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Sustainability Starts Here: Accelerating Sustainable IT Programs With As-A- Service Models

Firms Realize That Specialized Services Advance
Their Complex Sustainability Agendas

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Executive Summary

IT sustainability is a priority but not yet a core capability for most firms.

In November 2021, Dell commissioned Forrester Consulting to evaluate how companies can leverage as-a-service models to achieve sustainability goals. Forrester conducted an online survey with 502 decision-makers in sustainability at global companies to explore this topic.

Respondents said they believe bridging the gap between establishing and accomplishing IT sustainability goals requires a new class of specialized infrastructure-as-a-service (IaaS) provider.

Nearly three in four respondents said their firm needs the assistance of a third-party partner to achieve its sustainability goals. And although nearly four in five said their firm has a solid sustainability plan featuring a wide-ranging set of cost-saving and carbon-reduction initiatives, fewer than half said their firm is on track to meet its goals.

Respondents said the as-a-service model aids in sustainability and that it could provide their firms with multiple advantages, including:

- Reducing sustainability-related management costs (40%).
- Reducing overall e-waste generation (45%).
- Lowering the cost of managing end-of-life equipment (39%).



Key Findings

Most firms have a solid business case for their sustainability plans, but they lack internal skills when it comes to implementation.

Nearly four in five respondents (79%) reported that their firm's sustainability plans are supported by a sound business case. But implementing those plans is not a given. More than half of respondents (56%) said their firms lacks the in-house capabilities to measure, manage, or analyze sustainability data.

Fewer than half of firms believe they are on track to meet their goals.

Most firms struggle to implement big-picture goals such as sustainable IT procurement and they grapple with specialized tasks such as calculating the carbon footprint of product lifecycles. Less than 41% of respondents said their firm has both implemented its IT sustainability plan and is on track to meet those goals.

As-a-service models accelerate complex sustainability agendas.

While more than half of respondents' firms have adopted an IaaS model, another 37% of respondents said their firm plans to adopt one within the next two years. Nearly half of these respondents believe as-a-service models will provide clear sustainability benefits, and 65% expect their firm to save more than 10% in costs.

Implementing complex sustainability programs may require

third-party expertise. Seventy-one percent of respondents said their firm needs the help of a partner to accelerate its programs and achieve its sustainability goals. For example, most firms seek help for services such as end-of-lifecycle disposition.

IT Sustainability Programs Have Become A Higher Priority

The environmental, social, and governance (ESG) movement is not a fad. Firms are examining how they perform against their publicly stated environmental goals. In fact, 55% of G200 firms have established a target date for the partial or total elimination of greenhouse gas (GHG) emissions, and 58% have created a position for a director, vice president, or executive to lead the sustainability program.¹



Because the risks posed by climate change become more acute and widely understood, customers, partners, and investors increasingly expect senior executives to make measurable progress in environmental sustainability. Organizations in every industry are building comprehensive sustainability agendas, and that includes making investments in carbon neutrality programs. In this context, IT departments especially face scrutiny because of the large carbon footprints that data centers have. Additionally, the International Energy Agency (IEA) found that data centers accounted for around 1% of global energy use in 2020.² IT sustainability is just getting underway for most firms.

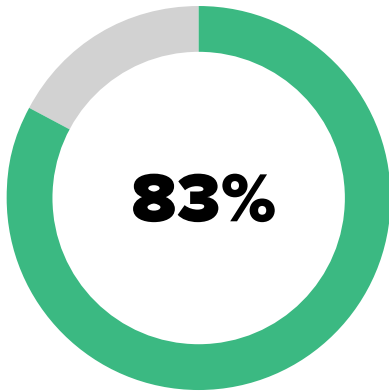
In surveying 502 firms about their IT sustainability programs, we found that:

- **Sustainability is a team sport.** Nearly two-thirds of respondents (64%) believe sustainability is a priority for their firm's IT procurement decisions. More than four out of five respondents (83%) said their firm's IT and sustainability organizations regularly work together. And nearly three out of four respondents said their firm has sustainability-focused employees embedded within IT. Ultimately, the collaboration between business, sustainability teams, IT, and procurement is critical to success (see Figure 1).

Figure 1

“Please tell us to what extent you agree or disagree with the following statements.”

(Showing agree + somewhat agree)

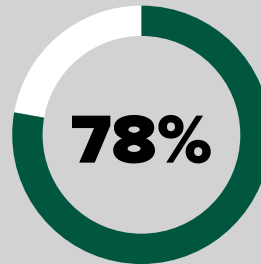


Our IT and sustainability organizations work together on a regular basis.

