International Energy Agency

Data centre electricity demand growth

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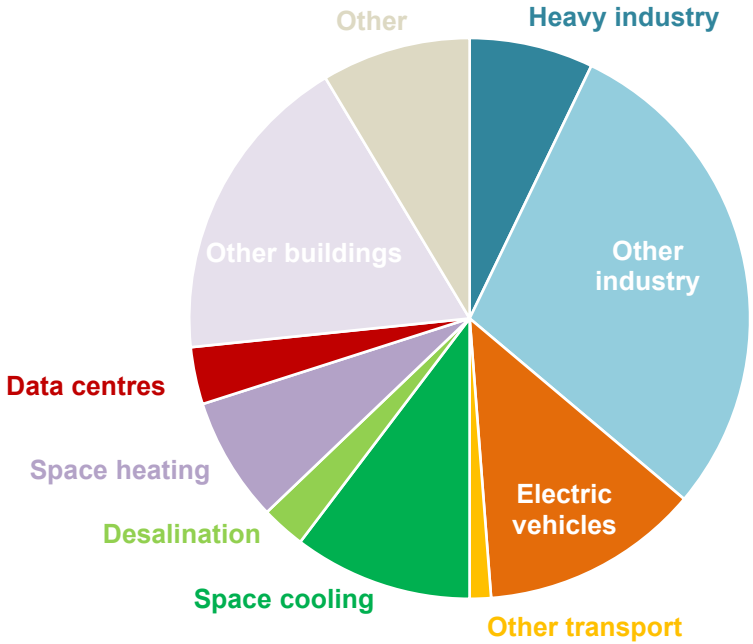
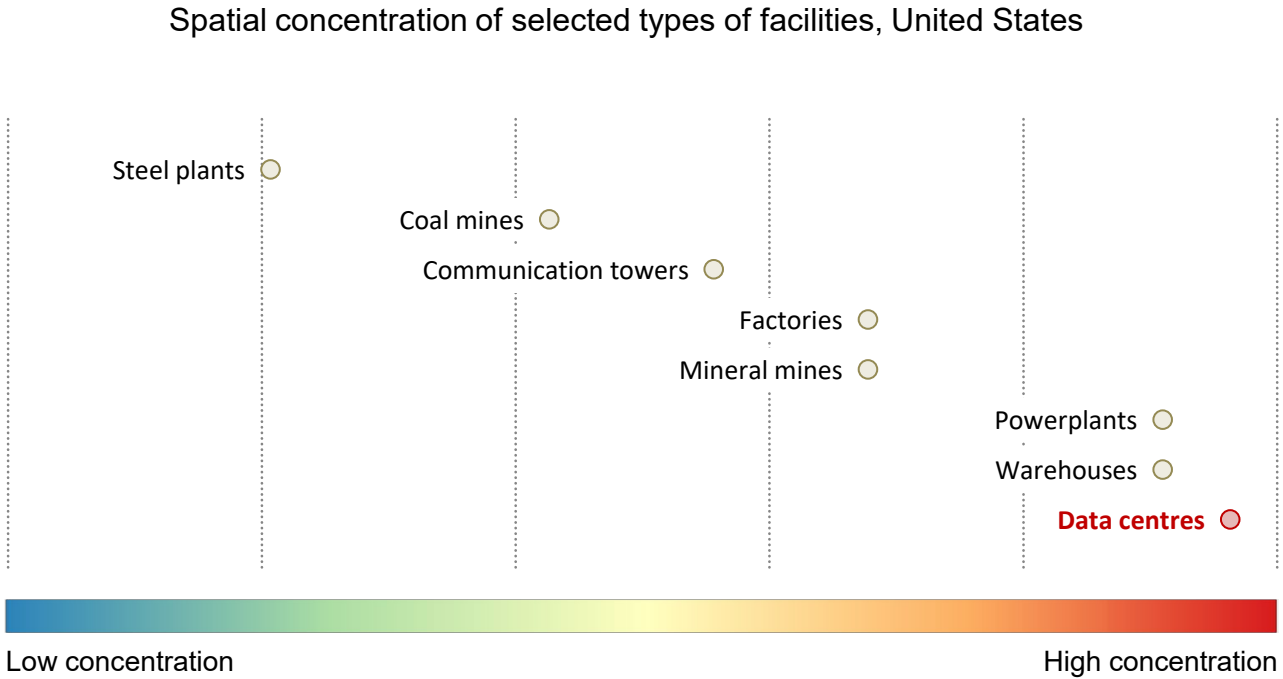
Amid strong overall growth, data centre electricity demand increases

