

Hungary energy efficiency

Energy efficiency, measured by ODEX has improved annually by 1.3%/year from 2000 to 2021, i.e. by 23.6% over the entire period. The most significant improvement occurred in the services sector (49.9% or 3.2% on average per year) and in the industry sector (37.0% or 2.2% on average per year), while only a lower development can be seen in the residential sector (13.6% or 0.7% on average per year) and the transport sector (4.6% or 0.2% on average per year).

Hungary's main energy efficiency target is that the country's final energy consumption in 2030 does not exceed 750 PJ. We also set a target of 336 PJ (NECP) of cumulative final energy savings by 2030 - a new saving of 61 PJ over 10 years. To achieve these, Hungary has introduced EEOS with several alternative policy measures. EEOS was introduced in 2021 for electricity, natural gas and transport fuel sector.

Energy consumption in the household sector increased by 14.6% from 2000 to 2021 (+0.82 Mtoe). The main driving forces behind the consumption variation have been the increase in the stock of household appliances (+1.73 Mtoe) and the increase in the average size of homes (+0.72 Mtoe). On the other hand, energy savings, have contributed to lower the consumption by 0.93 Mtoe. A decrease of 1.38 Mtoe of the consumption was the result of changes in consumer behaviour, changes in fuel mix and other unknown effects and data problems.

Due to a diffusion of electrical appliances in offices an increasing trend of electricity consumption can be observed over the period 2000-2010. There was a regime change in data in 2012, slight efficiency improvement is observed afterwards (3.6%/year in total energy consumption and 1.7%/year in electricity consumption between 2012 and 2021).

The share of cars in the final energy consumption of transport increased by 3.5 percentage point from 48.6% in 2000 to 52.1% in 2021. The share of trucks and light vehicles remained stable over time around 40%. On the other hand, both bus and rail lost share between 2000 and 2021 (bus from 5.9% to 4.5% and rail from 5.5% to 2.7%).

Between 2000 and 2021, the share of cars in passenger traffic has significantly increased from 59.8% to 77.7%. During the same time, passenger rail performance declined by 41.5% and also bus decreased by 34.9% falling public transport heavily to individual traffic. In 2020, passenger transport decreased due to COVID effect, especially modal share of public transport declined dramatically. However, rail transport increased by 7.2% from 2020 to 2021, although it did not reach the 2019 level.

Freight traffic (in tonne-km) has been rapidly growing by 61.6% in the period 2000-2021. The share of freight traffic on road increased from 63.5% in 2000 to 69.2% in 2021, while the share of rail transport decreased from 33.1% to 26.4%. The share of goods transported on water is below 5%.

Energy consumption of transport grew by 1.9 Mtoe (+63%) in the period of 2000-2021. The rise was mainly due to increased activity (+1.11 Mtoe). The growing share of car in passenger traffic and share of road in freight traffic explain the increase of consumption by 0.57 Mtoe (modal shift). The increase of energy consumption due to activity was only in a small part compensated by energy savings (-0.19 Mtoe).

Energy consumption in industry increased by 40.3%, at an annual average rate of 1.6% between 2000 and 2021. Final energy use in industry increased steadily from 2010 by an average of 7.3%/year due to the continuous growth of the economy, which offset the energy savings in the industry sector. The only temporary break was experienced in 2020 due to the COVID crisis.

Specific energy consumption per tonne of steel production has decreased by 16.3%, at an annual average rate of 0.8% between 2000 and 2021. The unit consumption was 0.33 toe/tonne in 2021. Specific energy consumption per tonne of paper production decreased by 4.4%, at an annual average rate of 0.2%. Despite the downward trend, both started to rise at the past few years due to lower utilization rates.

Final energy consumption in industry increased by 1.29 Mtoe from 2000 to 2021, mostly caused by change in industrial activity (+2.58 Mtoe). This was partly compensated by efficiency improvements of production and processes (-1.49 Mtoe). The economy has been continuously restructured from the 90's by less energy intensive branches gaining larger share. Structural changes continued in the 2000's, and to a smaller extent also after 2010, contributing to a decrease of energy consumption by 0.8 Mtoe.

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