

Smarter Datacenter Energy Procurement Can Improve Sustainability While Lowering Costs

The 451 Take

Global environmental concern over the use of fossil fuels and climate change has policymakers and regulators wrangling over the most frictionless means to increase availability of renewable energy sources like wind and solar. On the other hand, enterprises, particularly larger global companies, are seeking more reliable, sustainable and economical energy sourcing approaches to satisfy their business needs, along with corporate sustainability initiatives. Because of their heavy energy consumption, sourcing electricity from renewable generation for datacenters specifically (representing 2-3% of total global electricity use) can be a major contributor in reducing a firm's overall carbon emissions.

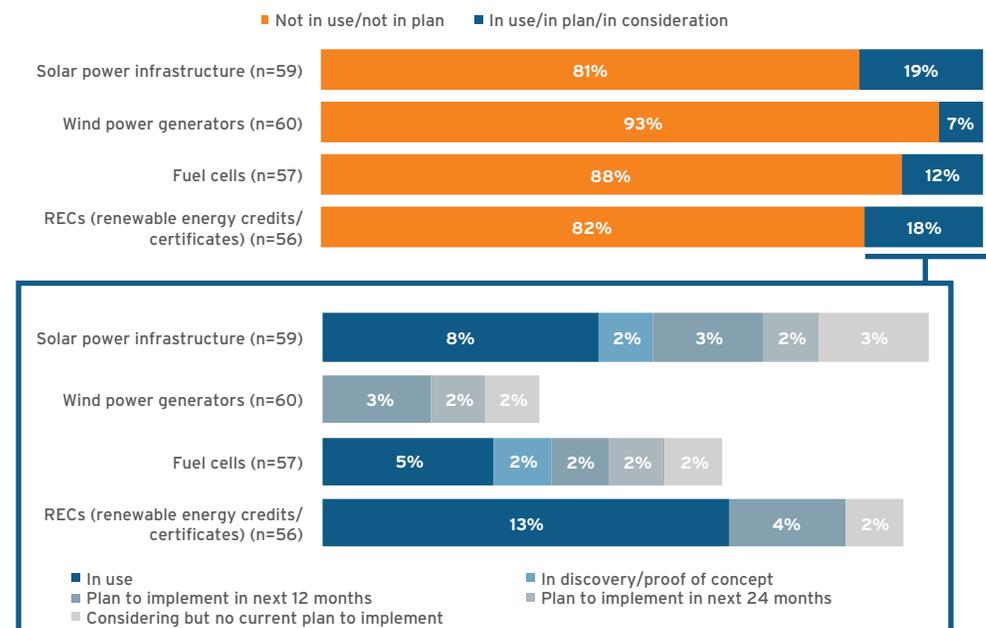
A growing number of enterprises are showing interest in renewable energy for their datacenter environments, as evidenced by Uptime Institute's Annual Infrastructure Survey 2018, in which 38% of respondents said they have used or are considering renewable power purchases. In addition, the vast majority of enterprises surveyed by 451 Research that are also colocation customers said that use of renewable energy by the colocation provider and availability of carbon-offset programs were important.

Aside from on-site generation (which can create substantial capital and operating liabilities), the mechanisms for enterprises to add renewable generation to their energy mix can get fairly complicated, and in some cases cost a premium to local utility grid power. This could partly explain why interest in renewable energy options is increasing, but the actual use of renewable sources remains relatively low – at less than 20% of enterprises, according to a 451 Research Voice of the Enterprise 2017 survey.

Demand for 'Green' Energy in Datacenters Will Drive Increased Use From Low Levels Today

Source: 451 Research, Voice of the Enterprise: Datacenter Transformation, Budgets and Outlook 2017

Q. Please describe your organization's implementation status for the following power options.



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Business Impact Brief

The 451 Take

Business Impact

Implementing proactive energy management and navigating energy procurement contracts, including renewable structures such as renewable energy certificates (RECs) or power purchase agreements (PPAs), could require investing in building an internal competency, securing third-party advisory resources or using in-house energy consulting services at a datacenter provider to help best align corporate 'green' initiatives with business and financial objectives.

NAVIGATING COMPLEX RENEWABLE ENERGY SOURCING OPTIONS. Structuring renewable energy contracts can be a challenge, since it requires an understanding of the sourcing options available in specific geographic markets and the various renewable product structures (e.g., certified RECs, national RECs, green tariffs, PPAs, etc.) as well as the differences between them. Enterprises should also consider deal economics that align with their sustainability goals and risk profile.

REDUCING ENERGY PRICE VOLATILITY. In addition to negotiating a higher portion of renewable sources, proactive energy procurement can help organizations attain more predictable energy costs in deregulated markets by reducing exposure to price volatility associated with fossil-fuel generation. Improved resiliency from a diversified power supply and lower costs (e.g., utilizing long-term PPAs) also contribute to the case for investment in renewable generation.

ENSURE THAT SUSTAINABILITY OR CARBON EMISSIONS CLAIMS ARE COMPLIANT. Datacenters can be among the largest energy users within a corporate footprint, resulting in a significant opportunity to lower a firm's carbon emissions. Verification from third-party energy consulting services could lower the risk of making false claims by ensuring that any 'green energy' claims or carbon-reduction reporting are supported by data. Other services encompass reporting to regulatory groups (e.g., the EPA in the US) and REC certifications for audits.

INCREASING GREEN ENERGY REQUIREMENTS FOR DATACENTER SERVICE PROVIDERS. Enterprises have an increasing requirement for datacenter service providers (colocation, cloud and managed hosting) to demonstrate energy- and carbon-efficiency measures. A growing number of customers are seeking carbon-offset programs and greater energy assurance, which could influence datacenter site selection – locating facilities close to (potentially dedicated) renewable energy generation, for example.

Looking Ahead

Corporate sustainability strategies are expected to have an increasing influence on both internal and external partnership and supply chain decisions with regard to IT infrastructure. Datacenters have historically focused energy-efficiency strategies on improving power and cooling infrastructure, but the continued growth in datacenter capacity combined with greater sustainability initiatives could be a force in driving smarter energy management strategies.

Hyperscale providers such as Amazon, Facebook, Google and Microsoft have led the charge toward 100% renewable energy commitments. According to the IEA World Energy Outlook 2017, the share of renewables in total power generation will increase from 24% in 2016 to 30% in 2022, and it predicts that renewable energy will account for two-thirds of global investment in power plants through 2040.

We anticipate that enterprise IT and datacenter facilities groups will also increasingly engage with their sustainability organizations to proactively seek datacenter energy management strategies that reduce dependency on fossil fuels. This is expected to drive more demand for renewable energy products such as RECs and PPAs, and more importantly, for net-new renewable projects with a focus on generation closer to datacenters' local grids. It could also increase investment in distributed energy generation efforts such as microgrids, on-site generation and energy storage technologies, as well as transactive energy and demand-response management software and services.



For data centers and other mission-critical users with corporate sustainability initiatives, expert energy procurement services can include: negotiating power purchase agreements with renewable energy suppliers; facilitating industry and government recognition programs, including the EPA Green Power Partnership; enabling tracking and measurement of greenhouse gas emissions associated with facility energy consumption; and guiding qualifying customers with participation in load-shedding and demand response programs. Learn more at <https://www.streamdatacenters.com/services/energy/>.