Base: 502 sustainability decision-makers at global companies
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell, December 2021

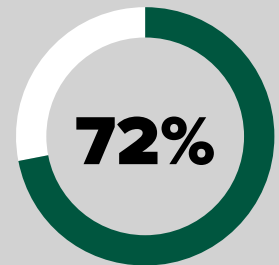
“Thinking about your IT organization’s relationship with your organization’s sustainability professionals, please indicate your level of agreement with each of the following statements.”

(Showing agree)



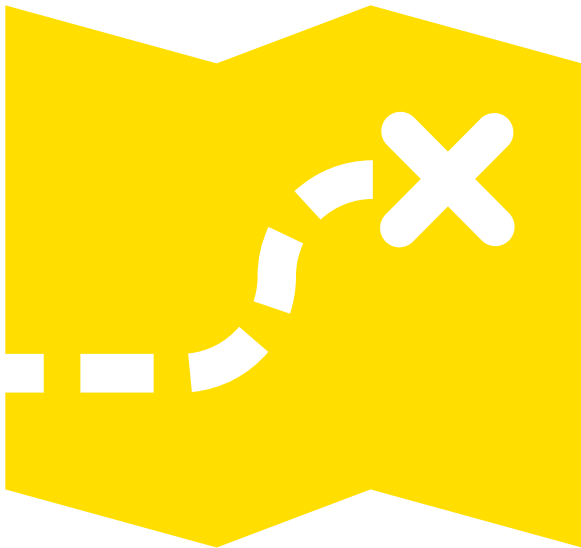
Our IT organization works in collaboration with our sustainability professionals.

There are sustainability-focused employees embedded within our IT organization.



Base: 502 sustainability decision-makers at global companies
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell, December 2021

- **Firms are juggling many important procurement-process initiatives for sustainable technology.** Because firms are balancing multiple initiatives, it complicates their abilities to prioritize efforts and manage resources. For instance, more than four in five respondents said initiatives that are important or very important include improving energy efficiency (88%), maintaining future upgradability (88%), reducing utility costs (85%), reducing e-waste (84%), and tracking a vendor’s carbon footprint and sustainability (83%).
- **Firms consider multiple factors when formulating their strategies and objectives for IT sustainability.** When asked about their companies’ top sustainability initiatives and strategies at an organizational level, 86% of respondents said green-energy sourcing is important or very important, and it’s at the top of the list alongside joining data center equipment utilization and sustainable IT procurement. Notably, respondents gave nearly every project on the wishlist almost equal weight (see Figure 2).

