

Monthly Energy Bulletin

TSKB Economic Research

December 2020 #31

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20 January 2021

The Energy Market Regulatory Authority has set the license fees for 2021.

The Energy Market Regulatory Authority (EMRA) has determined the costs of obtaining a pre-license and license, which are to be applied in the electricity, natural gas, oil and liquefied natural gas (LNG) markets in 2021.

According to the decisions published in the Official Gazette on December 22nd, 2020, the cost of obtaining a pre-license and license for production activity in the electricity market will vary between TL 10,600 and TL 515,000 depending on the capacity. Legal entities applying for licenses to build production facilities which will run on domestic natural resources and renewable energy resources will pay 10% of this fee. The license renewal fee will be 50% of the license fee. The annual license fee will be applied at 0.003 kuruş per kilowatthour (kWh) on the volume of gross production, including domestic consumption.

The cost of obtaining licenses in the natural gas market will be TL 255,400 for import activities, TL 1,913,800 for transmission, TL 92,800 for LNG transmission, TL 513,500 for storage and TL 127,400 for wholesale and distribution. Annual license fees will be applied at a rate of 0.0005 kuruş per kWh. The license obtaining fee for natural gas import activities stood at TL 234,000 in 2020.

The license obtaining fees to be applied in the oil market in 2021 will vary between TL 6,700 and TL 889,600

27.51
TWh

December Gross
Generation

293.35
TRY/MWh

Average
MCP

4.99%

Daily average licensed electricity generation increased by 7.03% MoM in December, while rising by 4.99% YoY.

[Click](#) for details.

0.69%

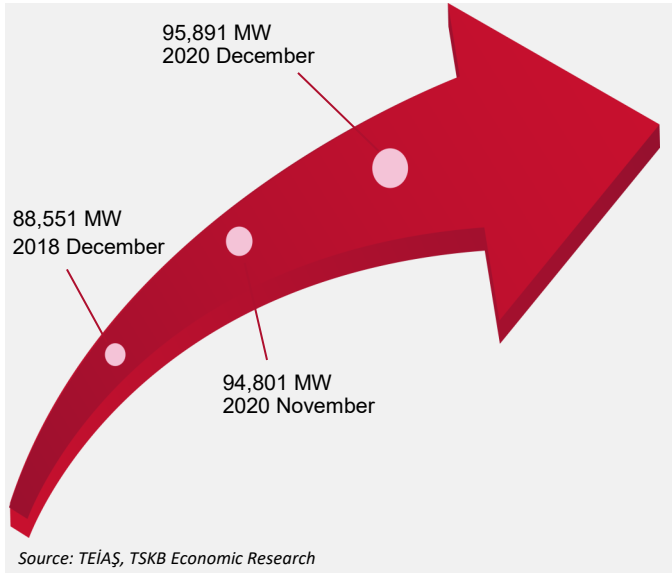
Market Clearing Price (MCP) fell by 0.73% MoM in December, and increased by 0.69% YoY.

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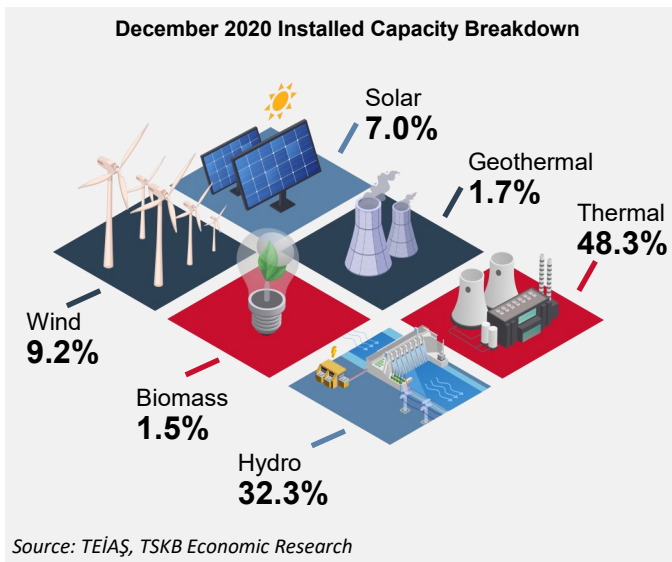


Installed Capacity Analysis

Turkey's total installed capacity, which reached 91,267 megawatts (MW) at the end of 2019, stood at 95,891 MW at the end of 2020. In December, hydroelectric power plants with a total installed capacity of 436 MW was commissioned. In the same period, the total net installed capacity of wind power plants increased by 325.5 MW with the total net installed capacity of solar power plants increasing by 154.4 MW.

