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Renewables save $750 million in electricity subsidies in Türkiye

Record renewable generation in the first five months of 2026 drove wholesale electricity prices to an all-time low in May. As a result, the gap between wholesale electricity prices and the residential tariff narrowed. This reduced the amount of government support required to cover the difference, cutting electricity subsidy costs by $746 million during this period.

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Summary

Record renewable generation in the first five months of 2026 drove wholesale electricity prices to historic lows in Türkiye. The decline in wholesale prices reduced the gap between market prices and the residential tariff, lowering the level of government support required for household electricity bills. As a result, the government saved $746 million in electricity subsidies during the first five months of 2026.

- **In the first five months of 2026, electricity generation from renewable sources increased by 32% year-on-year to 87 TWh, the highest level on record.** As a result, renewables accounted for 61% of total electricity generation, marking the highest share recorded in the past 26 years.
- **In May 2026, wholesale electricity prices fell to their lowest level since the market was established in 2011.** The share of renewables, which have significantly lower generation costs than fossil fuels, rose by 17 percentage points compared to May 2025 to reach 73%, helping drive wholesale electricity prices down.
- **As a result of the decline in wholesale electricity prices, government support for household electricity bills fell by $746 million compared to the previous year in the first five months of 2026.** Wholesale electricity prices first exceeded the residential tariff in June 2021, driven by rising fossil fuel demand following the Covid-19 pandemic and supply concerns triggered by the Russia-Ukraine war. After nearly five years, wholesale electricity prices fell below the high-consumption residential tariff again in 2026.
- **Hydropower played a major role in driving the record share of renewables in electricity generation, supported by exceptionally high rainfall throughout 2026.** In the first five months of the year, hydropower generation reached an all-time high, while its share in renewable electricity generation increased by 10 percentage points compared to 2025, reaching 54%.

The growing share of renewables, which generate electricity at a lower cost than fossil fuels, continues to drive power prices down. Lower prices not only reduce the government budget required to support household electricity bills, but also lower electricity costs for households not covered by the subsidy scheme. However, a decline in hydropower generation due to drought could reverse these economic gains. To strengthen supply security in renewable electricity generation, Türkiye should improve permitting processes for storage-integrated wind and solar projects, as well as hybrid solar power plants. At the same time, simplifying rooftop solar installations will be critical to unlocking the country's vast rooftop solar potential.

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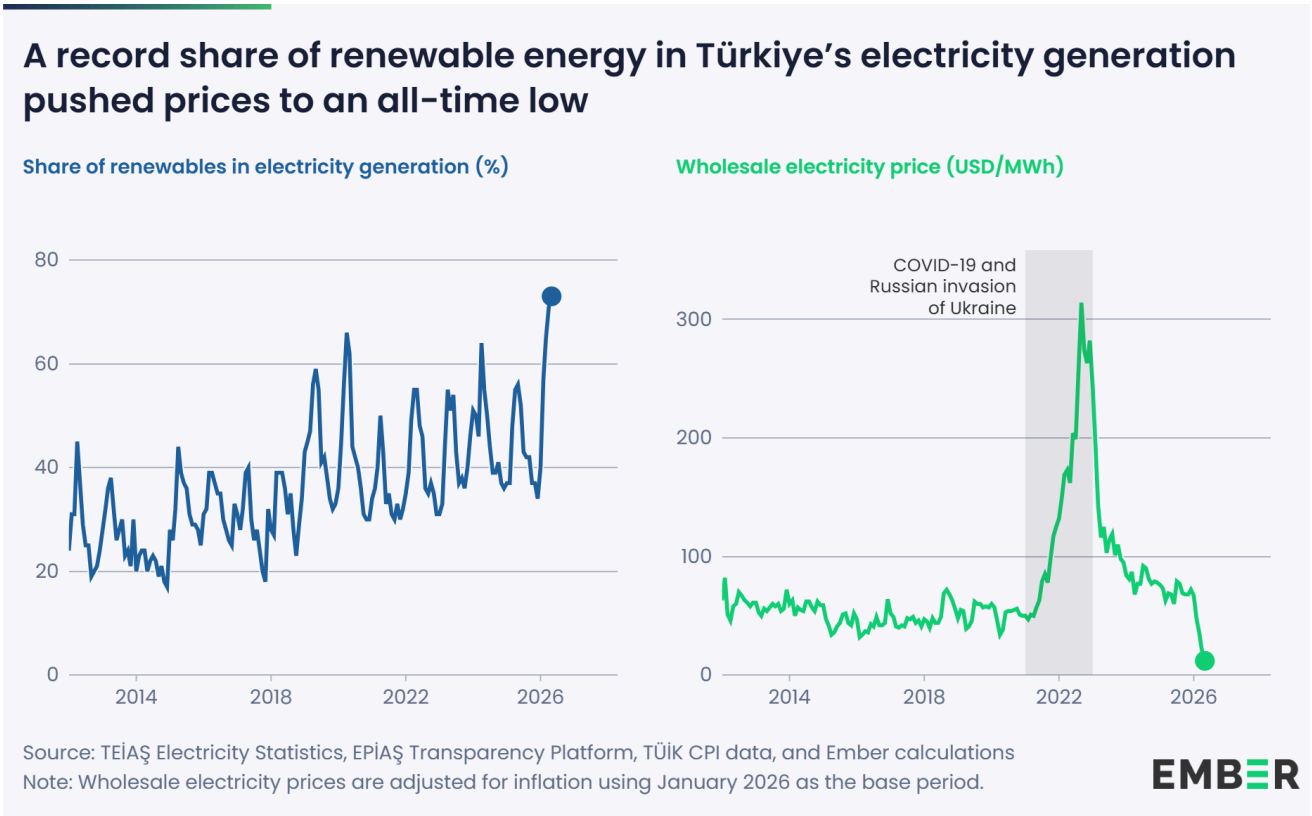
Record renewable share in electricity generation cuts subsidies by $746 million

