

# The State of Data Center Sustainability

Data centers currently account for 2.5% to 3.7% of global greenhouse gas emissions, and the demand for data center services is growing so fast that that number is expected to reach 8% by 2030.

This trend comes with an increased pressure to limit the environmental impact of data centers worldwide.

Keep reading to learn the latest trends, challenges, and solutions in data center sustainability. Explore how organizations are aligning data center operations with environmental responsibility and discover the evolving strategies that are shaping the next generation of green data centers.



## Liquid cooling is gaining momentum.

- 40% of a data center's energy consumption is used for cooling, making it an obvious target.
- While only 3.4% of organizations have already switched to liquid cooling, 52.4% plan to make the move within 5 years.

What organizations are deploying:



## The focus on sustainability is at an all-time high.

- 89.3% of organizations say that the efficiency and sustainability of their data centers is very important or somewhat important.
- 93.2% say that a data center investment is required to improve their efficiency.

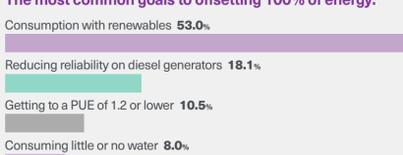
21.9% say that environmental sustainability is already a significant driver of IT spending.



## Sustainability goals are becoming clearer.

- 57.8% of organizations have a target date for zero carbon emissions.
- 45.2% of organizations have a formal set of sustainability goals in place.
- 40.1% are currently working towards a sustainability plan.

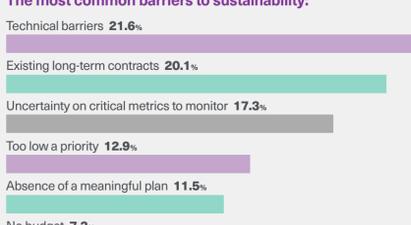
The most common goals to offsetting 100% of energy:



## There are obstacles to sustainability, but they can be overcome.

- While 96.9% of organizations believe their sustainability goals are at least somewhat likely to be achieved, 90.6% do see barriers in the way.

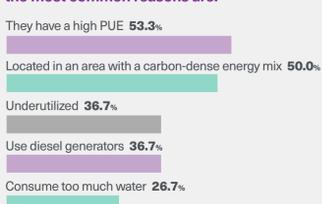
The most common barriers to sustainability:



## Sustainability is driving new and closing data centers.

- Organizations opening new data centers report that the most important things are that they are built in a location with a greener energy mix (33.3%), consume less power due to relocation or consolidation of workloads (33.3%), have a lower PUE (29.2%), and do not use diesel generators (4.2%).

Organizations closing data centers report that the most common reasons are:



## Sustainability is not just about energy.

- 20 million tons of electronic waste is generated by data centers each year that needs to be recycle or disposed of responsibly.

79.4% of organizations say that reducing data center water consumption is somewhat or very important.

## Regulation is increasing.

- Regulations and standards like the EU Green Deal, Energy Efficiency Directive, EN 50600 require organizations to report on their energy consumption, develop energy reduction plans, and implement measures to achieve energy savings.

96% of the world's top 250 companies now report on their sustainability.



## New technologies and best practices set a path forward.

### Energy-efficient hardware.

High efficiency servers use **30% less energy** than conventional models.

### Innovative cooling.

Liquid cooling can lower data center energy consumption by **as much as 50%**.

### Renewable energy.

**62% of new renewable energy sources** are already cheaper than the cheapest new fossil fuel source.

### Raising temperatures.

**Data centers can save 4-5%** in energy costs for every 1°F increase in server inlet temperature.

### Virtualization and consolidation.

Consolidating servers, which typically operate around 5-15% utilization, can **reduce energy costs by 10-40%**.

### Shutting down ghost servers.

**15-30% of servers** do no computing but still consume energy.

### E-waste recycling.

**12.2% of data centers** do not recycle anything and need to start.

### Green building certifications.

LEED-certified buildings use **25% less energy** than non-certified facilities on average.

### Airflow management.

Hot aisle/cold aisle containment can **save up to 40%** on energy costs.

### Free cooling.

Using cold outside air to cool the data center can reduce energy costs by **as much as 52%**.

## Sustainability initiatives are driving DCIM software deployments.

**85%** of the carbon impact of data centers comes from operations versus construction.

Data center professionals are increasingly leveraging Data Center Infrastructure Management (DCIM) for more efficient operations that aid in their sustainability initiatives.

## DCIM software supports data center sustainability efforts via:

### Real-time monitoring.

DCIM software **automatically collects the live measured readings** from intelligent rack PDUs and other key points in the power circuit so you can make smarter decisions to reduce energy consumption. It also monitors critical environmental parameters like temperature, humidity, and airflow.

“ [Our] data center team knows more about the rooms, climate, and power consumption than our facility management.”

DIRK SCHRÖDER System Engineer

### More efficient facilities.

DCIM software **enables more informed capacity planning** so you can get the most utilization out of your existing facilities, reduce resource waste, and defer energy-intensive expansions.

“ From an ROI perspective, it's massive for us. We're getting 40% more usage out of our facilities and power source.”

MICHAEL PIERS Senior Manager DCIM/Tools Senior Manager for Infrastructure and Data Centers

### Reduced energy consumption.

DCIM software **provides efficiency actions** by stopping overcooling, finding ghost servers, increasing the efficiency of your private cloud or virtual environment, and driving more efficient behavior from your customers.

“ [DCIM software] provides the ability to measure, monitor, and document what is actually happening in our data centers. Then, we can implement things to keep the costs down.”

ANDREW MARSH Senior Manager for Infrastructure and Data Centers

### Compliance reporting.

DCIM software **makes reporting easy with centralized energy data collection and documentation** that can feed into your enterprise system for corporate sustainability reporting. Dashboard charts and reports for energy KPIs like PUE provide an at-a-glance view of your progress and where the biggest opportunities to increase efficiency are.

“ Going from Excel spreadsheets to using [DCIM software] is awesome. We are now able to produce required reports in minutes as opposed to hours.”

SCOTT WALTER Manager IT Operations

See how Sunbird's DCIM software makes it easier and faster for you to get to carbon neutral.

Try It Free

Schedule Your Demo