



Datacenter carbon reporting Energy Certificates and Scope 3



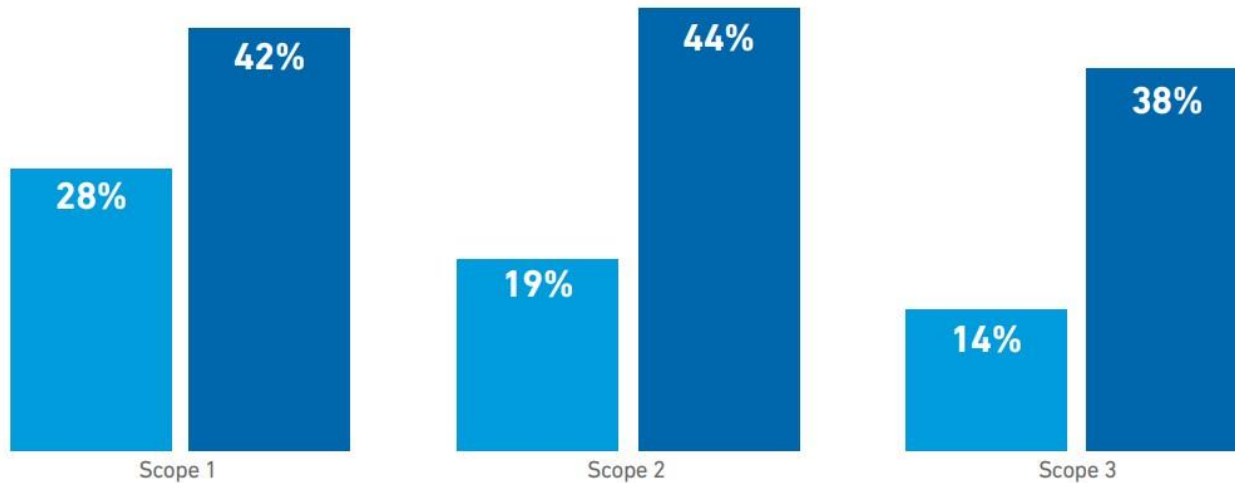
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A startling disconnect

Digital infrastructure's tracking of carbon emissions

Which Scopes of carbon emissions does your organization collect?



■ Uptime Institute Global Data Center Survey 2023: Facilities / IT managers (n=716)

■ IBM IT Sustainability Survey 2023: IT / sustainability managers (n=3,299)

UPTIME INSTITUTE GLOBAL SURVEY OF IT AND DATA CENTER MANAGERS 2023;
IBM IT SUSTAINABILITY SURVEY 2023

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Public commitments made at an executive level do not match what is being done at a practical level

Regulations will add more pressure, requiring operators to accurately report sustainability progress

Operators – prepare for a sustainability reckoning

The data center sector will continue to use more power, and emit more carbon, as its footprint rapidly grows.

Publicly stated net-zero goals and other commitments will become harder and more expensive to maintain. Climbdowns will become more common — while many will choose to only disclose the requisite information.

Carbon reporting standards will increasingly require in-region, carbon free energy.

Data center growth: Gigawatt campuses

Built on huge areas of land, capable of supporting multiple tenants (cloud, enterprises).

Large investments including redundant high-bandwidth fiber.

Some involve power purchase agreements, colocation with power plants.

