



Meta's Henrico Data Center in Sandston, Virginia. Source: vpm.org

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Getting Data Centers Right: A Framework for Action

09/22/2026

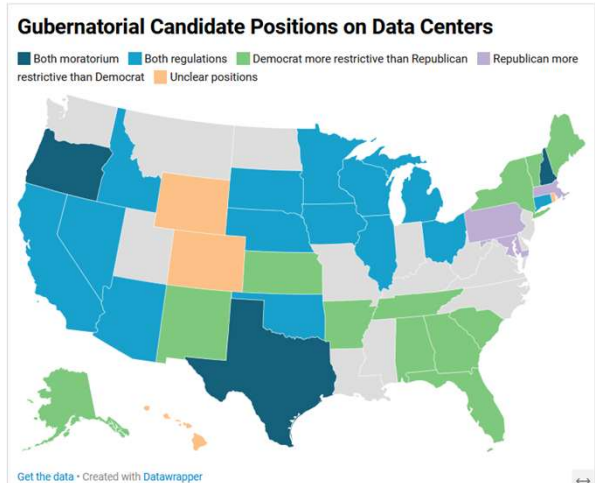
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When is a data center a good deal for states and communities?

Of the 36 states with elections for governor this fall...

Only 7 candidates (10%) are generally supportive of data center development w/o substantial new restrictions



Candidate stances derived from [MultiState](#), Aug 2026

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Data Center Energy Performance Evaluation Framework (DC-EPEF)

Released Sept 22, 2026



Part I: Existing Data Center Energy Standards, Rating Systems and Evaluation Mechanisms



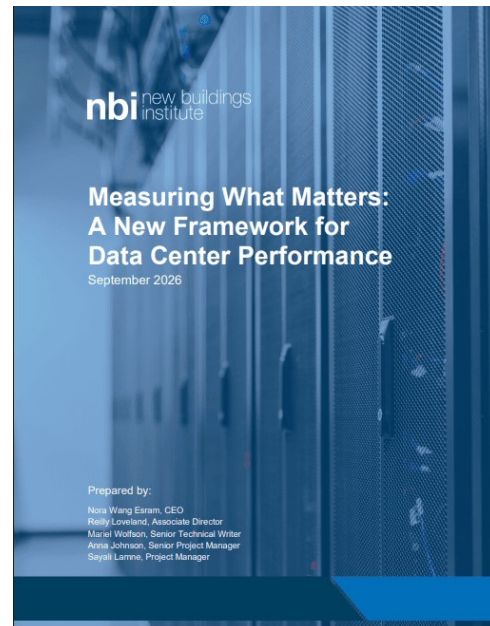
Part II: Existing and Emerging Policy Mechanisms and How They Can Integrate Data Center Performance Requirements



Part III: Data Center Technologies



Part IV: Key Stakeholders and Market Drivers



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Today's Expert Panel



Nora Wang Efram
CEO, New Buildings Institute



Holly Elwood
VP, Strategic Engagement and Category Development, Global Electronics Council



Gaurab Bansal
Executive Director, Responsible Innovation Labs



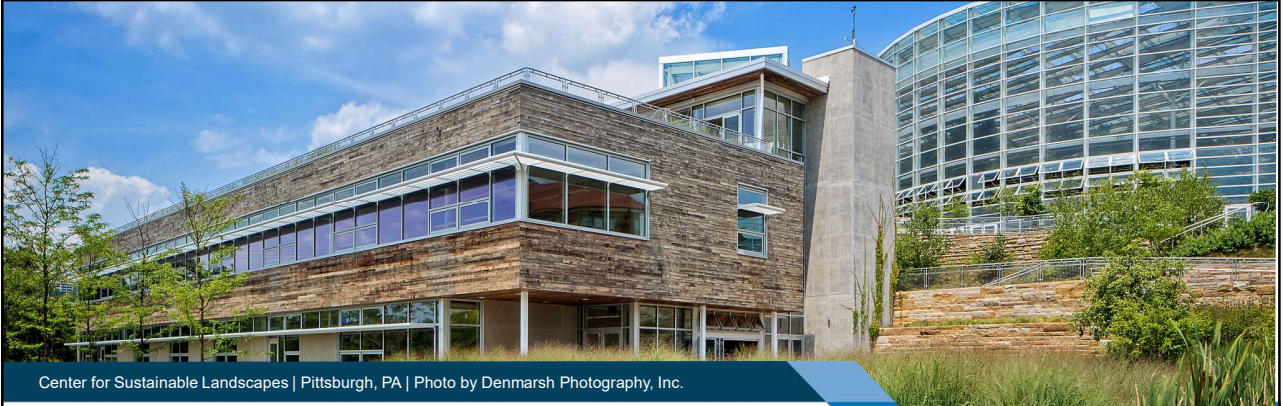
Todd Sims
Senior Director of Regulatory and Industry Affairs, National Electrical Manufacturers Association



