

CIO/IT Leader Guide: Getting Started on Sustainability



Global climate and energy challenges are accelerating organizations' efforts to reduce energy consumption and increase investments in long-term strategies to effectively manage ongoing environmental and business impacts. There is tremendous pressure on organizations following recent disruptions to energy supplies and the vulnerable energy markets. Additionally, stakeholders, consumers, employees, and regulators are demanding a move toward a more sustainable future.

Per a recent IDC study¹ sponsored by Cisco, corporations are responding to these pressures by providing transparency into various facets of their business operations and disclosing sustainability impact and performance through Environmental, Social, and Governance (ESG) reporting. Providing this level of transparency into business operations is driving investment in a range of technologies such as Artificial Intelligence (AI), analytics, and automation.

Delivering on sustainability goals without a robust technology strategy can be challenging. Technology is a vital enabler of sustainability, from accelerating net zero transitions to building more sustainable value chains, per Accenture.²

According to a recent [IDC white paper](#),³ almost two-thirds (62%) of surveyed companies worldwide believe investments in IT technology are critical to meeting their sustainability goals. Additionally, per the [IDC white paper](#),⁴ 22% of these surveyed companies across various regions and industries indicated that in 2022 IT was one of the lead contributors in driving sustainability activities across the company. This demonstrates the importance that organizations are placing on technology to help address their sustainability challenges.

Many corporations are shifting their view of sustainability from a pure risk and compliance exercise to a means of driving business value, per the IDC study.¹ These companies are integrating sustainability into their business operations to drive innovation, operational efficiency, and competitive differentiation.

This integration has far-reaching, cross-industry impacts:

- Utilities are actively innovating to harness renewable energy and reduce the carbon footprint of the electrical grid.
- Financial services institutions are investing in sustainable investment programs.
- The transportation industry is accelerating production of electric vehicles (EV) and fleets, rolling out EV charging systems, and expanding and electrifying rail and mass transit infrastructure.
- Many industries such as manufacturing and retail are implementing more circular economy principles, more sustainable facilities, reducing waste, energy, and water consumption, and integrating renewable energy.
- The healthcare and education industries are investing in more sustainable buildings and are enabling remote patient visits and remote education, which can result in lower carbon footprint related to reduced travel.

¹ [IDC InfoBrief, Sponsored by Cisco, Enabling Sustainability Through Investments in Technology is Critical to Driving Business Value, Document Number: US50136823 Final IB, February 2023.](#)

² [Accenture, Uniting Technology and Sustainability, by Paul Daugherty, Peter Lacy, Sanjay Podder, and Shalabh Kumar Singh, May 9, 2022.](#)

³ [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value, Document Number: Cisco-WP-US50609223-Final, May 2023, Page 22.](#)

⁴ [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value, Document Number: Cisco-WP-US50609223-Final, May 2023, Page 17.](#)

Cross-functional coordination is critical to the successful execution of a corporate sustainability strategy. CIOs and IT leaders have a key role in supporting their Chief Sustainability Officers (CSOs), environmental leaders, C-suites, and other stakeholders. CIOs and IT leaders are in a strategic position to enable technology solutions. These solutions can help reduce today's energy consumption and costs while transforming cross-departmental processes to achieve more environmentally sustainable business outcomes in the future.



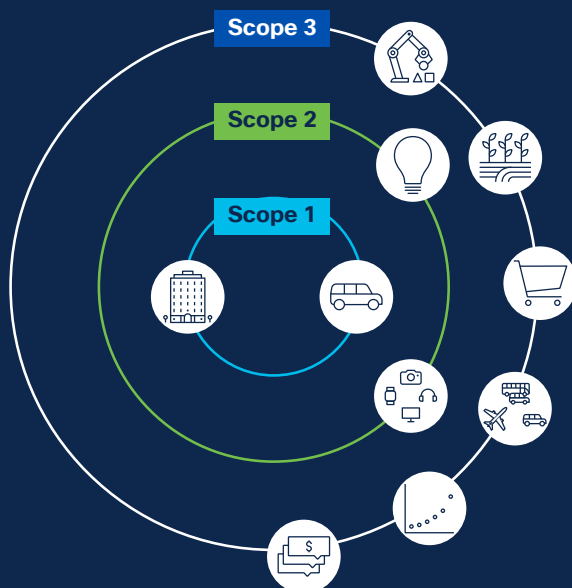
Best practices for your sustainability journey

Cisco is on this sustainability journey with you. We will highlight a few best practices here for CIOs and IT leaders just getting started on the path to a more sustainable future.

