

OPINION

Green Data Centers – Scaling environmental sustainability for business and consumers collectively

10 Tips for Choosing the Best Green Data Center

Regardless of industry, environmental sustainability has become an undeniable business imperative. Global warming from carbon emissions, increasing sea levels and images of pollution are increasing public and shareholder pressure on corporations to take an active role in finding solutions and be accountable by setting goals and publicly documenting results.

In the IT industry, reducing electrical power generation from fossil fuels is priority #1, followed closely by water conservation and waste management.

Multi-tenant data centers are one of the largest per capita consumers of electric power. Based on current estimates, data centers in the U.S. alone will consume approximately 73 thousand megawatts (MW) in 2020.

To put this in perspective, one megawatt is enough to power 700 households. A single data center can use power equivalent to a small city and requires a significant amount of water for cooling.

Worldwide, it's estimated that data centers consume about 3 percent of the global electric supply and account for about 2 percent of total greenhouse gas (GHG) emissions.

Data center efficiency and sustainability now transcends companies, geographies, and workloads. There is no simple solution and the challenge is being compounded as massive digitalization of data globally is creating a parallel demand for energy.

Exponential Data Growth Fueling Demand for Power

IDC predicts the world's data will grow from 33 zettabytes in 2017 to 175 zettabytes in 2025 and the amount of energy used by data centers continues to double every four years, meaning they have the fastest-growing carbon footprint of any area within the

IT sector.

Technological advancements are difficult to forecast, but several models predict that data center energy usage could surpass more than 10% of the global electricity supply by 2030.

For all of these reasons, the creation of green, sustainable, multi-tenant data centers has become essential in both an environmental and a business sense. Green data centers are built on pillars of commitments to innovative green and renewable strategies – including green power, water reclamation, zero water cooling systems, recycling and waste management, and more. They do not contain obsolete systems (such as inactive or underused servers), and take advantage of newer, more efficient technologies.

Taking cues from the hyperscalers, green data centers recognize the need to lead with modular energy efficient data center designs from the onset, adopt the latest in building technology and influence the overall supply chain for the actual sourcing of materials for these green data centers.

Economies of Scale

Benefits such as cost reduction, increased efficiency and knowledge that you are a better corporate citizen are obvious. What is not readily apparent is that by moving into a green multi-tenant data center, sustainability benefits are also passed on to the businesses and consumers who collectively benefit from the data center's green IT infrastructure.

The economies of scale are extremely significant. Instead of a business (such as a large online retailer) attempting to deploy its own green IT environment to power its service delivery, it outsources it to the green data center that can do it cheaper and better. The sustainability benefits are then passed along to all the consumers using its services and there could be hundreds of businesses like this in a single green data center.

In addition, when you deal with a true green data center that is serious about sustainability, the benefits go far beyond the requirement that your power be green. There are environmental and philanthropic benefits that can be linked with your outsourced IT infrastructure.

The best green data center operators are starting to formally document and report their progress in Environmental, Sustainability and Governance (ESG) reports made public annually. For conventional enterprises and data centers that do not have measureable sustainability as part of their governance, it is coming.

[QTS Realty Trust](#) is one of a few data center companies holding themselves accountable as global citizens and committing to sustainability best practices that are impactful, achievable and will ultimately set the standard for the data center industry in the years to come.

QTS has committed to minimizing its data center carbon footprint utilizing as much renewable fuel, reclaimed water and recycled materials as possible by implementing a methodic sustainability approach featuring energy efficiency measures and renewable energy procurement, all backed by continuous innovation.

Transparency is Fundamental to Accountability

QTS is documenting and publicly reporting on sustainability goals, metrics and best practices – one of only a few data center companies to do so.

To support this, QTS' recently published its second Environmental, Social and Governance (ESG) Initiatives report ([accessed here](#)) that documents the industry's first formal commitment to provide 100% renewable energy across all of its data centers by 2025.

In 2019, QTS won numerous awards including the coveted GRESB benchmark ranking QTS as the #1 sustainable data center company among all data centers globally for its ESG initiatives.

Today QTS has seven data centers running on 100 percent renewable energy. Approximately 30% of its overall data center power requirements are sourced from renewable energy sources, representing over 300 million kilowatt-hours (kWh) of renewable power. [According to the EPA](#), this makes QTS one of the largest users of green power among all data center companies and the 12th largest user among Top Tech & Telecom companies.

10 Tips for Choosing a Green Data Center

For those operating on-premises legacy data centers looking to move into green data center, or for organizations already outsourcing to a less than green provider, following are 10 tips when evaluating green data center providers.

- Check the providers' ESG and relationships with organizations such as GRESB, the Carbon Disclosure Project, the RE100 and Sustainalytics, and look for documented commitments to 100% renewable energy.
- Look for innovation in power such as the use of AI to forecast power consumption, analyze data output, humidity, temperature, and other important statistics for improving efficiency, drive down costs, and reduce total power consumption.
- Check the EPA ranking to find the data centers leading in green power commitments [here](#).
- Look for industry-first zero water cooling solutions powered by 100% renewable wind and solar power.
- Renewable energy should be impactful and cost-effective. Look for data centers with innovative power procurement models that allow it purchase renewable energy on parity or below the price of conventionally produced power.
- Look for innovative, data driven, service delivery models that tap AI, machine learning and predictive analytics that enable sustainability initiatives.

- Look for data center operators that work closely with utilities to develop tariffs and legislation that make it easier and more cost effective for everyone to procure renewable energy.
- Look for providers with innovative philanthropic programs such as the “Grow with QTS” program that plants more than 20,000 trees in the Sierra Mountains every year on behalf of its customers, or its “HumanKind” program that promotes clean water solutions in emerging markets.
- Look for providers actively speaking and participating with leading organizations such as the EPA’s Green Power Partnership, REBA, the Data Center Coalition’s energy committee and the RE100.
- Look for providers touting on-site physical features such as smart temperature and lighting controls, rainwater reclamation, recycling and waste initiatives, and EV charging stations.

No industry, nor individual company, is perfect. But, alignment around a core set of principles can benefit themselves, their communities now, and for generations to come. The fact that so many businesses are more environmentally aware means that contemplating what green, sustainable data centers can offer is becoming an increasingly important standard for choosing a data center provider.