





Table of contents

01

The Context

Communications Service Providers' (CSPs') place in remedying the climate crisis 02

The Roles

Sustainability Stewards 03

Actions

Foundations of Stewardship

04

Conclusion

Quick glossary of emission terms

Scope 1 Emissions

Carbon emissions that are directly controlled by the company, such as a company's facilities in terms of its running and operational functions.

Scope 2 Emissions

Carbon emissions that are created indirectly by an organization's energy use, for example those generated by a power plant that supplies energy to a telco.

Scope 3 Emissions

Carbon emissions that come from a company's supply chain such as those created during the manufacturing of a mobile phone.

Scope 4 Emissions

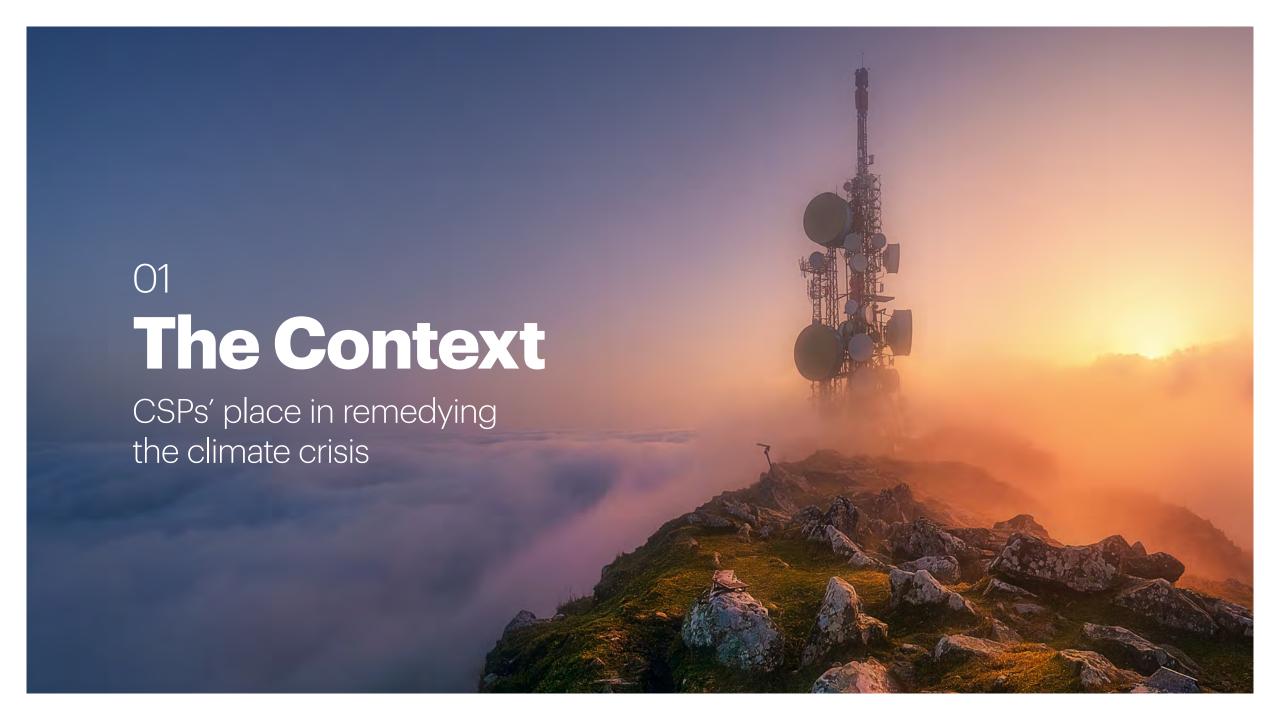
Carbon emissions that consumers can avoid producing through the use of a particular product or service, for example emissions avoided through using the internet to work from home. While not formally in the Greenhouse Gas (GHG) protocol, Scope 4 emissions have become increasingly common among organizations to understand their potential impact outside of their direct and indirect operational boundaries.

Net Zero

A state of balance between emissions by sources and removals by sinks of greenhouse gases. A company can achieve "net zero" emissions when it reduces greenhouse gas emissions as much as possible and ensures that any ongoing emissions that cannot be avoided are balanced by removals.

Carbon Neutrality

When a company is in a net zero carbon dioxide emission state, often achieved by balancing their emission creation with removal or elimination of emissions downstream.