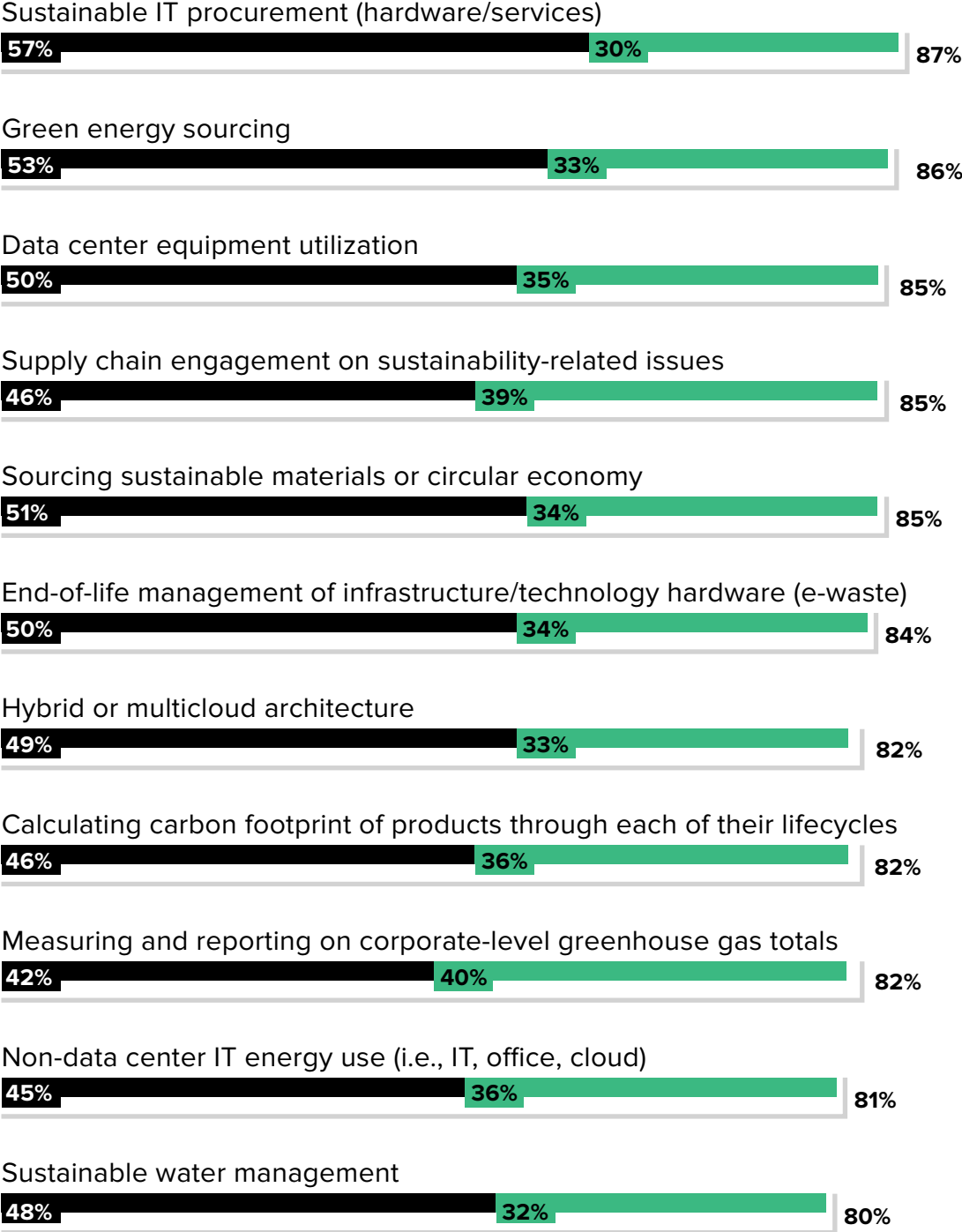


IT is uniquely positioned to identify sustainability opportunities as **59%** of respondents’ firms include IT in sustainability roadmap setting and decision-making.

Figure 2

“How important are each of the following things to your organization’s sustainability initiatives/strategies?”

● Very important ● Important

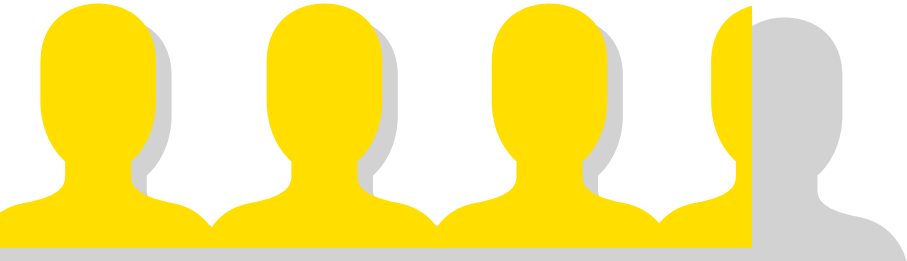


Base: 502 sustainability decision-makers at global companies
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell, December 2021

Getting Everyone On The Same Page

In time, all IT purchases will pass through a filter of sustainability. For many organizations, procurement takes the lead on policy, while ad hoc or dedicated sustainability teams or specialists may be embedded in IT organizations. Overall, 83% of respondents said IT and sustainability organizations regularly work together. But these relationships appear to be in their formative stages, and few respondents said their firm is on track to reach its sustainability objectives.

- **IT and business teams are often misaligned about sustainability progress.** IT respondents believe their firms have made more progress than their business counterparts do. But IT teams have more visibility into sustainable IT procurement and data center equipment utilization projects. For example, 40% of IT respondents said their firm plans to expand or upgrade its IaaS model, compared to 30% of business respondents. And IT and business workers view measuring KPIs and metrics differently. For instance, 58% of IT respondents said they track data-center power use, while only 44% of business respondents share that view (see Figure 3).
- **Although four in five respondents' firms (82%) have budget line items for sustainability, budget or funding is the biggest obstacle to implementation.** Respondents said their firms are concerned about the expected costs of their sustainability initiatives. Overall, more than one in four respondents said their firm faces an inability to measure the results of its investments in areas such as carbon footprint and time-to-value.