Anna Johnson (Moderator)
Senior Project Manager, New Buildings Institute

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Center for Sustainable Landscapes | Pittsburgh, PA | Photo by Denmark Photography, Inc.

Energy Performance Evaluation Framework for Responsible Data Center Growth

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CHALLENGES

- 1.** Energy codes focus primarily on the efficiency of mechanical and electrical systems while excluding other key factors related to data center energy use.
- 2.** The fragmented code adoption landscape complicates comparisons of data center performance across jurisdictions and risks free ridership.
- 3.** The pace of code development often struggles to keep up with the pace of innovation in the data center industry.

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Codes, Standards, Rating Systems, and Frameworks Applicable to Data Centers

Standards / Frameworks	Description	What it covers	What it does NOT address
ASHRAE 90.1 / 90.4	Commercial building energy efficiency standard	Min. efficiency requirements for cooling and electrical infrastructure	- IT equipment (servers, storage, networking) - Compute efficiency (server utilization, workload optim.) - Water consumption - Onsite generation and emissions - Demand flexibility; actual operating efficiency
IECC / ICC Codes	General building and construction codes	Broader framework of building codes; Refers to 90.4 for DC design (different thresholds)	
Title 24	California building codes	Prescriptive requirements (economizer, variable-speed fan, fan-power, UPS, etc.)	
LEED, BREEAM, Green Globes	Sustainable building rating systems	Evaluate all aspects of sustainability (energy, water, embodied carbon, siting); Allow tradeoffs across categories	- Additional metrics beyond reference standards - Direct comparability across certifications
ENERGY STAR	Energy benchmarking / certification	Compares energy performance among peers	- Limited by underlying statistical data (a 2008 survey of 120 facilities)
ISO 50001 / ISO 14001	Environmental / energy management framework	Plan-Do-Check-Act approach for internal management (baselines, performance indicators, evaluation, improvement)	- Defining metrics or setting performance targets
RE100, 24/7 CFE	Voluntary clean-energy commitments	Leadership on renewable energy and carbon-free electricity	- Data center energy performance
Maturity Model, Performance Framework, Resource Effectiveness	Self-Evaluation and best-practice guides (iMasons, PNNL, ASHRAE, NEMA Green Grid)	Integrated design solutions, moving beyond single-metric evaluation	- Verified performance - Thresholds for min. requirements or target-setting

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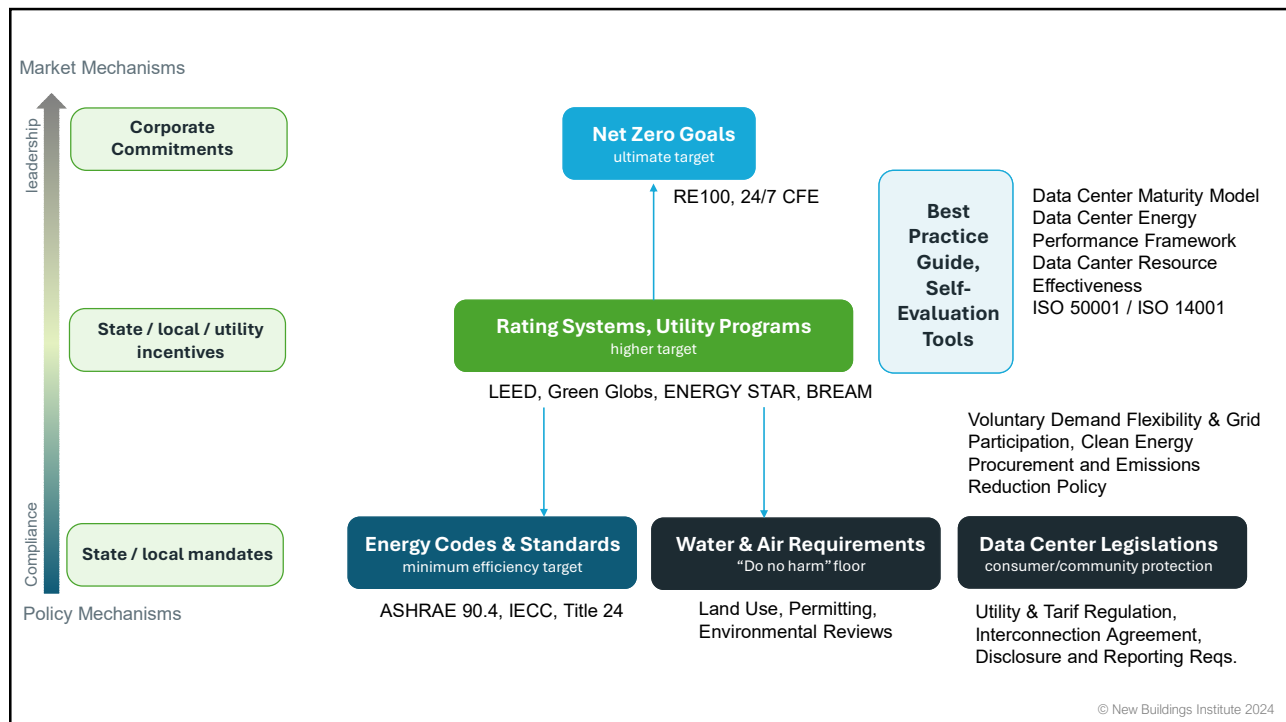
Existing Policies Shaping Data Centers

