Non households	2,992,464	3,540,437

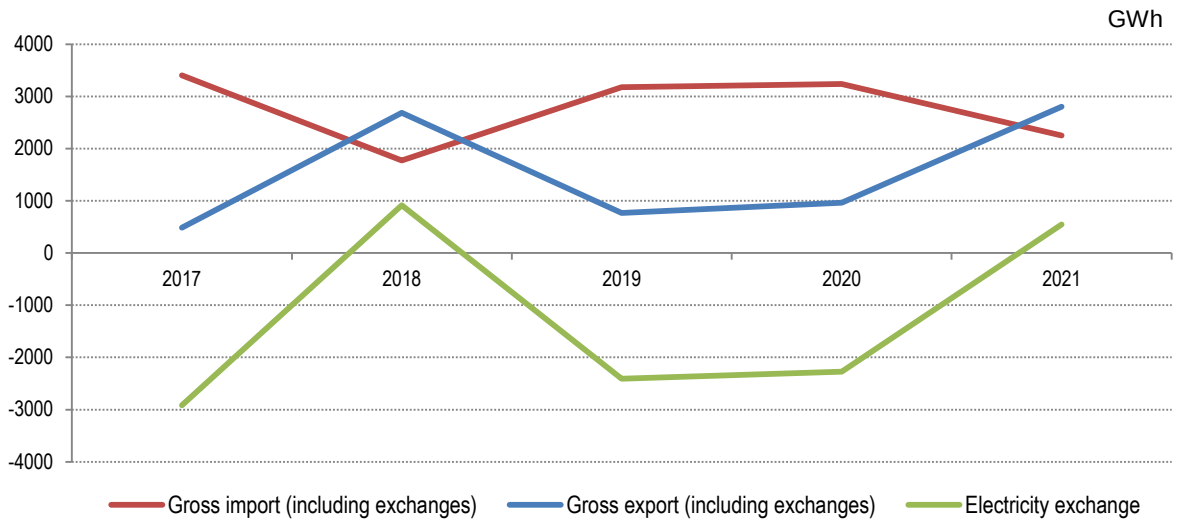
[1] Breakdown of technical and non-technical losses is estimations made by operators in the field of electricity.

[2] Non-technical losses refer to the difference between total losses in distribution and technical losses in distribution and are added also statistical differences which derive from the differences in the period of measurement in production, consumption and trade of electricity.

Public hydro plants, in 2021, realized 5,344 GWh from 3,090 GWh realized in 2020, thus marking an increase in production by 72.9 %. While, **independent and concessionaire power producers** realized 3,578 GWh from 2,191 GWh realized in the previous year, thus marking a decrease in production by 63.3 %.

Electricity exchange (difference between gross exports and gross imports of electricity), in 2021, has reached a positive value of 548 GWh compared to 2020 where it had a negative value of 2,276 GWh (fig.2).

