Data Centers and Their Energy Consumption/Frequently Asked Questions: Congressional Research Service Report



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The Congressional Research Service ("CRS") issued a May 12th report titled:

Data Centers and Their Energy Consumption: Frequently Asked Questions ("Report").

See R48646.

CRS describes its function as serving as shared staff to congressional committees and Member of Congress. The organization states that it assists at every stage of the legislative process which includes:

- Early considerations that proceed bill drafting.
- Through committee hearings and their debates.
- Oversight of enacted laws and various agency activities.

The Report's introduction notes that according to estimates produced by Lawrence Berkeley National Laboratory, United States data center annual energy use in 2023 (not accounting for cryptocurrency) was approximately 176 terawatt-hours (TWh), approximately 4.4% of U.S. annual electricity consumption that year. It further notes that projections indicate that data center energy consumption could double or triple by 2028.

Energy use is stated to be driven by:

- Roughly one-half or greater of the electric power demand of data centers stems directly from the operation of electronic IT equipment.
- The remainder is for cooling.

The Report addresses the following topics:

- What is a data center?
- What do data centers look like?
- How have data centers been defined in federal law and guidance?
- What are the energy requirements of data centers?
- Why are data centers energy-intensive?
- What equipment uses energy in a data center?
- What contributes to the need for cooling in data centers?
- How are data centers typically cooled?
- What are some additional data center cooling strategies?

- What are some potential concerns about water consumption by data centers?
- Which, if any, federal regulations cover the energy consumption of data centers?
- How do data centers affect electricity prices?
- How can policymakers address electricity affordability concerns?
- Are there reports on the actual energy use of U.S. data centers?
- What statutory and administrative procedures apply to information collection in general?
- When collecting information about energy, what are specific considerations?

A copy of the Report can be found here.