Policy Category	Purpose	Efficiency Topics Covered	
 Building energy performance	Set standards for equipment or whole building energy use.	System efficiency, whole building efficiency, cooling	☐
 Interconnection & energy reliability	Manage energy infrastructure/system constraints and reliability.	Data center queue management, reliability	☒
 Demand flex & grid participation	Manages energy system use/utilization and flexibility.	Demand response, demand flexibility, load shifting	☐
 Energy procurement & emissions	Addresses clean energy, decarbonization, or renewable goals.	Renewables and storage, emissions reduction	☒
 Utility & tariff regulation	Reallocate cost of energy and infrastructure & manage customer risk.	Cost recovery or customer cost management, incentives	☒
 Land use, permitting, & environmental issues	Local construction/physical building impacts.	Water, site, noise, air quality, permitting, zoning	☒
 Reporting & verification*	Verify data centers have been built and are operating to standards established.	Benchmarking, emissions or energy	☐

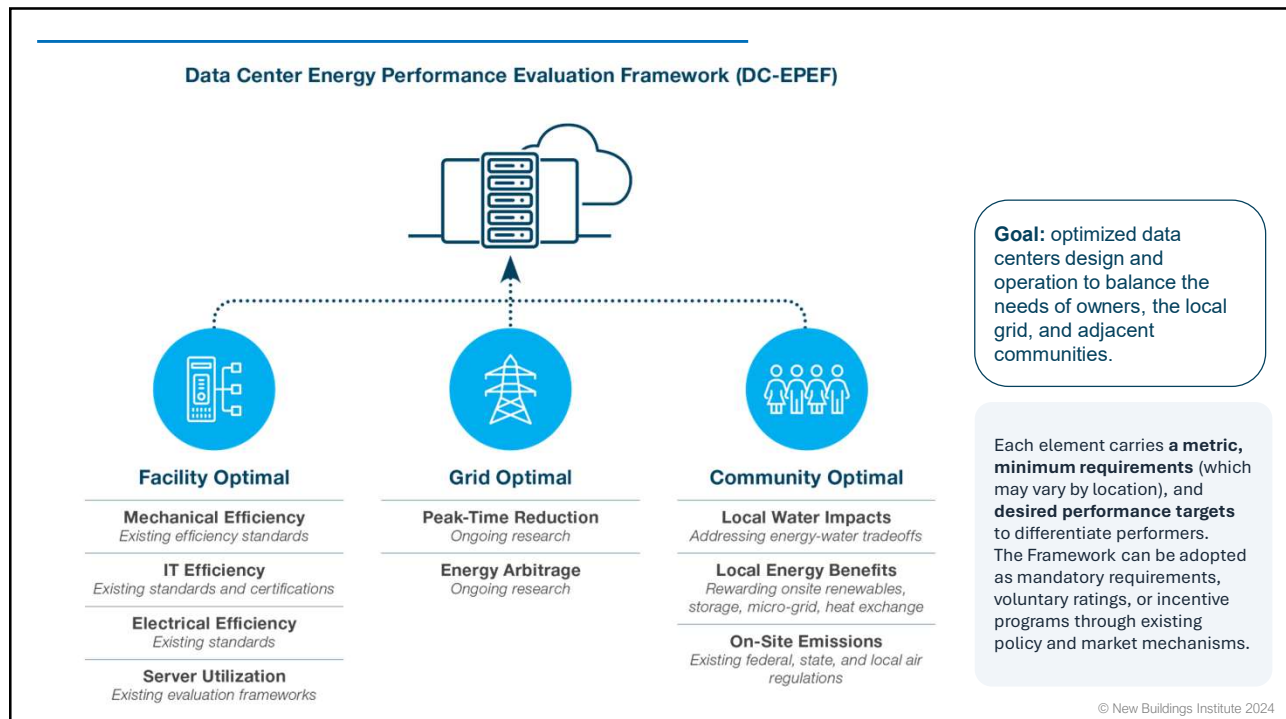
*Reporting and verification is not yet widely adopted as a standalone policy pathway but is emerging as a potential mechanism.