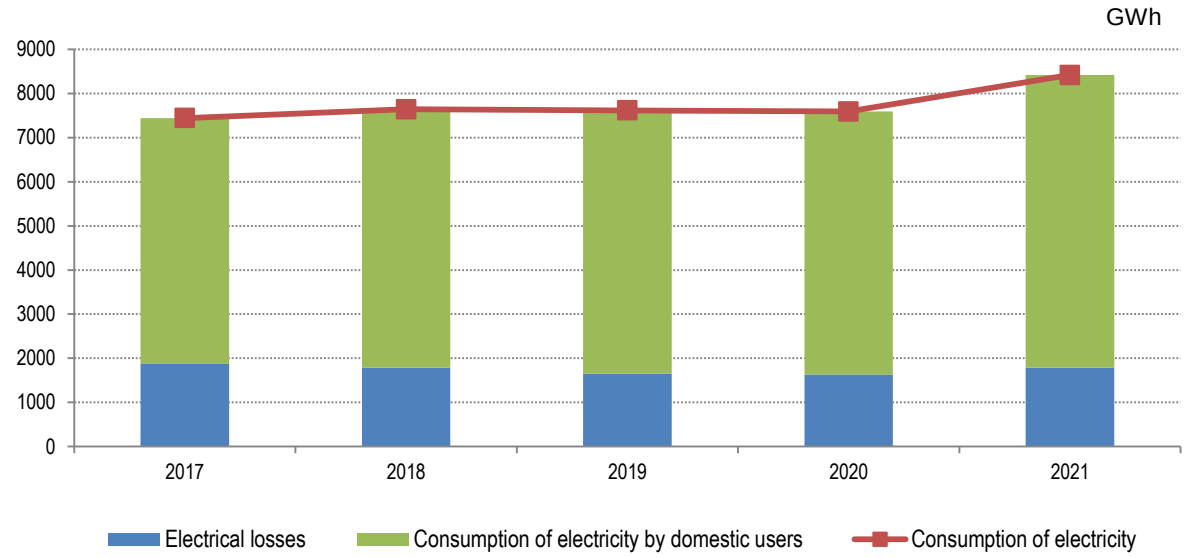
Fig. 2 Electricity exchange



Electrical losses have reached value 1,785 GWh from 1,631 GWh marking an increase by 9.5 %. **Losses in transmission** increased by 32.4 % and the weight that occupies in the total electrical losses is 12.8 %.

Losses in distribution occupy a greater weight, around 87.2 % of electrical losses, where **technical losses in distribution** increased by 6.8 % compared to the previous year (fig.3).

Fig. 3 Consumption of electricity, electrical losses and consumption of electricity by domestic users



The consumption of electricity by domestic users, in 2021, reaching 6,630 GWh from 5,958 GWh realized in 2020.

The consumption of electricity by households increased by 4.2 %, reaching the value 3,090 GWh from 2,966 GWh in 2020, while **the consumption of electricity by non-households** increased by 18.3 % reaching the value 3,540 GWh from 2,992 GWh compared to the previous year (fig.4).