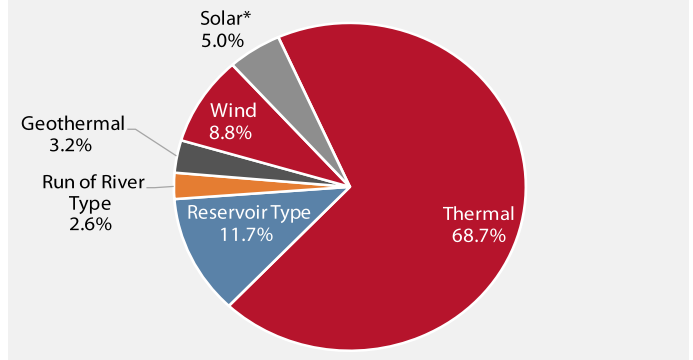
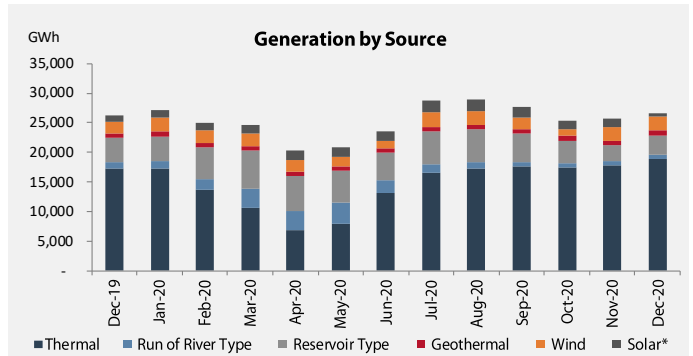


Of all the power plants in operation during December, 51.7% of the capacity consisted of power plants generating electricity from renewable resources. Thus, the share of renewable power plants in total installed capacity continued to stay above 51%. Hydroelectric power plants accounted for 32.3% of Turkey's total installed capacity in November, while the combined share of wind and solar power plants amounted to 16.2%.



Electricity Generation Analysis

Turkey's total electricity generation stood at 27.51 terawatt-hours (TWh) in December, comparing with a figure of about 25.70 TWh in November 2020. Average daily electricity generation in December increased by 3.6% compared to November. On the other hand, average daily electricity generation in December increased by 5.0% compared to the same month in the last year.

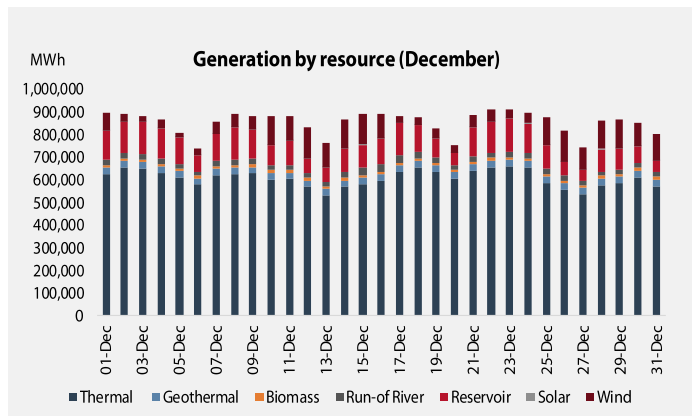


*Since December unlicensed solar power plant generation data has not yet been released by TEİAŞ, the total energy generation by unlicensed solar power plants in December was accepted as same as the total generation of November 2020.