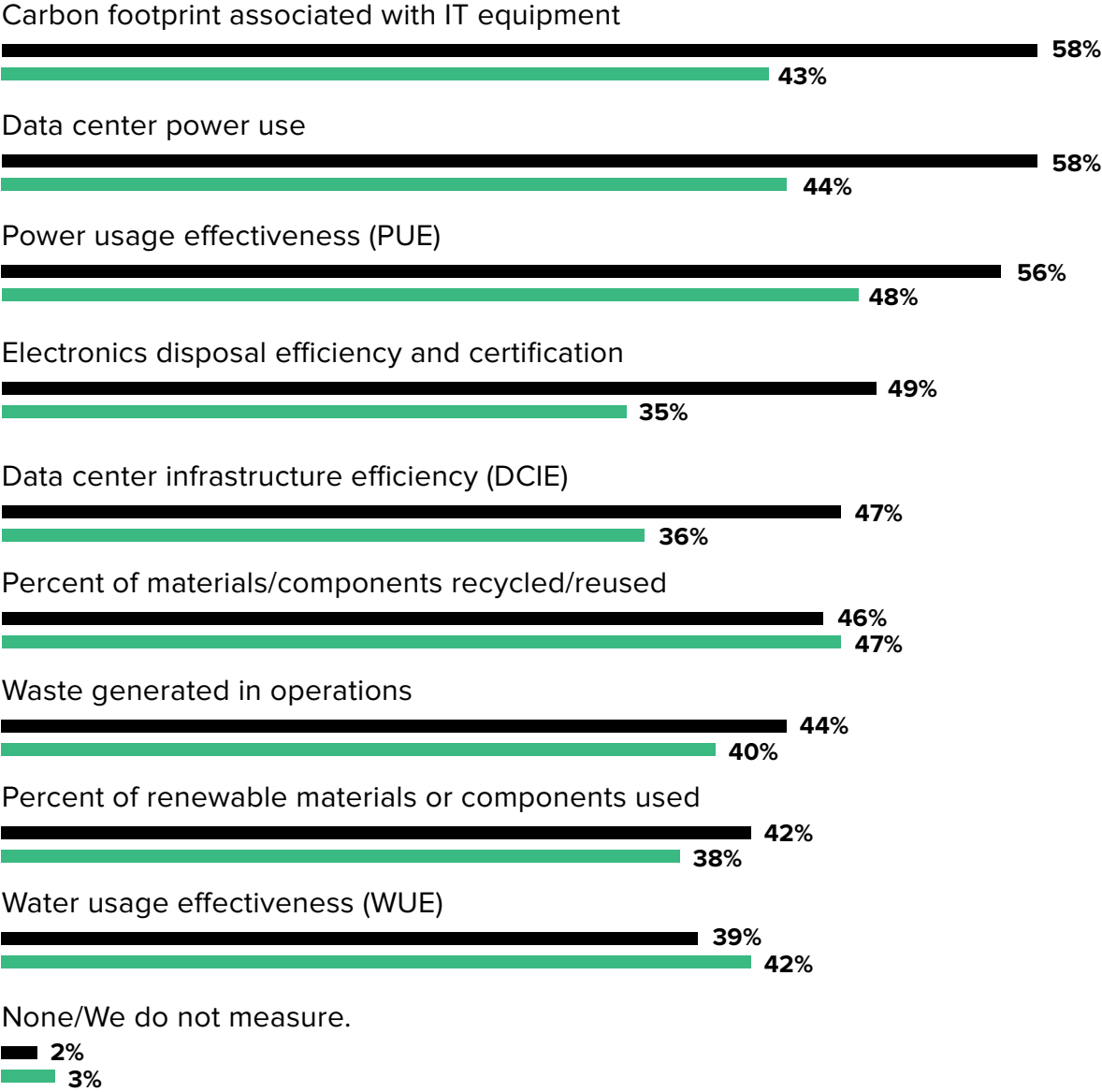
84%

of respondents' firms want a third-party vendor to lift the burden of end-of-life management.

Figure 3

“Which of the following metrics or KPIs does your organization measure?”