In the first five months of 2026, the share of renewables in Türkiye's total electricity generation reached its highest level in 26 years. As a result, wholesale electricity prices fell to their lowest monthly level since the market was established in 2011. The decline in prices narrowed the gap between wholesale electricity prices and regulated residential tariffs, reducing government support for household electricity bills by $746 million compared to the previous year.

Renewables drove electricity prices to record lows

The growing share of renewables—offering lower generation costs than fossil fuels—remains the key driver behind falling wholesale electricity prices. During the first five months of 2026, renewable generation surged by 32% year-on-year to an all-time high of 87 TWh. This performance pushed renewables in total electricity generation up by 14 percentage points to 61%, marking a 26-year high. Consequently, wholesale electricity prices dropped by 48% in real US dollar terms compared to the same period last year (see Methodology).

The impact of renewables on wholesale electricity prices was most pronounced in April and May. Renewables accounted for 71% of electricity generation in April, marking the highest monthly share recorded in the past 26 years. This record was surpassed in May, when the share rose to 73%. As a result, wholesale electricity prices fell by 72% in April and 82% in May compared to the same months last year, reaching their lowest levels since the Day-Ahead Market was established in 2011.



Electricity prices drop below high-consumption residential tariffs for the first time in five years

The government subsidy for household electricity bills in Türkiye was introduced after surging fossil fuel prices drove wholesale electricity costs above residential tariffs. The increase in fossil fuel prices was driven by growing energy demand following the Covid-19 pandemic and supply concerns triggered by the Russia-Ukraine war. As a result, the cost of fossil fuel-based electricity generation increased, causing wholesale electricity prices to exceed residential tariffs in June 2021.