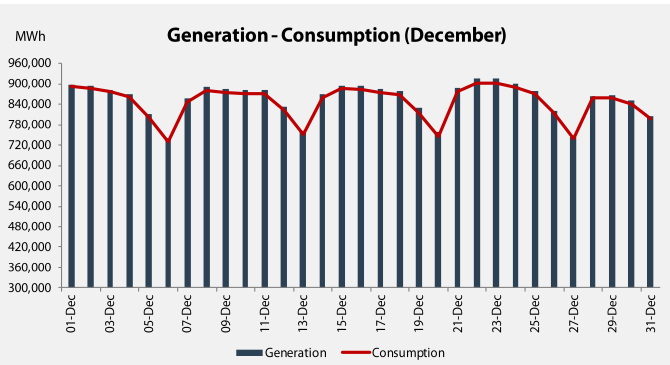
Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

Thermal power plants, which had supplied 69.6% of the electricity generated in November, accounted for 68.7% of the total electricity generated in December. This 0.9 percentage point decrease can be attributed to the increase in electricity generated from hydroelectric power plants.

After accounting for 12.8% of electricity generated in November, hydroelectric power plants provided 14.3% of the total monthly electricity generated in December 2020. Renewable power plants, which comprised an average share of 44.5% in electricity generation throughout 2019, accounted for 31.3% of all electricity generated in December 2020. In the same period, hydroelectric power derived from dam-type power plants provided a 11.7% contribution to total generation, with wind power plants accounting for 8.8% of total generation.



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research



Source: TEİAŞ, YTBS Daily Reports, TSKB Economic Research

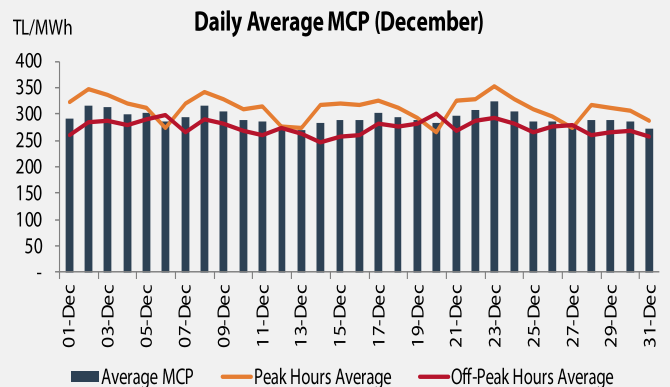
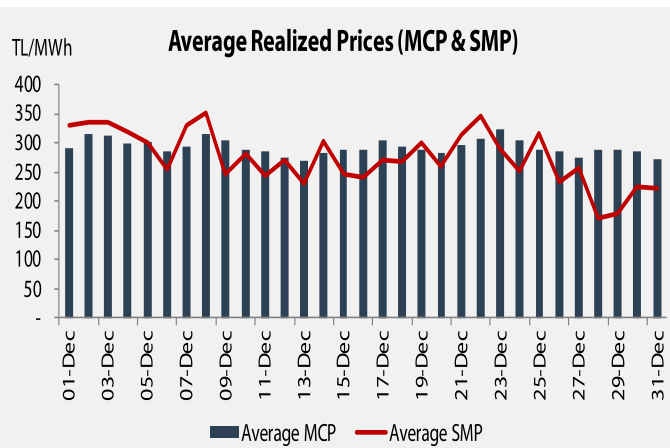
In December 2020, the average amount of electricity generated by licensed power plants was 857,175 megawatthours (MWh) per day. The highest generation realized by licensed plants during December was 915,749 MWh, recorded on Tuesday, 22nd December. The lowest volume of generation by licensed plants during the same period was 740,519 MWh, which was realized on Sunday, 6th December.

Daily electricity consumption averaged 847,396 MWh in December. The highest amount of consumption during the month was recorded on Tuesday, 22nd December (903,603 MWh), while the lowest level of consumption was recorded on Sunday, 6th December (729,667 MWh).

Electricity Price Analysis

In December, the average daily market clearing price (MCP) and system marginal price (SMP) stood in a range of TL 170 /MWh to TL 355 /MWh. The average MCP for December 2020 was TL 293.4 /MWh, while the average SMP was TL 275.1 /MWh in the same period. The lowest average MCP value was recorded on Sunday, 13th December, at TL 268.7 /MWh, while the lowest average SMP was TL 170.8 /MWh on Monday, 28th December.

Compared to the average MCP in November, the December average was recorded 0.7% lower. It is thought that the increase in the share of hydroelectric power plants in total generation was behind this decline.