● IT ● Business



Base: 318 IT decision-makers and 184 business decision-makers responsible for sustainability at global companies
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell, December 2021

- **More than half of respondents (56%) said their firm lacks in-house capabilities to measure, manage, or analyze sustainability data.** IT leaders can't control what they can't measure, and one in five respondents said a shortfall of sustainability skills may impede program progress for their firm. Organizations that have not engaged with third-party sustainability specialists may especially feel that shortage. The skills shortage may also weaken IT's standing in sustainability program management firm wide.
- **Third-party vendor management of hardware end-of-life offers opportunities to improve sustainability and unburden IT.** Most firms have end-of-life programs for hardware and gear, but fewer than half of respondents said their firm responsibly manages end-of-life equipment. Only 34% of respondents said their firm is on track to meet end-of-life program goals. Given this concern, it's not surprising that 84% of respondents said their firm is somewhat or very interested in vendor-provided end-of-life management, although only 37% of their firms currently do. IT respondents said they want a third party to lift this burden off their shoulders.

DATA CENTER AND CLOUD OPERATIONS COME UNDER SCRUTINY

For many firms, specialized tasks such as optimizing data center operations (including infrastructure, environmental controls, and cloud operations) remains a vital work in progress. In 2021, Forrester applied our Total Economic Impact™ Framework to determine the payback period for a hypothetical company's sustainability measures, and it cautioned readers not to expect a "quick win." The study said the company's ROI was 33%, and the payback period was 43 months. This model demonstrated that sustainability is synonymous with optimization.

- **More than half of respondents' firms routinely over-deploy infrastructure, which reduces profits.** Fifty-six percent of respondents said their firm loses profit to infrastructure over-deployment, which isn't unusual for firms with on-premises workloads and infrastructures. Many factors may contribute to chronic over-deployment, such as talent shortages and changing processes. One in five respondents conceded that their firm needs to overprovision infrastructure to ensure its ability to scale.

- **Sustainability implementation obstacles stem from a lack of clarity about what steps will advance objectives.** More than one-quarter of respondents cited a lack of clarity on upstream and downstream sustainability and environmental impact. This indicates that their firms are unsure how controlling specific resources may impact their operational costs or performance. Another 17% of respondents said their firm takes an unstructured approach to designing sustainability initiatives, and this further underscores the need for more expertise (see Figure 4).

Figure 4

“What obstacles are you facing as your organization implements its sustainability strategies?”



Base: 502 sustainability decision-makers at global companies

Source: A commissioned study conducted by Forrester Consulting on behalf of Dell, December 2021

- **Firms feel they are making progress in sustainable IT procurement, data-center-equipment utilization, and hybrid or multicloud architecture.** More than 70% of respondents said their firm has implemented a plan in each case, but just slightly more than half said their firm is on track to meet those goals. For example, 40% of respondents said their firm has implemented a plan for data-center-equipment utilization, has met interim goals, and is on track to meet its long-term goals.

As-A-Service Models Are Expected To Advance IT Sustainability Programs

IaaS is trusted for cloud. But can it also help solve sustainability program management issues? More than half of respondents (54%) said their firm has adopted an IaaS model, and two-thirds of respondents from those adopters said their firm plans to expand or upgrade its implementation. Another 37% of respondents said their firm plans to adopt this model within two years. Only two percent of respondents said their firm is disinterested.

Does IaaS present a viable path to the emerging and more specialized concept of sustainability as a service? Respondents said yes for these reasons:

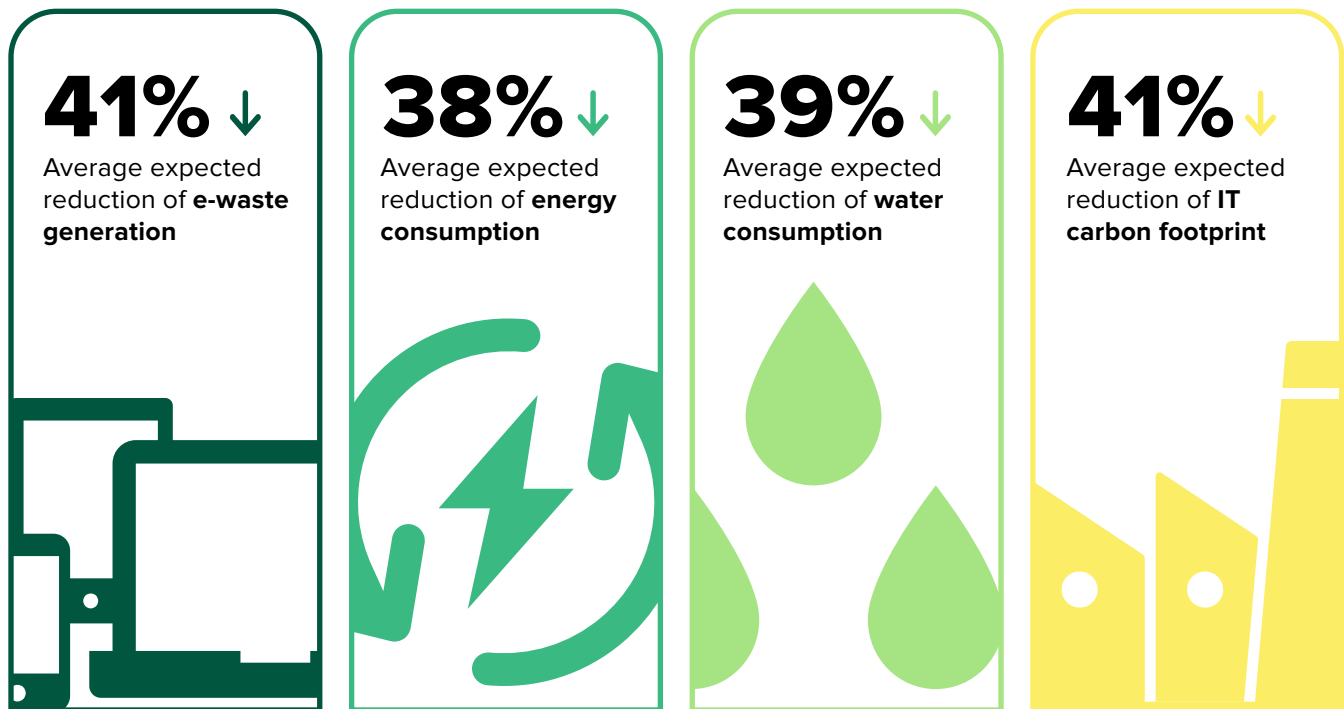
- **A complex sustainability agenda may pair well with expected IaaS implementation benefits.** Forty-five percent of respondents said they believe as-a-service models would provide a reduction in overall e-waste generation, 40% said they would reduce sustainability-related management costs, and 39% said they would help to reduce the cost of managing end-of-life equipment. Thirty-eight percent of respondents also expect their firm to benefit from conducting accurate carbon footprint analysis. That's a task that many respondents said their firm lacks the expertise to do. In some cases, these expectations may hinge on the cost-benefit analysis that firms not only lack the right staff to manage these initiatives, but that they need to focus on other operational priorities (see Figure 5).
- **Expected cost savings drive use.** Sixty-five percent of respondents said that with fully managed infrastructure, their firm would save between 11% and 30%. While cost savings are necessary for firms' business justifications, program expertise (packaged as a service) is another pressing concern.

65%

of respondents expect their firm to save more than 10% of costs by having its vendor fully manage infrastructure.

Figure 5

“Using your best estimate, approximately how much would you be able to reduce each of the following items by implementing an IaaS model?”



Base: Sustainability decision-makers at global companies, varies by response option

Note: Showing mean percentages.

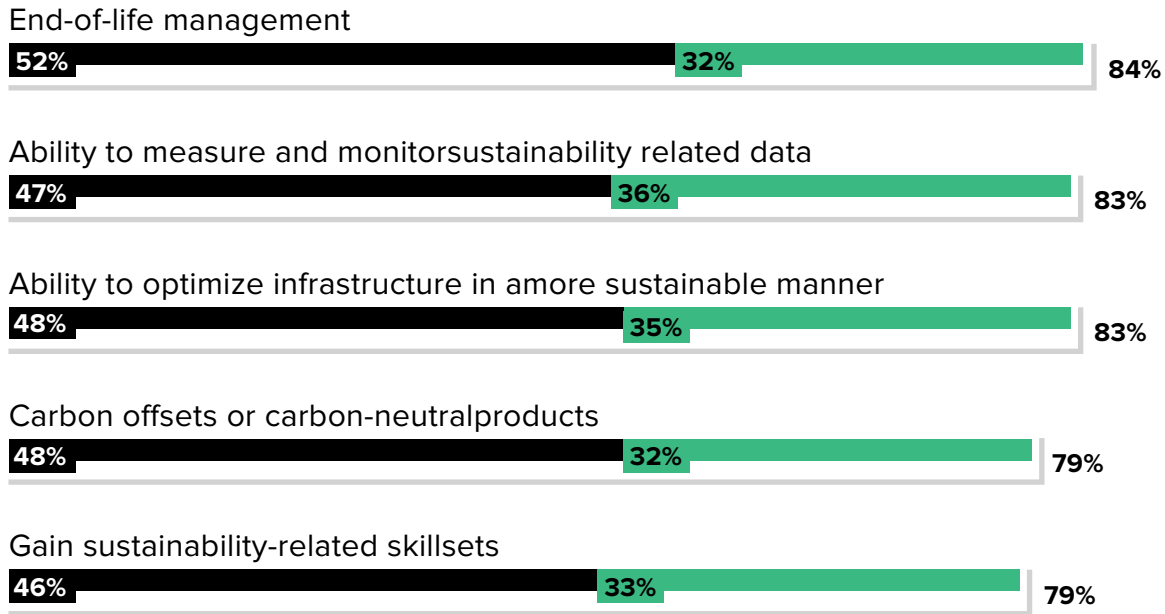
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell, December 2021