Get educated

- Learn about the sustainability goals or commitments that your organization has set.
- Get up to speed on the three scopes of greenhouse gas (GHG) emissions.⁵
 - How are your organization's emissions broken down into the three scopes?
 - Where can IT help reduce the emissions from each scope?
 - What are the gaps?
- Familiarize yourself with rapidly developing stakeholder demands and the regulatory landscape.
 - What industry-specific regulations should you be aware of?
 - What are the regional regulations?
 - What are the reporting requirements?

Greenhouse gas (GHG) emissions of organizations are classified in 3 scopes:



Scope 1

Direct emissions from owned or controlled sources

*Facilities and vehicles

Scope 2

Indirect emissions from the generation of purchased electricity, steam, heating and cooling

*Purchased electricity, steam, heating, cooling for own use

Scope 3

All other **indirect** emissions that occur in a company's value chain

*Upstream and downstream value chain: travel, commute, transport/distribution, purchased goods and services, investments, waste, leased assets

⁵ [Overview of GHG Protocol Scopes and Emissions Across The Value Chain.](#)

- Explore public funding opportunities in various regions that can help your organization accelerate upgrades, energy transitions, and other sustainability measures.
 - In the United States, the recent Inflation Reduction Act⁶ provides substantial funding to confront the existential threat of the climate crisis and drive the global clean energy economy forward. The Bipartisan Infrastructure Law (also known as the Infrastructure Investment and Jobs Act)⁷ includes billions of dollars to modernize the electric grid, build a nationwide network of EV chargers, strengthen the battery supply chain, and invest in new clean energy and emissions reduction technologies.
 - The European Union (EU) Commission has recently invested in a major research and innovation program called Horizon Europe⁸ as part of a broader EU funding package. This program will contribute to the EU reaching its climate goals, increasing energy resilience, and developing core digital technologies.
 - Australia has also adopted a historic new law,⁹ including significant funding designed to help reduce the country's emissions by 43% below 2005 levels by 2030.
- Learn from peers and other industry leaders who have more mature sustainability strategies.
 - How do they approach sustainability as an integral part of their technology operations?
 - How do they leverage sustainability as a means to innovate?
 - What processes are they implementing to embed sustainability-related data and information into their business strategy and operations?



⁶ [Inflation Reduction Act Guidebook, The White House.](#)

⁷ [Investing in America, by President Joe Biden, The White House.](#)

⁸ [Horizon Europe, European Commission.](#)

⁹ [Climate Change Act 2022, Federal Register of Legislation, Australian Government.](#)

Enable visibility

- Organizations often lack visibility into energy consumption, space usage, and building/environmental data. Your teams can be a catalyst for changing this.
- Identify existing sources of data and determine what gaps exist. Can your teams help individual business units baseline their energy consumption, for example? If you do not have access to the right data to enable visibility into your sustainability performance on both the IT and operations sides, explore energy management technology solutions and vendors to help close those gaps.
- Once you have visibility, aggregate data to establish “baseline” sustainability performance in areas where the organization is committed to making improvements. Develop metrics to measure progress against company targets and goals.
- As an example, [Enel Group](#), a global Italian power utility committed to sustainability, recently partnered with Cisco to co-innovate on digital solutions and support energy decarbonization, digitization, and decentralization. The project has enabled visibility into Enel’s grid operations in real time and convergence of IT and Operations Technology (OT) networks designed with circularity in mind. The outcome includes saving power and the ability to increase Enel’s renewable energy hosting capacity by several gigawatts.

One of the biggest sustainability challenges that organizations face is not having access to data to measure and monitor their sustainability performance. The ability to monitor and control asset performance enables organizations to meet sustainability goals while also driving positive business outcomes by using energy more efficiently and reducing energy costs ([IDC white paper](#)).¹⁰



¹⁰ [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value, Document Number: Cisco-WP-US50609223-Final, May 2023, Page 15.](#)

Align with internal stakeholders

- Collaborate closely with your sustainability champions, such as the CSO and/or environmental leaders, C-suite, and other key stakeholders to embed sustainability into every function of the business.
- Help IT get a seat at the table. For a sustainable technology strategy to be successful, IT must be brought into the sustainability conversation in the earliest stages of strategy formulation. IT must also be empowered to develop a plan that aligns with the long-term sustainability goals of the organization ([IDC white paper](#)).¹¹
- Work in a cross-functional manner with operations departments to drive your corporate sustainability strategy. Close coordination and alignment between IT and OT is critical for organizations to achieve energy optimization and other sustainability goals. IT-OT alignment and cooperation is also a best practice that can support other important business outcomes, including operational efficiency, productivity, and cybersecurity.
- Conduct a sustainability materiality assessment in partnership with your organization's leadership. Collectively identify sustainability issues that have

the most material impact on the business. This assessment will help inform you as to what should be measured over time to assess performance against goals ([IDC white paper](#)).¹² Assess the effectiveness of your sustainability efforts and learn best practices by taking IDC's Sustainability Maturity Assessment.¹³

- Once sustainability goals and targets have been set, continuous engagement with all teams involved in the corporate sustainability mission is essential. Functional and department leads can help reinforce the corporate message and empower their teams to take responsibility for meeting sustainability goals ([IDC white paper](#)).¹⁴ Continuously realign and readjust strategies across the organization to help accelerate the achievement of sustainability goals.