Fig. 4 Consumption of electricity by domestic users

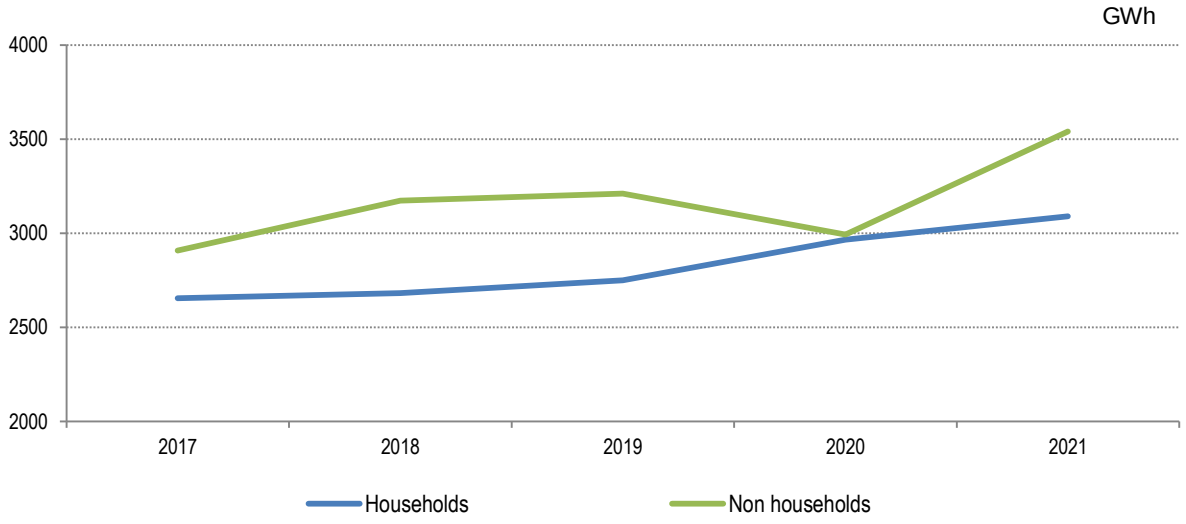
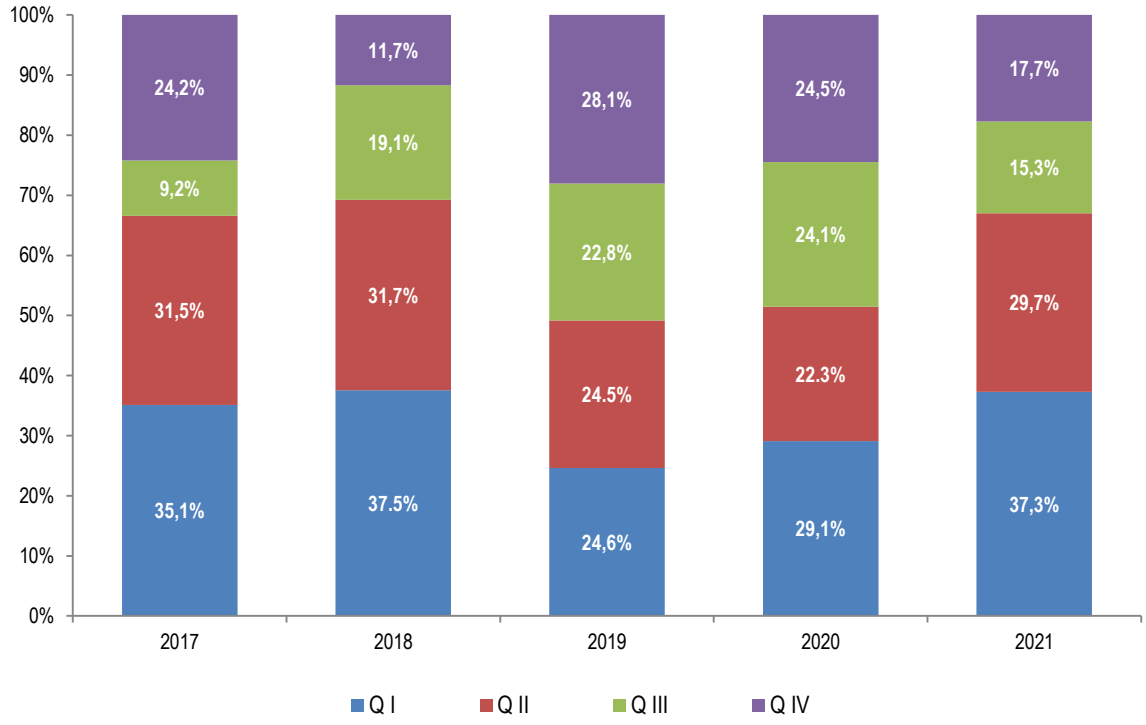


Fig. 5 shows **the structure in percentage of net domestic production by quarters** for the period 2017-2021. In 2021 noted an increase in net production in the first and second quarters and a decrease in net production in the third and fourth quarters, compared to 2020.

Fig. 5 Sructure in percentage of net domestic production by quarters, 2017-2021 (%)



Quarter IV 2021

During the fourth quarter of 2021, **available electricity** increased by 5.4 %.

Net domestic production of electric power reached the value 1,588 GWh from 1,300 GWh of electricity produced in the fourth quarter of 2020, with an increase in production by 22.1 % (tab.2).

