Datacenter Trends: Sustainable Datacenter Builds and CO2 Emissions

AN IDC SPECIAL INTELLIGENCE SERVICE

IDC's *Datacenter Trends: Sustainable Datacenter Builds and CO2 Emissions* offers comprehensive insights into prevailing datacenter installation patterns, encompassing new construction, retrofits, and annual spend for construction and operation. It also incorporates a sustainability perspective, highlighting metrics such as energy usage, carbon emissions, and carbon offsets, categorized by datacenter type and ownership.

The product extends on the global and U.S. datacenter markets, encapsulating parameters like space utilization, power capacity, and rack quantities for deciphering market trends and allowing businesses to make informed decisions based on concrete data and sustainable practices.

Markets and Subjects Analyzed

- Datacenter ownership: Service provider and enterprise
- Datacenter type: Commercial edge, enterprise branch, small and medium-sized business, internal enterprise datacenter, retail colocation, wholesale colocation, cloud service providers/internet giants, and communication service providers
- Workload: Energy consumption and emissions by type
- Construction approach: Traditional and modular and new build and rebuild
- Sustainability: Energy consumption, carbon emissions, and carbon avoided across the datacenter segment
- Annualized spend: Datacenter facility and critical infrastructure
- Capacity: Power, square footage, and racks

Core Research

- Datacenter Deployment Model Readout (2x)
- Carbon Impact of Cloud Computing
- Calculating the Scope 2 and Scope 3 Trade Offs
- Datacenter Operators Survey
- Datacenter Carbon Emissions Reporting Maturity Model

In addition to the insight provided in this service, IDC may conduct research on specific topics or emerging market segments via research offerings that require additional IDC funding and client investment. To learn more about the analysts and published research, please visit: Datacenter Trends: Sustainable Datacenter Builds and CO2 Emissions.

Key Questions Answered

1. Which datacenter types are growing the fastest?
2. What datacenter types are most sustainable and consume the most energy, and how are they progressing toward their net-zero carbon emissions targets?
3. How are AI, ML, and edge IT changing datacenter capacity and power density requirements in core datacenters and at the edge?
4. What is the annual spend on datacenter facilities on operations of existing facilities, and how much is being invested in new construction and retrofits?
5. How are power requirements changing for new datacenter construction?
6. How is inflation affecting the cost of datacenter construction, retrofits, and operation?
7. How is datacenter white space and power and rack capacities changing?
8. What is the pace of change of customers shifting from internal to service provider datacenters?

Companies Analyzed

This service reviews the strategies, market positioning, and future direction of several providers in the datacenter builds and CO2 emissions market, including:

Alibaba, AMD, AWS, CoreSite, CyrusOne, Dell, Digital Realty Trust, Eaton, Equinix, Google, Hewlett Packard Enterprise, Huawei, IBM, Intel, Meta, Microsoft, NVIDIA, Oracle, QTS, Raritan, Rittal, Schneider Electric, Tencent, Vertiv, and VMware.