- **Firms are very interested in vendor-managed services.** Firms are interested or very interested in their ability to provide many services (see Figure 6).

Figure 6

“On a scale of 1 to 5, where 1 is not at all interested and 5 is very interested, how interested would your organization find each of the following vendor-managed offers/services?”

● Very interested ● Interested



Base: 502 sustainability decision-makers at global companies

Note: Percentages may not total 100 because of rounding.

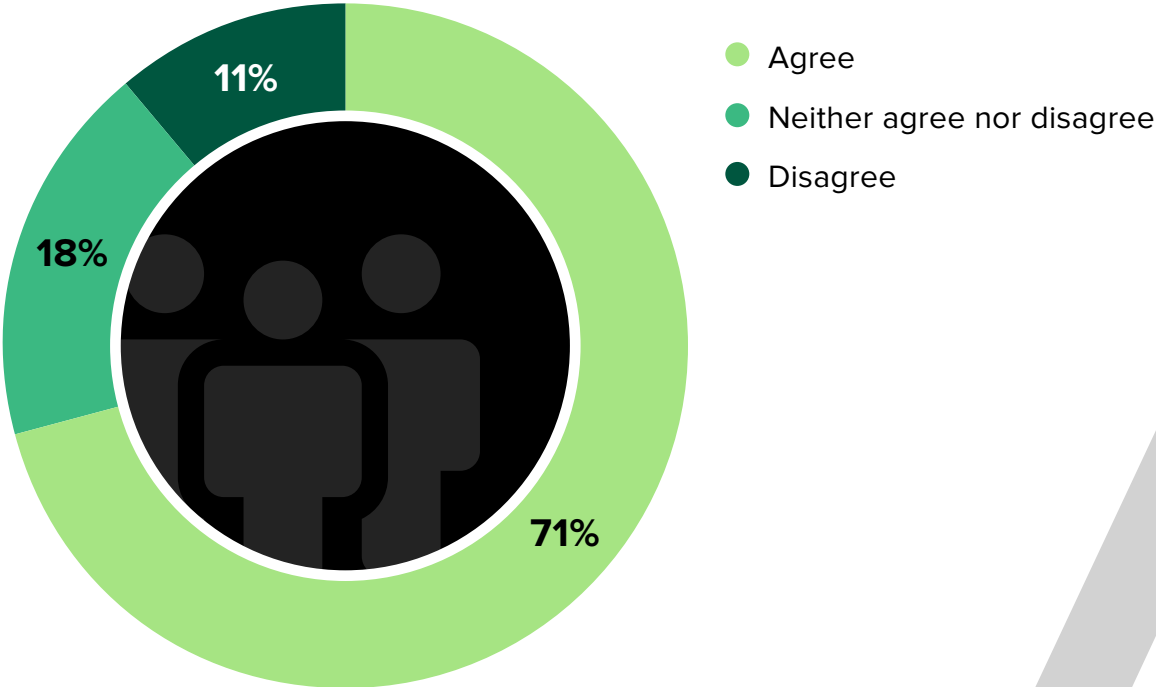
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell, December 2021

These are the early days for most organizations’ implementation of IT sustainability programs, particularly green data center initiatives. Procurement, sustainability, and IT teams seem well-aligned on strategy and plans, and they regularly communicate. Still, there’s some misalignment evident in their views about sustainability program objectives and metrics.

About half of respondents said their firm’s procurement team plays the critical role of defining sustainability requirements for RFPs and helping to translate those requirements into actionable goals. Still, many respondents said their firm seeks ways to fill their sustainability expertise gap: 71% said their firm needs the help of a third-party partner to achieve its sustainability goals (see Figure 7).