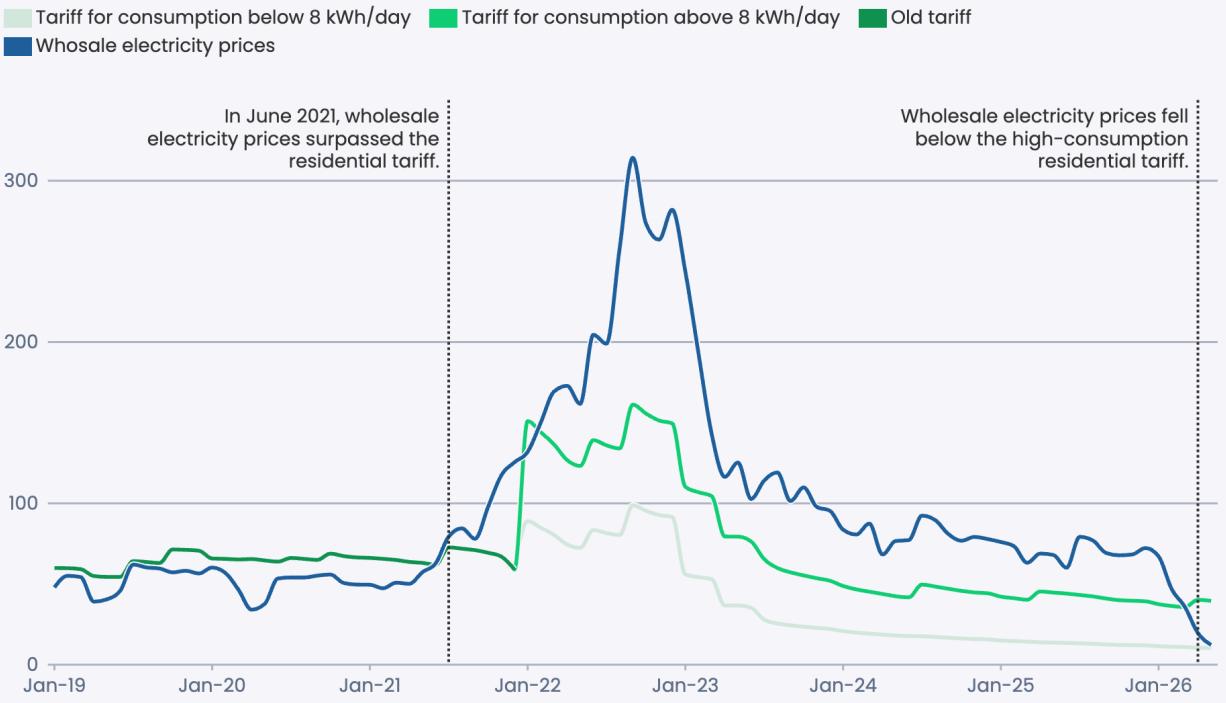
To shield households from surging wholesale costs, the government introduced subsidies to cover the gap between market prices and regulated tariffs. At the beginning of 2022, a consumption-based tariff system was also introduced to protect low-income consumers while encouraging energy savings and efficiency. Under this system, electricity consumption below and above a specified daily threshold began to be billed at different rates.

Until April 2026, wholesale electricity prices consistently remained above the regulated rates applied to both consumption levels. The only exception was January 2022, when a sharp tariff hike temporarily pushed regulated rates above wholesale electricity prices. Consequently, residential electricity was heavily subsidized across both consumption levels for nearly the entire period.

Record renewable generation in April and May 2026 finally pushed wholesale electricity prices below the high-consumption residential tariff. Because of this shift, the vast majority of electricity subsidy spending during these two months was concentrated in the low-consumption tariff.

In Türkiye, wholesale electricity prices fell below the high-consumption residential tariff after nearly five years

Monthly residential tariffs and wholesale electricity prices (USD/MWh)



Source: EPİAŞ Transparency Platform and EMRA Tariff Data
Note: Wholesale electricity prices and residential tariffs are adjusted for inflation using January 2026 as the base period. Distribution charges are excluded from the residential tariff.

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Electricity subsidies fell by 43% in the first five months of 2026

The level of electricity subsidies is driven by two main factors: the volume of subsidized consumption alongside the price gap between the wholesale market and regulated tariffs. With both factors decreasing, electricity subsidies dropped by 43% in the first five months of 2026 compared to 2025, landing at $1.15 billion in real terms (see Methodology). This represents a savings of $861 million compared to the same period last year, with falling wholesale electricity prices accounting for 77% ($746 million) of the decline.

Another factor contributing to the decline in subsidies was the reduction of the Last Resort Supply Tariff (LRST) threshold. Households whose electricity consumption exceeds this threshold are billed based on wholesale electricity prices rather than regulated residential tariffs. As the threshold was lowered at the beginning of 2026, the volume of consumption eligible for government support shrank, reducing electricity subsidies by $228 million.

The decline in electricity prices in Türkiye reduced subsidies by $746 million in the first five months of 2026

Subsidy amounts in Jan-May and the factors driving the change (USD million)

Source: EMRA Sector Reports, EPİAŞ Transparency Platform, TSI data, and Ember calculations
Note: The change in subsidies is calculated using inflation-adjusted real prices expressed in January 2026 terms. The Shapley decomposition method is used to isolate the impact of different factors. Because the tariff increase was lower than inflation, it contributed to an increase in subsidies.

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However, as the increase in the high-consumption residential tariff in April 2026 lagged behind inflation, the tariff's real value declined. This widened the gap between wholesale electricity prices and the tariff, adding $113 million to electricity subsidies. As a result, part of the savings generated by other factors was offset.

Hydropower emerges as primary driver behind plunging electricity prices

Supported by record rainfall throughout 2026, hydropower generation reached an all-time high of 46 TWh in the first five months of the year. As a result, more than half of renewable electricity generation came from hydropower plants.