Projected electricity demand growth, 2023 – 2030, Stated Policies Scenario of WEO-2024



Global electricity demand grew 4 600 TWh in the last 7 years – we project another 6 760 TWh of growth to 2030 as the energy system electrifies, of which data centres account for an important but still relatively small share

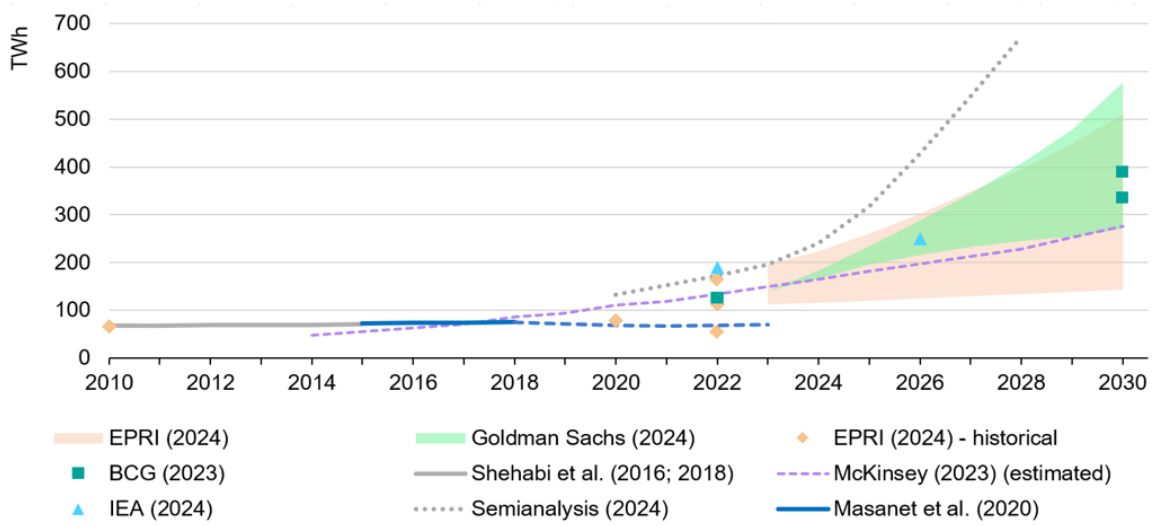
Data centres have a strong tendency to cluster



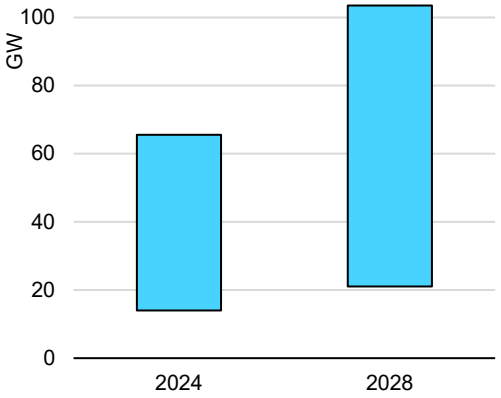
Data centres have an exceptionally high spatial concentration, which has significant implications for local power grids, given their substantial power requirements.

Challenges around data centre energy demand projections

US data centre electricity demand projections from different sources, 2010-2030



US data centre capacity uncertainty ranges, 2024-2028



Ranges based on projections from Cushman & Wakefield (2024), McKinsey (2023 & 2024), Semianalysis (2024), Mordor Intelligence (2024), BCG (2023), and IDC (2024)

Uncertainties around data, technological advancements and efficiency improvements, in addition to AI deployment, make it challenging to estimate the future energy consumption of data centres