Once the materiality assessment is complete, it is important to work closely with internal stakeholders to develop a short-term, mid-term, and long-term roadmap to plan how your IT department can begin its own sustainability journey, while supporting the organization's operations in becoming sustainable as well, moving beyond silos.

¹¹ [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value, Document Number: Cisco-WP-US50609223-Final, May 2023, Page 9.](#)

¹² [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value, Document Number: Cisco-WP-US50609223-Final, May 2023, Page 19.](#)

¹³ [IDC Sustainability Maturity Assessment, Sponsored by Cisco, Are You Prepared to Drive Business Value Through Your Sustainability Initiatives?, 2023.](#)

¹⁴ [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value, Document Number: Cisco-WP-US50609223-Final, May 2023, Page 24.](#)

Execute the program!

There are two key areas where your team can impact your organization's sustainability journey from the baseline level to the goals set: IT and OT. You will be responsible not only for reducing IT's energy consumption, but also for supporting operations to achieve your organization's overall sustainability goals. The [IDC white paper](#)¹⁵ reported that 78% of organizations that are considered pioneers in sustainability believe that investments in IT are critical to their sustainability success, and they are investing in tools and technologies to support their transformation.

Per the recent [IDC white paper](#),¹⁶ the market is seeing increasing demand for energy management solutions to address several energy-specific use cases, especially for energy-intensive industries such as manufacturing. This could drive increased IT investments in areas such as smart facilities/buildings, smart lighting, smart meters, and data center modernization.



¹⁵ [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value, Document Number: Cisco-WP-US50609223-Final, May 2023, Page 22.](#)

¹⁶ [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value, Document Number: Cisco-WP-US50609223-Final, May 2023, Page 15.](#)

- Execute the program: IT for IT
 - Start with what you know. Accelerate modernization of infrastructure and systems that you own. Leveraging new-generation hardware and software can most likely help reduce emissions and lower costs in the long run compared to legacy systems.
 - Leverage real-time energy management platforms for visibility into IT energy consumption and emissions.
 - Develop an integrated platform for sustainability reporting, both internally and externally. According to Deloitte,¹⁷ setting up sustainability data management systems may require CIOs to develop new processes for automating sustainability data collection, aggregation, analysis, and reporting, and for collaborating with partners.
 - Roll out sustainable and circular IT procurement strategies, and engage in vendor programs that can help accelerate your journey. Per the [IDC white paper](#),¹⁸ 40% of surveyed organizations cited expertise in improving IT energy efficiency as the most important vendor capability.
 - Consider an as-a-service model to optimize and right-size your IT environment.
- Focus on making your data centers more sustainable. For example, Cisco IT developed a five-part framework for aligning with and supporting the company's sustainability goals and initiatives. The framework was applied to the company's data center consolidation program. Between 2016 and 2022, Cisco reduced its data centers from 26 to 16 (including 3 colocation facilities)—a 38% decrease—and achieved a 40% reduction in data center power capacity, from 29.3 MW to 17.6 MW. Learn more in [Cisco's data center white paper](#).
- Assess how to use cloud environments in your operations.

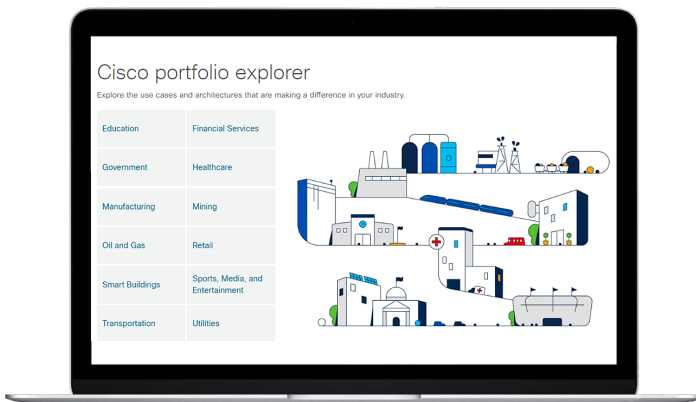
Cisco has circular programs in place to facilitate [product returns for reuse and recycling](#). We also offer comprehensive service and repair, and remanufacturing of used equipment for sale through [Cisco® Refresh](#).

