Data center energy storage 360 kWh

Data center energy storage 360 kWh

Demand for digital services is growing rapidly. Since 2010, the number of internet users worldwide has more than doubled, while global internet traffic has expanded 25-fold. Rapid improvements in energy efficiency have, however, helped moderate growth in energy demand from data centres and data transmission networks, which each account for 1-1.5% of global electricity use.

Significant advances in data centre performance have been made in recent years, but additional government and industry efforts on energy efficiency, RD& D, and decarbonisation of electricity supply and supply chains are necessary to curb energy demand and rapidly reduce emissions over the coming decade to get on track with the Net Zero Emissions by 2050 (NZE) Scenario.

Digital technologies have direct and indirect effects on energy use and emissions, with data centres connected to electricity grids with lower shares of generation based on fossil fuel producing less associated emissions, and hold enormous potential to help (or hinder) global clean energy transitions, including through the digitalisation of the energy sector.

Estimated global data centre electricity consumption in 2022 was 240-340 TWh1, or around 1-1.3% of global final electricity demand. This excludes energy used for cryptocurrency mining, which was estimated to be around 110 TWh in 2022, accounting for 0.4% of annual global electricity demand.

Since 2010, data centre energy use (excluding crypto) has grown only moderately despite the strong growth in demand for data centre services, thanks in part to efficiency improvements in IT hardware and cooling and a shift away from small, inefficient enterprise data centres towards more efficient cloud and hyperscale data centres.

Despite strong gains in efficiency, the rapid growth in workloads handled by large data centres has resulted in a substantial increase in energy use in this segment over the past several years, growing by 20-40% annually. Combined electricity use3 by Amazon, Microsoft, Google, and Meta more than doubled between 2017 and 2021, rising to around 72 TWh in 2021. Overall data centre energy use (excluding crypto) appears likely to continue growing moderately over the next few years, but longer-term trends are highly uncertain.

1 IEA analysis based on Masanet et al. (2020), Malmodin (2020), Hintemann & Hinterholzer (2022) and reported energy use data from large data centre operators.

Contact us for free full report

Web: https://hollanddutchtours.nl/contact-us/
Email: energystorage2000@gmail.com
WhatsApp: 8613816583346