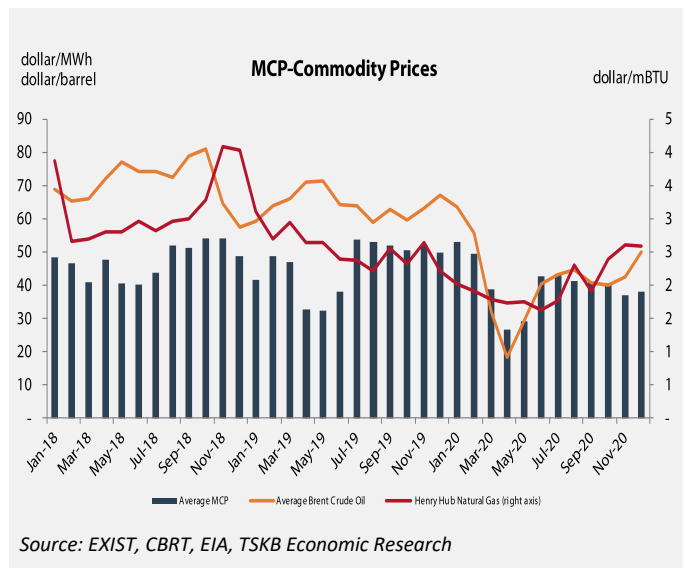


Source: EXIST, TSKB Economic Research

The daily average MCP for December stood at TL 312 /MWh for peak hours (from 8AM to 8PM), 6.4% higher than the daily average value. The highest peak-hour average recorded was TL 353 /MWh on Wednesday, December 23rd, while the lowest peak-hour average was TL 266.1 /MWh, recorded on Monday, December 20th.

Average pricing in off-peak hours (from 8PM to 8AM) for the same period stood at TL 274.7 /MWh. The highest off-peak hour average was TL 302 /MWh, recorded on Sunday, December 20th, with the lowest off-peak-hour average, of TL 247 /MWh, recorded on Monday, December 14th.

While the annual average MCP was USD 45.98 /MWh in 2019, the average MCP in 2020 was realized as USD 40.07 /MWh. The average MCP in December was USD 37.99 /MWh. MCP prices increased by approximately 2.9% in dollar terms in December compared their November level. MCP prices in dollar terms were 23.9% lower when compared to the same period of last year.



Source: EXIST, CBRT, EIA, TSKB Economic Research

Brent crude oil prices, which had averaged USD 64.36 per barrel in 2019, averaged USD 49.87 per barrel in December, remaining below their pre-COVID-19 levels. Brent crude oil prices were also up by 16.8% in December when compared to the previous month, while also 25.9% lower than their level at the same period of the previous year.

The average price of Henry Hub natural gas was USD 2.60 /mBTU in December, 0.5% lower than the USD 2.61 /mBTU average for November 2020. Average natural gas prices increased by 16.9% in December 2020 compared to the same month a year ago.





Sector News

Local News

- **Natural gas discovered in the Black Sea will come ashore at Filyos.** The Minister of Energy and Natural Resources, Mr. Fatih Dönmez announced in a statement that the natural gas discovered will be connected to the grid at Filyos, and that Zonguldak and the Western Black Sea would therefore be the new industrial zone for the energy sector. (31 December 2020)

- **Turkish Environment Agency established.** According to the law published in the Official Gazette, the duties of the Turkish Environment Agency include preventing environmental pollution and contributing to the protection, improvement and development of green areas, increasing resource efficiency in line with the circular economy with a zero-waste approach, and engaging in activities aimed at establishing, operating, monitoring and supervision of a deposit management system on a national scale. (30 December 2020)

- **Production of lithium from boron gets underway.** Speaking at the Opening Ceremony of the ETİ Mining Lithium Production Plant, attended by the President Recep Tayyip Erdogan via a live connection, the Minister of Energy and Natural Resources, Mr. Fatih Dönmez stated that the lithium production from liquid wastes, which are produced during the refined boron production process, was the only example of its kind in the world. Mr. Dönmez stated that the pilot plant, which was commissioned in Kirka, Eskişehir, will produce 10 tonnes in the first phase, increasing to 600 tonnes per year when the plant is commissioned at full capacity. The production of 600 tonnes is expected to meet Turkey's annual lithium needs, worth USD 20 million, which are currently imported. (28 December 2020)

