

Balancing Data Growth and Environmental Sustainability



With climate concerns and [energy uncertainty](#) continuing to top headlines, organizations across every industry are embracing sustainability as a priority issue. Proactive business leaders understand that having a sustainability strategy in place helps them increase the efficiency of their operations while still meeting their customers' needs. In contrast, those taking a do-nothing approach are increasingly finding that their decision is a recipe for greater risk and future losses.

With so much at stake, organizations are looking for new ways to reduce their reliance on resources and build a sustainable model for the future. This includes considering the impact of data centers—especially as data volumes grow. Because data centers consume natural resources, they play an undeniably important part in any corporate sustainability strategy.

Data Volumes Are Exploding

Data center workloads continue to increase at an exponential rate, with over [181 zettabytes](#) of data expected to be generated this year alone. Growing mobile and cloud-computing traffic, as well as expanding development and adoption of AI, are all contributing to this growth.

Yet, for the majority of organizations, their current data center infrastructure won't be sufficient to keep up with their future data center workloads. And, any efficiency gains accomplished so far to keep data center energy in check could be challenged or outpaced by these mounting trends.

Energy Consumption Is Rising

So, what does this all mean in terms of sustainability? More data equals more energy consumption by data centers. But just how much energy?

The energy cost to power a single server rack in a data center in the U.S. can be [as high as \\$30,000 a year](#), depending on its configuration of storage and compute capabilities. On average, storage can account for 11% of the energy, or roughly \$3,300 per rack. To support this, companies will need to invest in heat-removal technologies (which use power of their own) to avoid additional energy costs for cooling.

What about Water?

And there's more to the sustainability story. Water is another vital resource that makes up the environmental footprint of a data center. A midsize data center uses about [130 million gallons of water per year](#)—roughly the same amount of water as 100 acres of almond trees, three average-sized hospitals, or two 18-hole golf courses. With water availability likely to be degraded by climate change, organizations must also consider data center water usage when calculating their impact on the environment.

Legacy Data Center Technology Isn't Helping

Although organizations are increasingly investing in sustainability initiatives, inefficient legacy data center technology is common. Their use of heat-generating, spinning disks requires tremendous amounts of electricity, water, and money to keep them running and cool. Too often, there is a singular focus on maintaining uptime, rather than doing so in a way that is environmentally responsible. Energy consumption isn't tracked. Meanwhile, costs and energy continue to rise as data workloads increase.

As climate-related challenges grow, organizations face an increasing reality that the environment can no longer sustain the impact of storing data on outdated, inefficient technology. With pressure to achieve carbon neutrality, even those that

have gone all-flash are seeing data grow exponentially. I&O leaders understand that the cutting-edge technologies they invest in today will eventually reach a new environmental limitation.

Is All-flash a Solution?

The key to long-term sustainability is choosing a data storage platform that consumes less power. Modern flash storage is engineered to be lower power, lower cooling, and lower waste. By transitioning from spinning disk to all-flash, data center footprints can shrink dramatically.

All-flash arrays from Pure Storage were built specifically to improve environmental sustainability in the data center. [DirectFlash®](#) offers greater density, reduced power consumption, and lower cooling costs, delivering an impressive impact on customer operations and costs while supporting sustainability initiatives.

Promote Environmental Best Practices with Pure Storage

With products and services that measurably reduce power utilization, Pure Storage is equipped to help organizations in the following areas:

- **Improved storage efficiency:** High-capacity storage reduces storage cost while hyper-consolidating large volumes of data. With DirectFlash technology from Pure Storage, you'll gain unparalleled density and efficiency, driving significant energy reductions.
- **Greater agility and flexibility:** The [Pure Storage platform](#) and [Evergreen®](#) portfolio of subscriptions extend sustainability. Leveraging the benefits of public cloud storage and STaaS, this powerful combination delivers two key environmental benefits—reduction of wasted energy through non-disruptive upgrades and reduction of e-waste through continual upgrades of array components.
- **Improved visibility:** AI Ops platform analytics help quantify energy

consumption with simulation modeling and [environmental and sustainability metrics](#). With heightened visibility, organizations can assess impact, forecast capacity and performance, and make data-driven decisions to meet environmental goals.

Go Green with Orange

The message is clear. Sustainability is now a must in today's business environment, and it comes with valuable benefits. Making the decision to move to data storage that is more sustainable can be part of a larger strategy to increase efficiency, add brand value, meet consumer demands, and create new opportunities.

[*Learn more about how powerful, efficient storage can dramatically lower your energy bills.*](#)

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