Figure 7

“Please tell us to what extent you agree or disagree with the following statement: We need the help of a third-party partner to achieve our sustainability goals.”



Base: 502 sustainability decision-makers at global companies
Source: A commissioned study conducted by Forrester Consulting on behalf of Dell, December 2021

Key Recommendations

The end-to-end actions a firm can undertake with its technology stack and data center operations span three main pillars: procurement, internal operations, and end-of-lifecycle management of infrastructure. Service procurement can be a strong advantage in all three pillars and help make a major push toward creating a green data center by enabling flexibility in procurement, optimization in operations, and waste reduction through circular-economy participation.

Forrester's in-depth survey of global sustainability decision-makers yielded several important recommendations:

Sustainability strategies must go beyond green energy procurement.

Setting relevant sustainability goals and executing systematically against them requires meticulous action across various functions of a firm and a structured approach. Our analysis found that the priorities in sustainability investing fall across the entire technology stack.⁴ This stresses the importance of looking for opportunities beyond the lowest-hanging fruits. Your firm's strategy needs to address not just what it procures, but also how it procures and from whom.

IT operations and IT procurement are powerful allies in sustainability.

Your firm's procurement teams have the power to influence not just the organization's input resources, but also the end-of-life cycle of the infrastructure. Firms are increasingly adding contract clauses for reduced energy, and carbon use is now the norm for supplier agreements. Vendors that address supply-chain issues will also aid in your firm's sustainability strategy. Additionally, using flexible, on-demand, and scalable pricing models enables optimization in cost and carbon reduction.

Make your firm's vendors and partners allies in reducing Scope 3 emissions.⁵

As more companies commit to climate action, they're taking aim at indirect emissions from transportation, supply chain, and procurement processes (e.g., Scope 3 GHG emissions), and they are working with suppliers to reduce their environmental impacts. It's now the norm for firms to add contract clauses for reduced energy and carbon use in supplier agreements. Pursue a strategy where your firm's vendors are allies in your sustainability strategy.

Appendix A: Methodology

In this study, Forrester conducted an online survey of 502 sustainability decision-makers at organizations in North America, Europe, Asia, and Latin America to evaluate sustainability challenges and strategies. Survey participants included IT and business decision-makers. The study began in November 2021 and was completed in December 2021.

Appendix B: Demographics

REGIONS	
North America	40%
EMEA	20%
APAC	20%
LATAM	20%

COMPANY SIZE	
100 to 499 employees	17%
500 to 999 employees	22%
1,000 to 4,999 employees	40%
5,000 employees or more	21%

INDUSTRY (TOP 4)	
Technology	21%
Manufacturing	15%
Financial services	14%
Retail	8%

JOB TITLE	
VP of IT/senior IT decision-maker	30%
IT director	33%
Senior corporate manager	34%
Chief sustainability officer	3%

DEPARTMENT	
IT/infrastructure	67%
Finance/procurement	15%
Other	18%

Appendix C: Supplemental Material

RELATED FORRESTER RESEARCH

“The State Of Environmental Sustainability In The Fortune Global 200.” Forrester Research, Inc., January 14, 2021

“Assess Your Own Sustainability ROI,” Forrester Research, Inc., April 22, 2021

“The Forrester Technology Sustainability Framework.” Forrester Research, Inc., July 26, 2021

Appendix D: Endnotes

¹ Source: “The State Of Environmental Sustainability In The Fortune Global 200,” Forrester Research, Inc., January 15, 2021.

² Source: “Data Centres and Data Transmission Networks,” IEA, Paris <https://www.iea.org/reports/data-centres-and-data-transmission-networks>, November 2021.

³ Source: “Assess Your Own Sustainability ROI,” Forrester Research, Inc., April 22, 2021.

⁴ Source: “The Forrester Technology Sustainability Framework,” Forrester Research, Inc., July 26, 2021.

⁵ Source: “Factors Driving The ROI Of Sustainability,” Forrester Research, Inc., April 22, 2021.

A close-up photograph of a hand holding a single, vibrant green leaf. The hand is positioned in the lower-left quadrant, with the thumb and index finger gently gripping the leaf. The leaf is bright green with visible veins and a slightly serrated edge. The background is a soft, out-of-focus bokeh of green foliage, creating a natural and serene atmosphere. The lighting is soft and even, highlighting the texture of the skin and the leaf.

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