- **Exports of electricity to Iraq started.** With an export capacity set at 150 MW, the Energy Market Regulatory Authority (EMRA) granted Akxa Aksa Enerji Ticareti A.Ş. permission to export to Iraq. Accordingly, electricity exports will be carried out between 28th December 2020 and 1st November 2021. (28 December 2020)

- **Ilisu Prof. Dr. Veysel Eroğlu Dam and Hydroelectric Power Plant (HEPP) started generating electricity at full capacity.** The Minister of Agriculture and Forestry, Mr. Bekir Pakdemirli, announced in a written statement that the contribution of the plant, which is Turkey's fourth largest HEPP, to the country's economy will be TL 2.8 billion per year in the coming period. Mr. Pakdemirli stressed that as of 23rd December, all six units of the plant had been commissioned and that the plant had started to generate electricity at full capacity. He also stated that the plant had contributed about TL 1.4 billion to Turkey's economy in 2020 during the seven months it was in operation. (25 December 2020)

- **Palmet Energy reached agreement with Engie for Izgaz and Baymina.** According a report on Habertürk, Engie and Palmet Energy reached an agreement with Izmit Urban Natural Gas Distribution Company (Izgaz) on the sale of the Baymina Natural Gas Plant in Ankara. It was noted that the necessary applications had been made to the Energy Market Regulatory Authority (EMRA) and the Competition Authority for the transfer of shares. Izgaz has approximately 325,000 subscribers, while the Baymina Natural Gas Plant has an installed power generation capacity of 770 MW. Engie holds 90% of the shares in Izgaz and 95% of the shares in Baymina. (24 December 2020)

- **EMRA set free consumer limit for 2021.** According to the Decision of the Board dated 17 December 2020 and published in the Official Gazette, the free consumer limit for 2021 will be applied as 1,200 kilowatt hours. (22 December 2020)

- **EMRA set 2021 income shares in petroleum products market.** According to the Board Decision dated 17 December 2020, which was published in the Official Gazette, the income shares for 2021 have been set at TL 5.26 /m³ for gasoline types and ethanol, diesel and biodiesel types, kerosene, aviation fuels, naphtha and distilled maritime fuels, which are supplied to be blended with gasoline types. In 2020, the income shares were fixed at TL 4.82 /m³. The amount was set at TL 5.59 /tonnes for residual marine fuel oils and fuel oil types. In 2020, this figure was TL 5.12 /tonnes. (22 December 2020)

- **Support to be extended to electric or hydrogen powered vehicles.** According to a Presidential decree published in the Official Gazette, industrial plant investments, which include the production of transportation vehicles powered by electricity or hydrogen with a minimum subsidy of TL 50 million, and R&D and environmental investments were included in the scope of the 5th Regional Incentive. The 5th Regional Incentive also covers investments which achieve 15% energy efficiency. (18 December 2020)

- **Deadline for applications for domestic component support under the Renewable Energy Resources Support Mechanism (YEKDEM) extended to 21 December.** According to the regulation published in the Official Gazette, the deadline for submitting documents to the Ministry and/or to the organization appointed by the Ministry so applications made in 2021 benefit from the additional price of domestic additives has been extended from 31 October 2020 to 21 December 2020. In addition, the necessary documents must be submitted to the Ministry and/or the organization appointed by the Ministry by 1 August 2021 if plants which are planned to be commissioned between 1 January and 30 June 2021 are to benefit from domestic component support under YEKDEM in 2022. (10 December 2020)

- **"Energy Outlook 2020" report prepared by the TSKB Energy Working Group published.** The report analyses the energy investments and finance aspect in detail with various sub-components of the energy sector such as electricity, natural gas, oil, renewable energy and energy efficiency. It evaluates the prevailing and decisive trends which stand out in the energy market. The report states that the share of electricity generated from wind and solar power plants in total supply continues to increase. The main factors behind this shift have been the environmental performance of these plants, a more rapid downward trend in production costs and the increased compatibility of such power plants with the power grid thanks to new technologies. (2 December 2020)