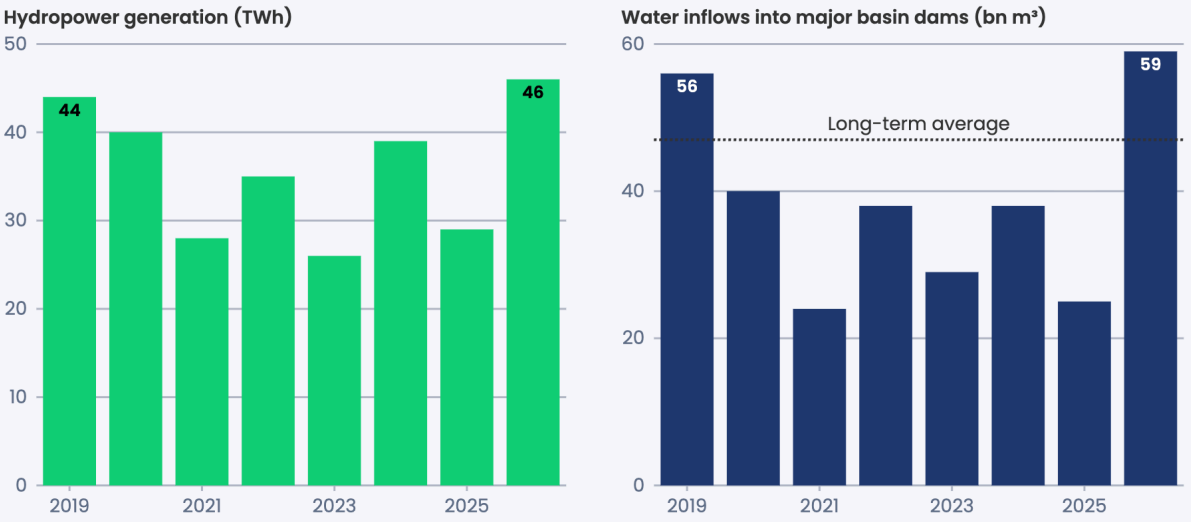
Hydropower generation heads toward a historic high in 2026

Weather conditions played a key role in the impact of renewables on electricity prices in 2026. Thanks to record rainfall, water inflows to Türkiye's major basin dams in the first five months of 2026 were approximately 42% higher than the total recorded during the whole of 2025.

Supported by record rainfall, hydropower generation increased by 60% year-on-year to reach 46 TWh in the first five months of the year—marking the highest level ever recorded for this period. Consequently, hydropower's share in renewable electricity generation rose by 10 percentage points compared to 2025, reaching 54%. Combined with wind and solar (23%) and other renewable sources (6%), renewables accounted for 61% of total electricity generation during this five-month period.

Record rainfall pushed hydropower generation in Türkiye to a record high in the first five months of 2026

Hydropower generation and water inflows in Jan–May



Source: TEİAŞ Daily Water Status, Electricity Statistics, and the EPİAŞ Transparency Platform
Before 2019, the highest hydropower generation was recorded in **2016**, at **31 TWh**.

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Accelerated renewable investments are vital to locked-in low power prices

As growing climate-driven drought threats imperil Türkiye's hydropower, streamlining permitting for storage-integrated wind and solar, hybrid power plants, and rooftop solar installations becomes critical. Taking these regulatory steps is essential to ensure the security of renewable supply and sustain lower electricity prices.

Improved permitting processes are key to sustaining lower electricity prices

Although 2026 has been a positive year for renewable generation and its role in lowering electricity prices, the long-term impact of drought in Türkiye should not be overlooked. The average capacity factor of hydropower plants has fallen by 12 percentage points over the past decade compared to the 1996–2005 period, declining to 26%.

Any decline in hydropower generation caused by drought is likely to be replaced by more expensive fossil fuel generation. This would drive wholesale electricity prices higher, increasing both government spending on household electricity subsidies and electricity bills for millions of consumers under the LRST, which directly reflects wholesale market prices.

To reduce the risk, Türkiye must continue to accelerate wind and solar deployment. Unlocking the country's 33 GW pipeline of storage-integrated wind and solar projects and at least 8 GW of hybrid solar potential will be critical. Achieving this will require streamlining permitting processes to enable faster project development and deployment.

At the same time, gridlocks in the permitting process for rooftop solar installations continue to delay investment decisions and project deployment. Simplifying permitting procedures and introducing more investor-friendly regulations would help unlock Türkiye's 120 GW rooftop solar potential. Furthermore, this shift would reduce grid pressure through on-site consumption while lowering electricity bills for consumers.