Hyperscale colocation campus projects in progress

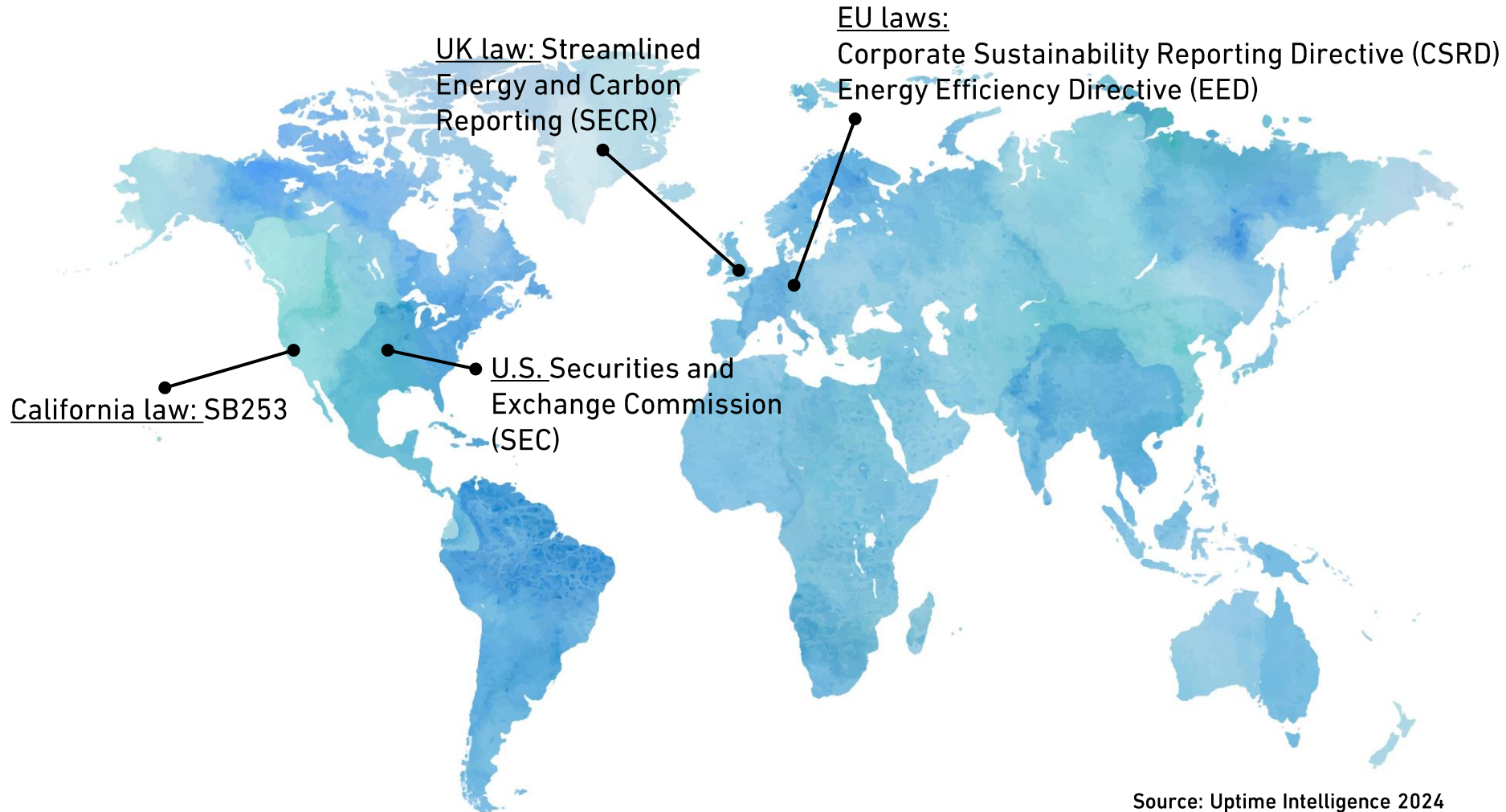
Campus location*	Provisioned power in megawatts (MW)	Number of projects	Average megawatts (MW)	Total spend (\$ million)
North America	6,210 MW	10	621 MW	\$45,000m
Asia-Pacific (excluding China)	3,832 MW	21	182 MW	\$11,628m
Europe, the Middle East and Africa	750 MW	2	375 MW	\$6,400m
China	500 MW	1	500 MW	\$4,890m
Latin America	450 MW	1	450 MW	\$400m
Total (worldwide)	11,742 MW	35	426 MW	\$68,318m
Annual terawatt-hours (TWh) at 50% of provisioned power	51 TWh			

Provisioned power is likely capacity once everything in place; projects announced or identified since 2021; single location campuses (i.e., not multisite investments); public cloud vendor hyperscale projects excluded.