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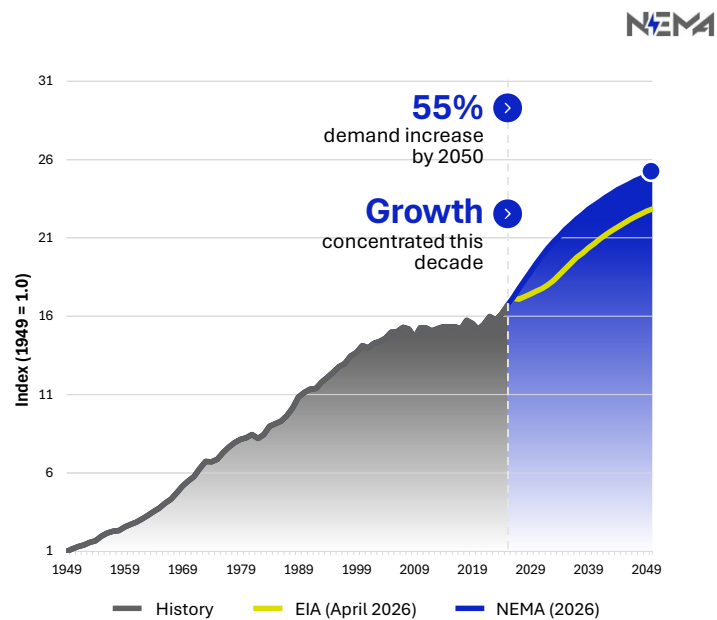


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Demand is Surging Faster than Traditional Infrastructure Can Expand



Confidential - NEMA

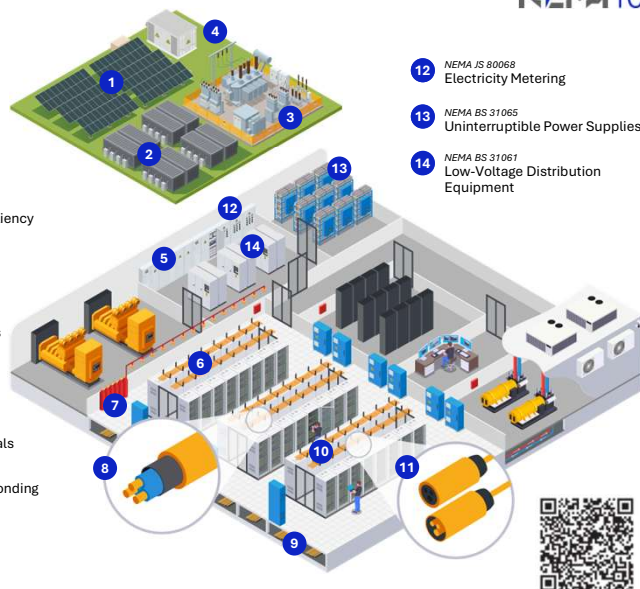
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Technical Guidance for Data Centers