Tab. 2 Balance of electric power, IV quarter

MWh

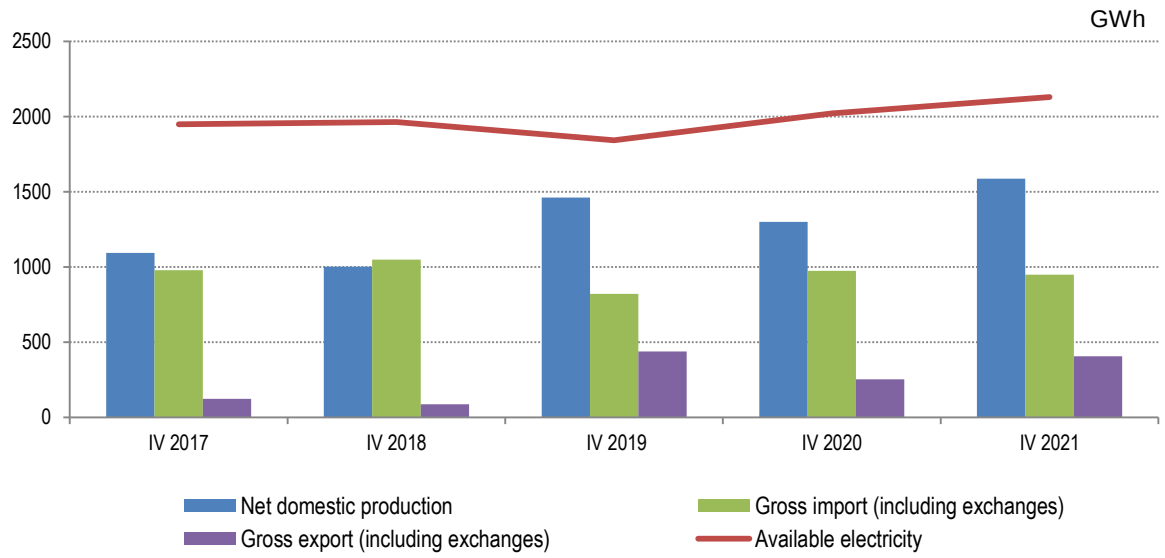
Indicators		Q. IV 20	Q. IV 21
A	**Available electricity (A=1+2-3)**	**2,021,663**	**2,131,434**
1	Net domestic production (1=1.1+1.2+1.3)	1,300,103	1,587,703
1.1	Thermo	0	0
1.2	Hydro (1.2=a+b)	1,294,159	1,581,253
a	Net public producers (a=a.1-a.2)	799,221	850,283
a.1	Gross public producers	807,360	858,838
a.2	Losses and own consumption	8,139	8,555
b	Independent power producers	494,938	730,970
1.3	Other producers (Photovoltaics)	5,944	6,450
2	Gross import (including exchanges)	974,710	950,218
3	Gross export (including exchanges)	253,150	406,487
B	**Consumption of electricity (B=1+2)**	**2,021,663**	**2,131,434**
1	Electrical losses (1=1.1+1.2)	422,820	424,235
1.1	Losses in transmission	44,690	48,299
1.2	Losses in distribution (1.2=a+b)[1]	378,130	375,936
a	Technical losses in distribution	243,145	253,106
b	Non technical losses in distribution[2]	134,985	122,830
2	Consumption of electricity by domestic users (2=2.1+2.2)	1,598,843	1,707,199
2.1	Households	773,026	803,153
2.2	Non households	825,817	904,046

[1] Breakdown of technical and non-technical losses are estimations made by operators in the field of electricity.

[2] Non-technical losses refer to the difference between total losses in distribution and technical losses in distribution and are added also statistical differences which derive from the differences in the period of measurement in production, consumption and trade of electricity.

During the fourth quarter of 2021, gross imports of electric power (including exchanges) decreased by 2.5 % and gross exports of electric power (including exchanges) increased by 60.6 %, compared to the same period of the previous year (fig.6).

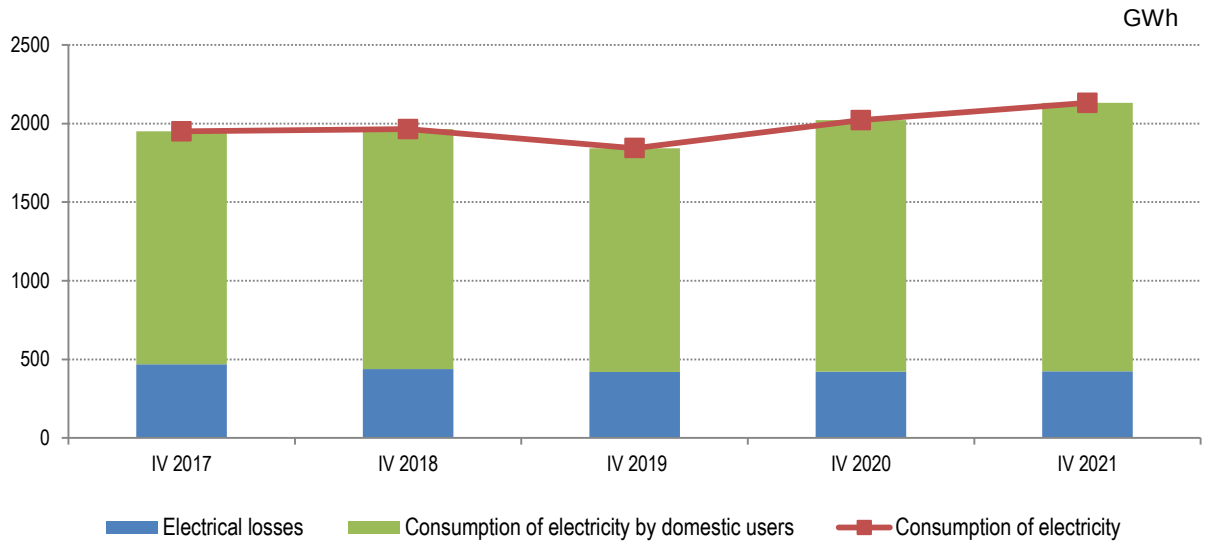
Fig. 6 Available electricity, net domestic production and electricity exchange