Cisco has set a goal for 100% of new Cisco products and packaging to incorporate [circular design](#) principles by our fiscal year 2025. We also offer a variety of funding options to help accelerate customer sustainability programs, such as [Country Digital Acceleration \(CDA\)](#) and [Cisco Green Pay](#).

¹⁷ [Deloitte, The CIO's Call to Action: Driving an Environmentally Sustainable Tech Agenda to Accelerate Organizational Change](#), by John Peto, John Mennel, Shay Eliaz, and Anjali Shaikh, May 18, 2022.

¹⁸ [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value](#), Document Number: Cisco-WP-US50609223-Final, May 2023, Page 23.

- Execute the program: IT for OT
 - Work closely with operations functions to identify their areas of focus and use cases for achieving sustainability goals. IT/OT integration is a key factor in enabling visibility into operations and supporting implementation of sustainability solutions.
 - Enable implementation of operations sustainability use cases and solutions. For example, many transportation organizations are planning to accelerate adoption of electric fleets and implementation of EV charging infrastructure in the near future. Also, many energy-intensive industries such as manufacturing are focusing on driving energy efficiency and reducing energy consumption, water use, and waste.
 - Focus on how your teams can help accelerate and scale next-generation technologies to benefit your organization, customers, or constituents—such as renewable energy adoption, smart buildings, IoT solutions, and remote operations.
 - Invest in partner ecosystems specializing in operations to accelerate your sustainability journey. Some of the key operations partners include Schneider Electric¹⁹ and Honeywell for smart buildings and EV charging infrastructure and [Rockwell Automation](#) for water consumption visibility and leak detection. Cisco has strategic alliances with these partners to support high-impact sustainability solutions.



[Cisco Industry Portfolio Explorer](#)

Cisco offers relevant industry sustainability use cases for utilities, manufacturing, transportation, retail, healthcare, government, financial services, and other industries, which can be viewed in [Portfolio Explorer](#).

Example use cases include [EV charging infrastructure](#), [distributed energy resources](#), [distribution automation](#), [advanced metering infrastructure](#), [Supervisory Control And Data Acquisition \(SCADA\) system modernization](#), [leak detection](#), [sustainable manufacturing facility solutions](#), and [smart buildings](#) and facilities.

¹⁹[Sustainable Buildings Made Possible by Cisco and Schneider Electric.](#)

What's next...

As you build your sustainability strategy and move toward becoming a **pioneer**²⁰ in sustainability, continue to look for opportunities to innovate, create business value, and reevaluate goals. As highlighted in a new Gartner²¹ research report, IT leaders shouldn't just respond to stakeholder and regulatory pressures, but should use them as an opportunity to proactively champion change to discover new growth opportunities, such as the innovation or adoption of new products and business models.



²⁰ [IDC White Paper, Sponsored by Cisco, Sustainability: From Compliance and Risk Management to Creating Business Value, Document Number: Cisco-WP-US50609223-Final, May 2023, Page 4.](#)

²¹ [Network World, Data Center Sustainability Becoming The Norm, Not The Exception, by Jon Gold, May 3, 2023.](#)

Highlight of a Cisco sustainability case study

In a world driven by connection and collaboration, what we know as the “traditional office space” falls short of its potential. Smart buildings are quickly becoming the workplace of the future, revolutionizing the way we work and interact while we are in the office. Whether building from scratch or reimagining an existing office, these spaces are being equipped with the newest technologies and systems that support sustainability, optimize energy efficiency, enhance productivity, and improve overall employee experience.

Cisco recently overhauled its New York City office, [Penn1](#), and its [Atlanta](#) office, both purpose-built with sustainability in mind, for the world of hybrid work. In these spaces, sustainability building principles,

Cisco collaboration technology, and hybrid work principles are combined to create intuitive and inviting workspaces. As Chuck Robbins, Cisco Chair and CEO, has [said](#), “We want people coming in because the office is a magnet, not a mandate.”

The vision for the Penn1 and Atlanta offices was to design sustainable smart buildings with creative hybrid workplaces—prioritizing employee well-being as well as using technology to make the buildings as energy efficient as possible. This goal was accomplished by reimagining the office space, with technology being treated as a fourth utility (along with water, gas, and power) and integrated into every step.

Cisco office rebuilds include the following impactful outcomes:

- Reduced energy consumption and costs
- Improved user experience
- Safety and compliance
- Real estate utilization
- Automation and optimization



[Cisco Spaces](#) provides insights to help reduce energy consumption and increase occupancy utilization in smart buildings.