AI Data Center Energy Performance Framework

- 1 NEMA US 80075 Microgrid
- 2 NEMA US 80074 Energy Storage
- 3 NEMA US 80017 Transformers
- 4 NEMA BS 31054 Data Center Resiliency and Efficiency
- 5 NEMA US 80071 Switchgear
- 6 NEMA WC 23008-2025 Wires and Cables / Conductors
- 7 NEMA BS 31060 Fire & Life Safety
- 8 NEMA IM 60005 Insulating Materials
- 9 NEMA IS 10055 Grounding and Bonding
- 10 NEMA CS 70015 DC Power
- 11 NEMA PR 50094 Pin and Sleeve



NEMA100



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Next-Gen Data Centers Driving New Challenges

Increasing rack densities are creating new cooling and power distribution challenges

Cooling & Heat Rejection

- Guidance on facility design & heat rejection methods on overall water & energy usage
- Highlight the critical role of electrical equipment, controls, monitoring, safety systems, and power infrastructure that enable reliable and safe deployment of next-generation data center cooling technologies

Direct Current

- Direct Current Power Distribution Data Center Design Consideration
- Aligning industry approaches to DC data center architectures, voltage ranges, and system frameworks
- Collaborating with industry partners – OCP & Current/OS
- Supporting DC power provisions in national model code development

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ESTABLISHING TRUST AND INCREASING SUSTAINABILITY OF DATA CENTERS WITH EPEAT

For NBI Webinar, 9/22/2026

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GEC's Aspiration For The Global Community

**100% SUSTAINABLE
ELECTRONICS BY 2050**

FOR EVERYONE, EVERYWHERE



**GLOBAL.
TRUSTED.
IMPACT DRIVEN.**



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An ecolabel with the broadest selection of ICT product categories

EPEAT Data Center Stack



COMPUTERS & DISPLAYS

Desktops
Displays
Integrated Desktops
Notebooks
Signage Displays
Tablets/Slates
Thin Clients
Workstations



MOBILE PHONES



EPEAT RENEW Refurbished ICT



SERVERS

Blade
Multi-Node
Pedestal
Rack-Mounted



NETWORK EQUIPMENT



SOLAR

Modules
Inverters



ENTERPRISE DATA STORAGE



IMAGING EQUIPMENT

Copiers
Printers
Multi-Function Devices
Scanners
Fax Machines
Digital Duplicators
Mailing Machines