**Campuses 100 MW and above.*

Source: Uptime Intelligence 2024

Major voluntary initiatives and regulations



Voluntary initiatives
Carbon Disclosure Project (CDP) and RE100
Global Reporting Initiative (GRI)
Greenhouse gas (GHG) protocol
International Sustainability Standards Board (ISSB)
ISO 14064-1 (Greenhouse gases)
Science Based Targets initiative (SBTi)

Source: Uptime Intelligence 2024

Energy Attribute Certificates (EACs)

Common name for U.S. Renewable Energy Certificates (RECs), EU Guarantees of Origin (GoO), International renewable energy certificates (I-RECs), etc.

Right to claim 1 MWh of renewable energy (solar, wind, ...) delivered to a power grid, and the corresponding carbon reduction.

Commonly used by data center operators to reach 100% renewable or net zero carbon targets (to 'zero out' fossil grid power).

Grid power use is the largest source of carbon emissions for many operators



EAC quality standards are needed

Obtained from Direct or Virtual Power Purchasing Agreements (PPAs), utility green tariff programs, certificate trading, etc.

EAC quality is a concern; some tenants buy their own EACs for their IT at colos that claim 100% renewables.

The European Energy Certificate System (EECS) supports the issuance, transfer, and cancelling (retirement).

Nuclear is not renewable but can use (specific) zero-carbon certificates.



EACs mostly allowed and sometimes required

Reporting framework	Is the use of EACs allowed/required?
Voluntary	
CDP and RE100	Yes (encouraged)
GRI	Refers to GHG protocol
GHG protocol	Yes (encouraged)
ISSB	Yes (required to claim the use of renewable energy)
ISO 14064-1	Yes
SBTi	No (only allowed after reaching long-term targets)
Mandatory	
California SB253	Refers to GHG protocol
EU CSRD	Yes (required to claim the use of renewable energy)
EU EED	Yes (reporting required)
US SEC	Yes (required if financially material)
UK SECR	Refers to GHG protocol

Source: Uptime Intelligence 2024

Scope 3 from colo and cloud use can be significant

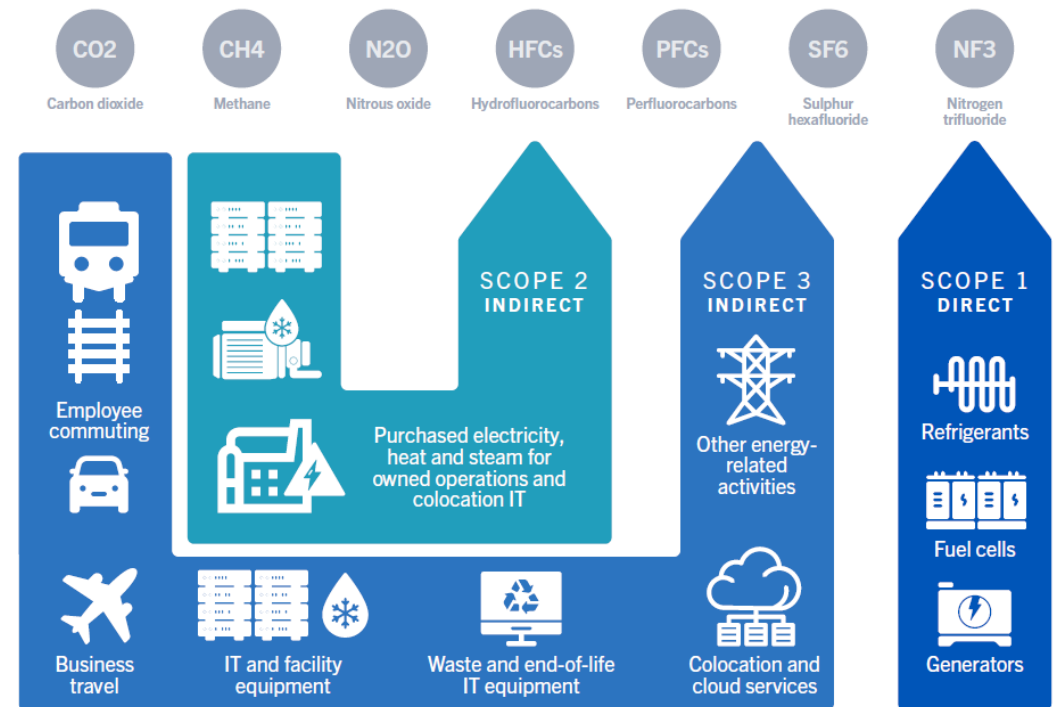
Six Scope 3 categories (of the fifteen defined by the GHG protocol) are relevant to data center operators.