With a framework that boasts technology at the forefront, including Cisco [Catalyst™ 9000 switching](#), [access points](#), and [90W Power over Ethernet \(PoE\)](#) technology, combined with [Cisco Spaces](#), [Webex collaboration tools](#), [Meraki® cameras](#), and Igor, Molex, and Mecho PoE lighting, shades, sensors, and controls, Cisco has created a unique workspace that encourages collaboration and provides an enhanced user experience.

With sustainability as a top priority for Cisco, we were able to achieve LEED certifications²² (Gold at Penn1 and Platinum in Atlanta) and are pursuing WELL certifications²³ for our showcase office buildings.

At Penn1, Cisco realized a 39% reduction in energy consumption in April 2022, compared to the legacy model using bulk energy consumption in April 2019. This is possible because of the smart building retrofit that connects dynamic occupancy and a PoE design to office systems. The Penn1 office also uses the OT network to capture occupancy to provide data and commands for HVAC, lighting, and window shades. In the Atlanta office, connected components and data sets deliver constant insights to help optimize energy consumption.

The outcome is office environments that transcend the ordinary, elevating sustainability, productivity, and well-being.



²² [LEED Rating System](#).

²³ [WELL v2](#).

Cisco's sustainability journey

Cisco's purpose is to [Power an Inclusive Future for All](#), and that includes a deep focus on maintaining a livable planet. At Cisco, we are leveraging our scale and innovation to help ensure that our increasingly digital future is sustainable, inclusive, and resilient. We are doing this by reducing emissions across our operations, supply chain, and products; continuing to source more renewable energy; and helping customers and communities reduce their environmental impacts and adapt to a changing world. We are also embracing [hybrid work](#), embedding sustainability and [circular economy](#) principles across our business, and helping to address issues such as water scarcity, waste, pollution, and biodiversity. Cisco has established a goal of reaching [net zero GHG emissions across our value chain by 2040](#). Our net zero goal is approved by the Science Based Targets initiative (SBTi) under its new Net Zero Standard, the world's first framework for corporate net zero target setting in line with climate science.

Cisco sits at the unique intersection of innovation and purpose. This allows us to innovate with organizations' sustainability goals in mind. We empower IT with solutions to enable more efficient data centers, smart buildings, and connected industry experiences. We do this by helping organizations improve energy and resource efficiency and optimize their energy consumption by enabling real-time energy visibility and insights. Our solutions can also help enable renewable energy and electrification across industries at scale and deliver sustainable lifecycle management through programs aimed at reducing GHG emissions, from technology installation to end of life.

We have been partnering with CIOs and CSOs in multiple industries, from manufacturing, utilities, and transportation to financial services, healthcare, education, and retail, to help implement solutions that are available today, as well as to co-innovate and leverage [CDA](#) funding program to accelerate the deployment of sustainability solutions.

“The science behind achieving net zero and the journey it will take to achieve it are both complex and evolving. But the reason for doing it is simple: our future depends on it.”

Mary de Wysocki
Cisco's Chief Sustainability Officer

Learn more

When it comes to climate action and the energy crisis, time is of the essence. Even with long-term net zero goals such as 2040 or 2050, it is important to start and innovate now. Technology will play a role in assisting companies through their sustainability transformation. IT leaders have an opportunity to reimagine their networks to provide a robust platform, for both IT and operations, that supports the organization's journey to net zero.

The key action for CIOs is to start partnering with their CSOs/environmental leaders, OT and line of business leaders, and other key stakeholders in their organizations as soon as possible, and to prioritize solutions that enable their short-term, mid-term, and long-term sustainability goals. Digital technologies can help optimize systems and processes and create value at every stage of the net zero lifecycle.

In a converged digital net zero world, the network becomes a critical enabler. The volumes of data required to capture, monitor, measure, and report on progress toward net zero place additional requirements on advanced networks. This is to ensure that data can be collected, analyzed, and secured, and that it can enable automation.

Cisco is ready to partner with you in this crucial challenge. For more information on Cisco's sustainability goals, technology, and solutions, please visit the following. Between meeting human needs and a sustainable future, there is a bridge.

- [Cisco Environmental Sustainability](#)
- [Cisco ESG Reporting Hub](#)
- [Sustainability in Cisco solutions](#)
- IDC Sustainability Maturity Assessment²⁴



²⁴ [IDC Sustainability Maturity Assessment, Sponsored by Cisco, Are You Prepared to Drive Business Value Through Your Sustainability Initiatives?, 2023.](#)