- **Law on The Amendment of the Electricity Market Law and Various Laws published in the Official Gazette.** Within the framework of the published amendment, unlicensed electricity power plants were given the opportunity to continue their activities in a licensed manner ten years after their commissioning. Unlicensed power plants will be able to sell electricity which they generate after the end of the first ten-year period, provided that 15% of the hourly market swap price, which is generated in the electricity market, is paid as a contribution fee to YEKDEM during the license period that will be obtained. The procedures and principles with regard to the prices of YEK-

DEM to be applied in Turkish lira for the power plants to be commissioned after 30 June 2021, and the update of these prices will be determined by the President. (2 December 2020)

- **EMRA published final Renewable Energy Resources (YEK) list for 2021.** According to the published list, a total of 910 licensed plants with an installed power of 21,530 megawatts will receive incentives under the YEKDEM in 2021. Thus, in 2021, 447 hydroelectric power plants, 198 wind farms, 52 geothermal power plants, 183 biomass power plants and 30 licensed solar power plants will benefit from YEKDEM. (1 December 2020)

News From Abroad

- **International Energy Agency (IEA) published its "Electricity Market Report".** The report estimates a 2% reduction in global electricity demand in 2020, which would be the largest decrease in the last 50 years. It is thought that the steepest fall in electricity demand was observed in Europe, with a 4% fall, with demand for electricity in the USA declining by 3.6% with a reduction of 3% in Russia. China is estimated to be the only country to have recorded an increase in demand for electricity in 2020, at a rate of 2%. According to the report, electricity generated from renewable energy resources is estimated to have grown by 7% in 2020, with the amount of electricity generated from coal decreasing by 5%, electricity generated from nuclear power down by 4% and electricity generation from natural gas decreasing by 2%. With the fall in the amount of electricity generated from these resources, carbon emissions are expected to have fallen by 5%. (15 December 2020)

- **Organization of the Petroleum Exporting Countries (OPEC) published its "Oil Market Report" for December.** According to the published report, global oil production increased by 1.62 million barrels per day in November compared to the previous month, and global oil production stood at 92.06 million barrels per day. OPEC estimates that global oil demand will have fallen by 9.77 million barrels per day in 2020 to an average of 89.99 million barrels per day in 2020. OPEC expects global oil demand to increase by 5.9 million barrels per day in 2021, when compared to 2020, to reach 95.89 million barrels per day in 2021. (15 December 2020)



- **China and the European Union (EU) updated climate targets.** According to a statement from the Chinese President, Mr. Xi Jinping, China's updated targets include reducing carbon dioxide emissions to 65% below their 2005 level, increasing the share of non-fossil resources in primary energy consumption to 25%, and increasing installed generation capacity in the field of wind and solar power to more than 1,200 gigawatts. The European Council President, Mr. Charles Michel, said that EU leaders had agreed to take decisions to cut greenhouse gas emissions by at least 55% by 2030. (14 December 2020)

- **Japan to provide USD 19.2 billion in financing to increase use of hydrogen in electricity generation.** Japan plans to make hydrogen its main source of electricity by 2030. Japan, which is aiming for zero emissions by 2050, plans to use about 10 million tonnes of hydrogen per year by 2030. Japan plan to provide USD 19.2 billion in financing and tax support to achieve this goal. (11 December 2020)

- **United Nations Environment Programme (UNEP) published its Emissions Gap Report for 2020.** According to the report, a green recovery following the COVID-19 pandemic could achieve a 25% reduction in emissions by 2030. The report proposes that the green recovery could reduce CO2 emis-

sions from the 59 gigatons currently projected for 2030 to 44 gigatons. (10 December 2020)

- **U.S. Energy Information Administration (EIA) published its Short-Term Energy Outlook report.** According to the report, total US energy consumption is expected to have decreased by 7.5% in 2020, before increasing by 3.3% in 2021. The report, which was released in November, set out an expectation that the total US energy consumption would decrease by 7.8% in 2020 and increase by 2.6% in 2021. (9 December 2020)

- **IEA published its "Energy Efficiency 2020" report.** In the report, it was stated that global primary energy density, which is an indicator of how efficiently economic activities use energy, is expected to increase by less than 1% in 2020. It was underlined that this was the smallest improvement since 2010. According to the report, investments undertaken in energy efficiency worldwide are expected to decrease by 9% in 2020. (4 December 2020)





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