Supporting information

Methodology

Inflation adjustment and real price calculation

Residential electricity tariffs and wholesale electricity prices in Turkish Lira were adjusted for inflation using the Consumer Price Index (CPI) published by TurkStat, with January 2026 used as the base period. The resulting real prices were then converted into US dollars using the January 2026 exchange rate.

Wholesale electricity prices were obtained from the EPİAŞ Transparency Platform, monthly exchange rates from the Central Bank of the Republic of Türkiye (CBRT), inflation data in Turkish lira from the Turkish Statistical Institute (TurkStat), and residential electricity tariffs from the Energy Market Regulatory Authority (EMRA).

Calculating the impact of factors on subsidies

The impact of wholesale electricity prices, the LRST threshold and tariff changes on electricity subsidies was calculated using the Shapley–Shorrocks decomposition method. Under this approach, the contribution of each factor to the change in subsidies was determined by calculating its effect across all possible orderings of the variables and then taking the average.

Calculation of electricity subsidies

Electricity bills that subsidised consumers would pay if they were billed under the LRST:

- The weighted market clearing price (MCP) on the first and last meter reading dates of each month, together with the YEKDEM unit cost from the previous month, were obtained from the EPİAŞ Transparency Platform.

- These two costs were added together, and a 5% profit margin, distribution charges and taxes were applied to calculate the total unit electricity price.
- The unit price was multiplied by total electricity consumption to calculate the total amount.
- The electricity bills actually paid by consumers were calculated using the regulated tariff rates for each month.

For households consuming more than 8 kWh per day, average monthly consumption per household was calculated. Given that the period between the first and last meter reading dates in a billing cycle is typically 32 days, tariff rates were applied separately to consumption up to 256 kWh (8 × 32) and to consumption exceeding this level in order to calculate the monthly bill per household. The resulting values were then multiplied by the total number of households to estimate the total amount payable by the group.

Total electricity subsidies were calculated as the difference between the amount consumers would have paid under the LRST and the amount they actually paid under the regulated tariff, with both values converted into US dollars using the monthly average exchange rate published by the Central Bank of the Republic of Türkiye (CBRT). The accuracy of the subsidy calculations was validated against the "government support" amount reported on consumers' monthly electricity bills.

Calculating household numbers by consumer group

The share of households covered by the LRST was assumed to be 3% in 2025 and 6% in 2026, based on reports published by Anadolu Agency. The number of eligible consumers was obtained from monthly data available on the EPİAŞ Transparency Platform.

The share of residential households consuming below the 8 kWh per day threshold was assumed to be 81% of all residential households, based on a written statement published by EMRA in 2022. The remaining households were assumed to belong to the group consuming more than 8 kWh per day.

Calculating electricity consumption by consumer group

Electricity consumption data for eligible consumers were obtained from the EPİAŞ Transparency Platform. Consumption by households covered under the LRST was assumed to account for 29% of total residential electricity consumption in 2026, based on figures reported by Anadolu Agency (AA).

For 2025, the share of electricity consumption attributable to LRST consumers was estimated using the methodology below and was calculated at 14.1% of total residential consumption:

- Using January, February and March 2026 data from EMRA's monthly sector reports, average electricity consumption per LRST consumer was calculated based on the ratios reported by Anadolu Agency (AA).
- This consumption level was then adjusted for 2025 by taking into account the change in total residential electricity consumption between 2025 and 2026.
- The resulting monthly consumption value for 2025 was multiplied by 3% of total households in each month to estimate total LRST consumption. Based on this calculation, LRST subscribers were estimated to account for 14.1% of total residential electricity consumption in 2025.

The share of total residential electricity consumption attributable to consumers using less than 8 kWh per day was estimated using the methodology below and was calculated at 40%:

- Residential electricity consumption data from EMRA's 2025 sector report were divided by TurkStat's population data for the same year to calculate annual electricity consumption per person.
- Using average household sizes from TurkStat's "Household Type and Size" dataset, annual electricity consumption per person was multiplied by the number of people in each household to estimate annual electricity consumption by household size.
- The resulting consumption values were then multiplied by the total number of households in each size category to calculate total electricity consumption. This consumption was divided by total residential electricity consumption in 2025 to determine the share of each household size group in overall consumption.
- The shares of household groups with annual electricity consumption below 2,920 kWh (8 kWh per day × 365 days) were then aggregated and found to

account for 40% of total residential electricity consumption. The same share was assumed to apply in 2026.

The remaining electricity consumption was assumed to belong to the group consuming more than 8 kWh per day.

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