

Key results relating to energy ratios 2020

The Household Energy Estimates Statistics revealed that the Kingdom population benefiting from electricity services reached 100% through various electricity sources. 99.47% of houses are connected to public electricity network, 0.43% are connected to private network, and 0.10% benefit from electricity services using private generator as a source of electricity. As for usage of solar energy in houses, the estimates showed that around 1.81% of households across the Kingdom use solar energy in their houses. As for the uses of fuel for cooking, the estimates showed that most households use gas as the main fuel for cooking by about 85.31% while 13.95% of households use electricity as the main fuel for cooking and only 0.28% of households use wood as the main fuel for cooking, while 0.46% of households use other sources of fuel used for cooking. This indicates the keenness of families to keep pace and achieve the Saudi Vision 2030.

The independent electric meter has the most use in the Kingdom.

Statistics indicated that 85.34% of households use private electricity meter, whereas 14.66% use shared electricity meter. Estimates also showed that the percentage of households using an electrical regulator in the houses amounted to about 19.53% in the kingdom, which indicates the interest of some families and their keenness to acquire a voltage regulator, which helps to stabilize the electrical voltage in the houses.

Consumption and use of fuel for household sector

Household consumption of fuels such as diesel (fuel oil), kerosene, and gas (butane) in all regions of the Kingdom increased in 2020 compared to previous years. Gas (butane gas) accounted for the biggest part of the total household fuel consumption, representing 98.77% of the total fuel consumption in 2020. On the contrary, diesel (fuel oil) consumption was the lowest, representing by 0.25% of the total fuel consumption in 2020. Consumption of gas (kerosene) reached about 0.98% of the total fuel consumption in 2020.

In respect of that, the percentage of household's estimates which answered yes to using gas (butane) was around 92.37%, While the percentage of household's estimate which answered yes to using gas (kerosene) was around 1.47%,

As for the household's estimates which answered yes to using diesel (fuel oil) in their houses, they hit 0.49%. This demonstrates that households in the Kingdom are interested in adopting clean energy products and sources.

Electricity consumption in household sector

Estimates showed that, the household sector consumed 192,476.30 gigawatts/hour which represents households' consumption of electrical energy for household purposes. This consumption also includes households whose homes are located in various neighborhoods that are served by electric service owing to industrial, commercial and government sectors.

62% of households are interested in reducing and rationalizing electrical energy consumption

The Kingdom government has placed a high priority on reducing energy consumption. The majority of households in the Kingdom have backed this trend and choice. Based on such support, the statistics suggest that 51.10% of households utilize electrical energy saving devices in their houses, while 52.44% of households would want to spend some money on electricity rationalization devices. The percentage of households in the Kingdom that wish to use solar (PV) energy in their houses is around 51.74%. The estimates showed that the percentage of houses in the Kingdom with thermal insulation amounted to 29.48%.

Low percentage of households use biomass products at home

The estimates showed that the use of biomass products (firewood, charcoal, agricultural residues) in houses across the Kingdom, whether for heating or cooking, amounted to 6.62%, with firewood being used by 3.04% of households. As for the use of charcoal, the percentage of households reached 3.41%. Finally, the percentage of households using agricultural residues reached 0.17%.

S/N	Indicator	%
1	Percentage of households connected to public electricity network	99.47
2	Percentage of households using solar energy at home	1.81
3	Percentage of households using gas for cooking	85.31
4	Percentage of households using electricity for cooking	13.95
5	Percentage of households using biomass products (firewood, charcoal and agricultural residues)	6.62
6	Percentage of households using private electricity meter at home	85.34
7	Percentage of households using shared electricity meter with other homes	14.66
8	Percentage of households having an electrical regulator at home	19.53
9	Percentage of households using electrical power saving devices at home	51.10
10	Percentage of households using thermal insulation at home	29.48
11	Percentage of households willing to use solar energy (PV) at home	51.74

Chart 1. Percentage of fuel consumption in houses across the Kingdom

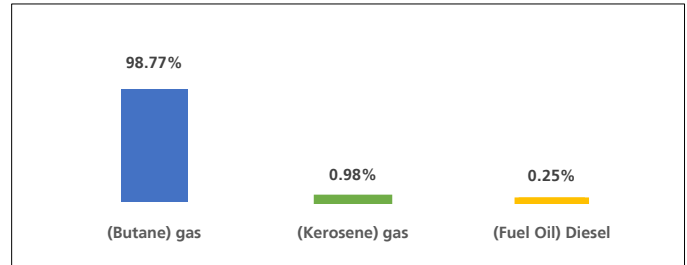


Chart 2. Percentage of electricity source used in houses across the Kingdom

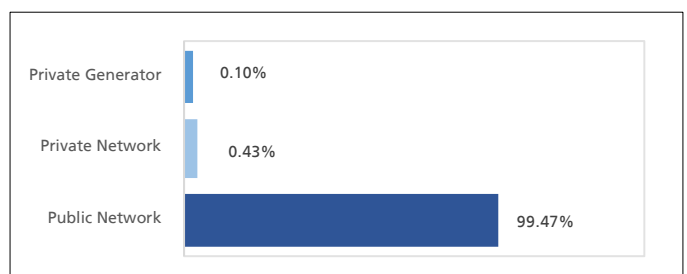


Chart 3. Houses consumption of electricity in the administrative

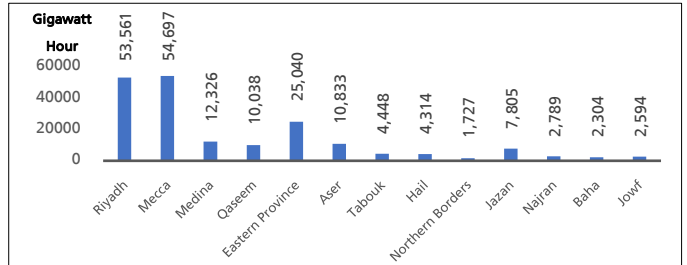
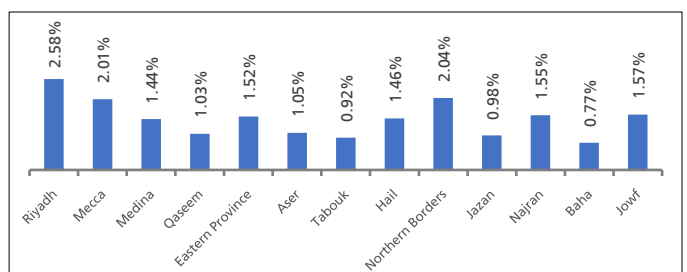


Chart 4. Percentage of houses which use solar energy in the administrative regions



Methodology

Due to the lack of household energy statistics in 2020 due to the COVID-19 pandemic, household energy statistics data for 2020 were estimated using advanced statistical methods, taking advantage of the availability of a time series of data after applying the most recent and best global methods in estimating time series, which proved effective after evaluating the model at each indicator using the Root Mean Square Error (RMSE) as well as Normalized Mean Squared Error (NMSE). [Methodology](#).