Uptime Institute recommends tracking colo and cloud service (energy) use as part of the Scope 2 goal.

Scope 3 emissions related to new IT equipment can be a significant portion in low-fossil power grids and impact IT replacement cycles.

Organizations with significant activities beyond data center operations may have a very different Scope 3 profile.

Data center emission categories



Note: Downstream Scope 3 activities not applicable to data center operations

Source: Uptime Intelligence 2021

Many are hesitant to report on Scope 3

Most Scope 3 emissions are inherently difficult to quantify. Simplified estimation methods often need to be used.

Many organizations are hesitant to report Scope 3. Improved estimation methods and added categories may lead to increased emissions over time.

Scope 3 reporting should not be compared between companies, due to differences in methodology, included categories, etc.

Note: the foundational GHG protocol (including its Scope 3 guidance) is currently under review and update.



Scope 3 reporting is increasingly required

Reporting framework	Is Scope 3 reporting required?
Voluntary	
CDP and RE100	No (but encouraged)
GRI	No (but encouraged)
GHG protocol	No (but encouraged)
ISSB	Yes (financial materiality)
ISO 14064-1	No (but allowed)
SBTi	Yes (if >40% of total GHG)
Mandatory	
California SB253	Yes
EU CSRD	Yes (financial <u>or</u> impact materiality)
EU EED	N/A
US SEC	No
UK SECR	No (but encouraged)

Source: Uptime Intelligence 2024

Key points

EACs are increasingly required to claim renewable energy consumption and EAC quality systems are becoming more important.

Scope 3 reporting is increasingly expected, with the recent California climate bill mandating reporting for all Scope 3 categories.

Scope 3 reporting should not be used to compare carbon emissions between organizations.

Organizations should look out for updated reporting guidance, including from an ongoing revision of the foundational greenhouse gas (GHG) protocol referred to by several reporting frameworks.

How to engage further

Learn about our Sustainability Services Offerings

Uptime Education

Today's global economy requires deep expertise and skill in digital infrastructure sustainability, and demand will only continue to grow. Uptime offers two education programs focused on data center sustainability topics.

Learn more about our Accredited Sustainability Advisor (ASA) and Certified Data Center Sustainability Professional (CDCSP®) programs using the links below.

[Learn More about the ASA program](#)

[Learn More about the CDCSP® program](#)



Sustainability Consulting Services

Uptime Institute sustainability experts have advised the largest digital infrastructure owners and operators, the most advanced vendors and equipment manufacturers and the leading policy makers and regulators to design, build, operate and optimize sustainable digital infrastructure around the world.

Our sustainability consulting services provide a means to tap into our team's expertise to help accelerate your sustainability initiatives.

[Learn More about Sustainability Consulting Services](#)



Sustainability Strategy Gap Analysis

The environmental sustainability of data center operations has become a major concern for investor, customer, regulatory, legislative, and environmental stakeholders.

Our Sustainability Strategy Gap Analysis was developed to review and compare an organization's current sustainability data, metrics, and goals against global best practices.

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Uptime Institute Membership

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