During the fourth quarter of 2021, **losses in transmission** increased by 8.1 %, while **losses in distribution** decreased by 0.6 % compared to the same period in 2020. (fig.7).

The consumption of electricity by domestic users increased by 6.8 %. The **consumption of electricity by households** increased by 3.9 %, while the contribution of **electricity consumed by non-households** increased by 9.5 %**.**

Fig. 7 Consumption of electricity, electrical losses and consumption of electricity by domestic users



Methodology

Balance of electric power provides statistical information on domestic production of electricity, electricity exchange, losses in network also the usage of electricity for final consumption in our country. The publication of electric power balance is quarterly, based on monthly data collected from administrative sources as:

- KESH a.s., a state joint stock trading company, vertically integrated, which has the leading role and is the key producer of electricity in Albania;
- OSSH a.s., a public company with 100% state-owned shares that carries out the supply and sales of electricity also the operation and management of the distribution network;
- OST a.s., transmission system operator is a public company with 100% state-owned shares that operates in the electricity transmission system from the physical and distribution concepts. OST a.s. provides the necessary transmission capacities for:
    - the supply of uninterrupted electricity for Distribution System substations and electricity customers directly connected to the transmission network;
    - the transmission of electricity produced from domestic sources;
    - also transits and necessary exchanges with other countries in the region.

Definitions of basic indicators

Available electricity refers to the quantity of electricity generated by domestic production of electricity plus total amount of electricity exchange.

Net domestic production of electricity is equal to the gross electricity production from thermo plants, hydroelectric plants and other producers less the electrical energy absorbed by the generating auxiliaries and the losses in the main generator transformers.

Thermo electricity refers to electricity produced by thermo plants.

Hydroelectricity refers to energy of water converted into electricity in hydroelectric plants.

Losses and own consumption is the total plant's consumption in generation process and production losses.

Independent power producers refer to private electricity producers which consist of private plants and concession contracts with the Republic of Albania. These producers are directly related to the transmission system and are licensed by the Energy Regulatory Entity (ERE) and may sell capacity or energy to OST and OSSH, to cover losses in transmission and distribution system, as well as to other clients.

Other producers refer to electricity production from other energy sources, excluding hydro and thermo electricity.

Electricity exchange refers to the difference between imported and exported electricity, also including transits and necessary exchanges of electricity with other countries in the region.

Consumption of electricity refers to the total quantity of electricity consumed by final users and losses in networks. It is equal to the sum of the following categories: electrical losses and consumption of electricity by domestic users.

Electrical losses refer to losses in transmission network including own consumption in transmission and distribution losses. *Technical losses* in distribution are estimated by OSSH a.s. *Non technical losses* refer to the difference between total losses in distribution and technical losses in distribution and are added also statistical differences which derive from the differences in the period of measurement in production, consumption and trade of electricity.

Consumption of electricity by domestic users refers to the quantity of electricity consumed by final users and is calculated as the sum of the consumption of households and non households.

Households refer to the quantity of household's electricity consumption.

Non households refer to the electricity consumption quantity that are not consumed by households but include the consumption of electricity by industry, transport, agriculture, public services, etc.