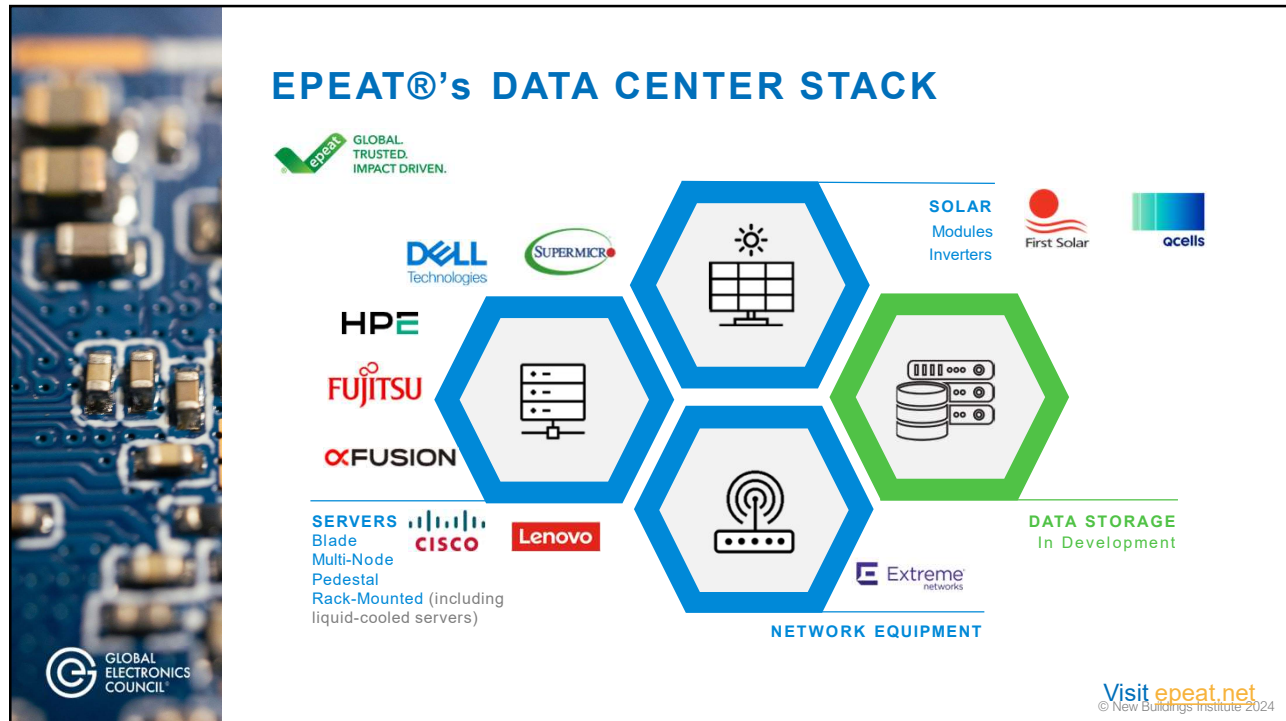
TELEVISIONS

Coming Soon...



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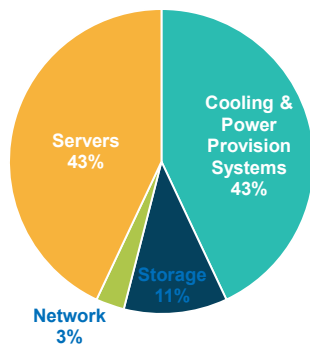
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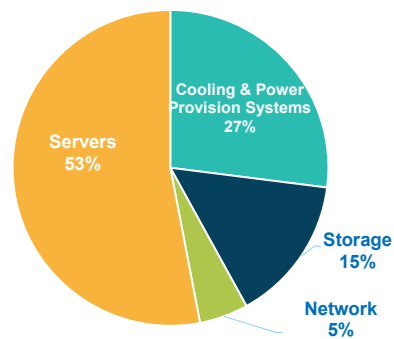
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ICT Stack and Data Center Operational Energy Consumption

Energy used in data centers in 2014
(average PUE around 1.8):



Current estimated energy use (with
average PUE = 1.5):



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Extracted from Shehabi, Arman, et al. (2016). United states data center energy usage report. No. LBNL-1005775. Lawrence Berkeley National Lab. (LBNL), Berkeley, CA (United States).

Adapted from Uptime Institute Global Data Center Survey Results, 2025.

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The Role Of ICT Stack In Data Centers' Embodied Carbon

Figure 1: Cumulative embodied carbon profile for IT vs facility infrastructure over time

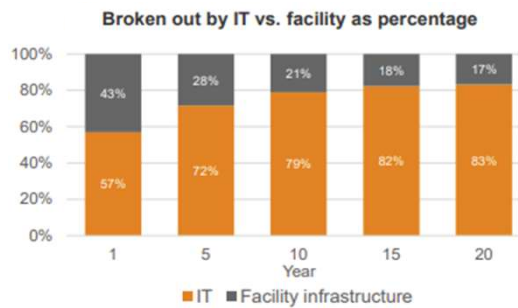
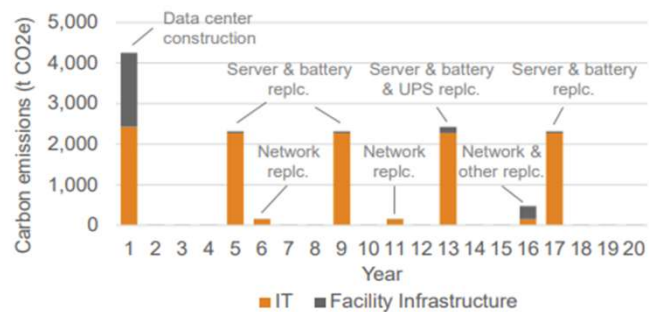


Figure 2: Yearly embodied carbon profile broken out by IT and facility infrastructure over time



Source: Schneider Electric (2023). Quantifying Data Center Scope 3 GHG Emissions to Prioritize Reduction Efforts (White Paper).

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ICT Hardware Obsolescence and Refresh Cycles



Sources:
Uptime Institute, Global Data Center Survey 2024
IDC Survey Spotlight (Aug 2025), "What Is Driving Server Refresh/Upgrade Strategies"
CNBC (Nov 14, 2025), "The question everyone in AI is asking: How long before a GPU depreciates?"

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Discussion + Q&A

Thank you for joining us today!

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More data center conversation to follow, next month at GTZ Forum 2026!

**Building Trust in Data Centers
Workshop, Monday October 5**



<https://gettingtozeroforum.org/2026-forum-registration/>

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