

Going green: sustainability insights every business should consider

The topic of sustainability is one of the fastest-growing conversations among business leaders today and as the world transitions to a more sustainable and equitable future, demand is growing for commercial solutions to deliver on these goals. To better understand what business leaders should be taking into consideration when beginning their sustainability journey, Kin + Carta sat down with Paul Hunter, Responsible Business Enablement Lead, to gather some information and insights on commonly asked questions.

Q. Beyond the traditional benefits of moving from on-prem to the cloud (cost efficiencies, flexibility, etc), what kind of sustainability benefits are there and how are they measured?

Long gone is the requirement to house inefficient and costly IT equipment on-premise. For years now, the benefits of moving to the cloud have been focused around scalability, cost efficiency, and risk mitigation, but as sustainability becomes a core concern for cloud providers, new benefits of cloud migration are taking center stage.

Carbon reduction

Moving from on-prem to the cloud has the potential to reduce the carbon impact of a firm's IT operations from between 80% and 98%. On the lower end of this spectrum are lift and shifts, which can result in an average carbon reduction of around 80%. Investing heavily in the cloud, including the development of cloud-native applications, can reduce carbon impact by up to 98%.

This percentage depends on multiple factors, including the cloud provider's commitment to sustainability/efficiency as well as the method of delivery; incorporating sustainable coding and design principles can further increase the carbon efficiency of digital operations.

Waste Reduction

Cloud providers that are deeply committed to sustainability are investing heavily in circular design for their cloud infrastructure. These providers are designing servers with recyclable, modular components that reduce the waste produced as equipment ages or malfunctions. Instead of full server replacement, single components can now be retired, recycled, and replaced, reducing the physical waste impact of cloud operations.

Mission advancement

As sustainability becomes a core component of mission and purpose for an increasing number of firms, choosing a cloud partner with sustainability at the center can be a further display of commitment to this mission/purpose. This can also play a role in mitigating the reputational risk that climate change presents.

Q. What role can sustainability play in your business's overall strategic plan?

In reality, sustainability can (and should) touch every aspect of a business's strategic plan. Beyond environmental sustainability to include the society and the economy, business leaders must examine and develop every aspect of their strategic plan with all aspects of sustainability in mind.

In essence, the role can't be oversized.

For every company, sustainability will manifest in different ways. Curbing the effects of climate change in a way that is equitable and economically sound isn't a one-size-fits-all solution, it requires bespoke analysis, tooling, and delivery.

At Kin + Carta, our technology and business strategists can provide you with a current state assessment of the sustainability of your existing on-premise/co-located data centre, software platforms, Cloud deployment or overall business outcomes and strategies. We work with you to design a set of key activities, and measurable targets to advance your sustainability, lower your carbon footprint as an organization, and deliver against your bespoke roadmap.

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Q. How can firms incorporate sustainability into decision-making when choosing a cloud provider?

PUE Ratings

The Power Usage Effectiveness metric is a standard metric that communicates how efficiently energy is used to deliver the service the data center provides.

The PUE equation is $PUE = \text{Total Power Consumption} / \text{IT Equipment Energy Needs}$

- Total Power Consumption = all power consumed to run the data center inclusive of climate control, HVAC systems, cooling systems, etc.
- IT Equipment Energy Needs = energy required to run the IT equipment independently

PUE of 1 means that all energy consumed by the facility goes to providing service; the closer to 1 a data center is, the better it is at using energy.

PUE ratings of data centers are sometimes publicly available, while others are more difficult to acquire. These ratings are specific to standalone data warehouses (ex. Data warehouse in Dublin may have a different PUE than one hosted in Austin, Texas).

Electricity Mix

Companies can identify the mix of energy required to run the data centers used in their operations (primarily renewable vs. non-renewable).

Commit to offsetting any non-renewable energy required to store data and run applications hosted on the cloud; some partners, like Google, have been carbon neutral since 2007, and running 100% renewable energy since 2016.

Google Cloud recently announced their Region Picker, which allows companies to select the Cloud region for deploying workloads based on 3 criteria: carbon footprint, price and latency, with more related tooling in the making.

Publicly listed Net Zero Commitments

Look at the cloud provider's public commitment to net-zero and when looking at their strategy, examine reliance on carbon offsets; less reliance on carbon offsets is better.

Providers that show a dedication to sourcing energy entirely from renewables (even if sometime in the future) is a plus. It's also best to find a provider invested in long-term, systemic environmental change with climate justice at the center.

Circular Design Principles

Look at how your cloud provider introduces circular design into their data centers.

Questions to consider:

- Are components designed so that they are easily and efficiently replaced? (so as to avoid a larger-scale replacement that is more resource intensive)
- Are components of the data center re-usable?
- Are the data centers and equipment designed in a way that makes the materials easily recyclable?

Commitment to Climate Justice

Look for providers that:

- Are empowering the marginalized to develop/deliver less carbon-intensive services.
- Have a high level of community engagement (at the local level) and examine the way they interact with the communities where their data centers are located.

Questions to consider:

- What voices are they amplifying?
- What groups are their resources funding?
- What is the diversity makeup of their sustainability team?
- Are their data centers designed in ways that are beneficial to the local communities in which they are built?
- How do their data centers or engagement models promote equity in those local communities?

- How does the provider invest in underserved and/or local communities to help offset and/or reduce the effects of climate change?

Policy Engagement

Look for cloud providers that are:

- Part of global climate change coalitions.
- Engaged in federal and state climate advocacy.
- Strengthening their environmental standards and policies.
- An advocate for investment in green infrastructure.
- Supporting tax incentives for renewable electrification (Ex. renewable energy sources such as wind and solar, electric vehicle charging infrastructure)

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Kin + Carta is a global digital transformation business and Google Cloud Premier Partner. We make the journey to becoming a digital business tangible, sustainable, and profitable.