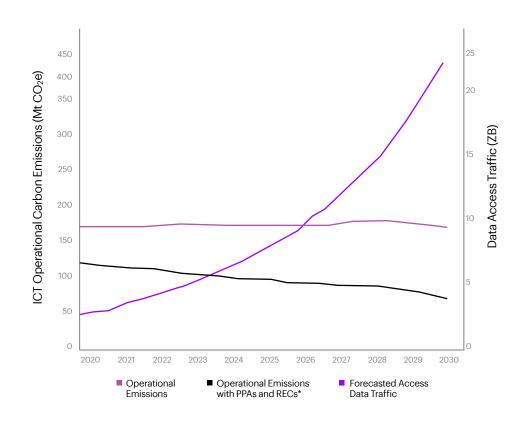


The very nature of CSPs' business places them at the center of a paradox. They are simultaneously creators and champions of a new efficiency paradigm powering innovation and new solutions, and the gatekeepers of a massive rise in energy usage through rapidly expanding data consumption across new devices. Communication Service Providers' (CSPs) ubiquitous presence with enterprises across industries, billions of customers, and thousands of supplier puts them at the epicenter of commerce and everyday life. This provides a valuable opportunity for them to address the challenges of climate change.

Consider, for example, social media surfing. The sustainability solutions provider Greenspector estimated in 2021 that a typical social media surfer using an internet search provider (ISP) network generates the equivalent of 60 kilograms of carbon dioxide ($\rm CO_2$) emissions a year by surfing the 10 most popular social media apps. This is about the same amount as a 535km car trip. When extrapolated across the market of 4.3bn global mobile users, the total is equivalent to 262 million metric tons of $\rm CO_2$ emissions annually, the report calculated—or slightly more than the total yearly emissions generated in Spain.

In research conducted with British Telecom,² Accenture forecast that despite an 8x increase in data traffic, operational emissions from the information and communications technology (ICT) sector could remain flat, and if the potential impact of Power Purchasing Agreements (PPAs) and Renewable Energy Certificates (RECs) are included, operational emissions across mobile networks, fixed networks, and data centers could decrease by nearly 40% by 2030.

Figure 1
Forecasted ICT Operational Carbon Emissions and Access Data Traffic



As concern over climate change's lasting impact intensifies, CSPs need to tackle this double-edged dilemma: How can they take action to accelerate their transition to a more sustainable future, and use their position to build a net zero global economy?

Through Accenture's proprietary research and experience working with CSPs worldwide, we have identified three environmental stewardship roles CSPs can embrace to greatly reduce CO₂ emissions while maintaining profits and driving growth for their organizations. They can be **Sustainability Leaders**, who set an example for their internal and external stakeholders; **Ecosystem Enablers**, who set new standards for peers and influence infrastructure; or **Consumer Champions**, who influence consumer behavior through products and services. These roles are not mutually exclusive; in fact, each role kickstarts the next so CSPs can embody all three roles over time.



By adopting these roles, CSPs can solidify their position at the forefront of environmental leadership. Innovation and commitment are key to building a sustainable global society, as well as driving profitable revenue growth and business services. Through showcasing their efforts to reduce CO₂ emissions in their day-to-day operations and delivering products, services, and guidance to address sustainability more broadly, these actions help position the communications industry as the standard-bearer.

The business case for sustainable stewardship

To meet their abatement visions and increase the momentum toward sustainability targets,³ CSPs should embrace their role. CSPs will not only be helping themselves and the environment, they will also help position the telecommunications sector as a major source of sustainability transformation and innovation.

The twin transformation

A 2020 Accenture study of 4,050 senior executives across industries found that companies pursuing a simultaneous "twin transformation" of digital and sustainability goals are two-and-a-half times more likely than other firms to be among tomorrow's strongest-performing businesses (Figure 2).⁴ By addressing digital and sustainability transformation simultaneously, bold CSP executives will define what is possible and lead in the market.



Designing for sustainable outcomes, Siemens is investing in simulation and digital twin technology to optimize the environmental performance of its products and services throughout the lifecycle. Digital twins not only enable products to be conceived, simulated, and manufactured faster than in the past, but also to be designed with a view of improved economics, performance, robustness, and environmental compatibility.

Siemens has declared simulation and digital twins to be Company Core Technology, aiming not only to benefit from applying the technology, but also making a decisive contribution to shaping it. Siemens revenue from its Environmental Portfolio – consisting of products, systems, solutions, and services that enable energy efficiency and renewable energy – was €38.4 billion in FY2019, or 44% of the company's total revenue. Environmental Portfolio elements installed in fiscal 2019 enabled users to mitigate their GHG emissions by 48 million metric tons of CO₂e.⁵

Many CSPs have already commenced their digital transformation. By embracing Accenture's environmental 'stewardship roles': actions that introspectively address their own operations, laterally influence their supply chain, and externally impact their enterprise and commercial consumers, they can complete the second half of the twin.

Likelihood of being among Tomorrow's Leaders

Odds ratio for Tomorrow's Leaders between companies as pioneers for sustainable transformation, technology adoption, and of both, versus those meeting none of these criteria.

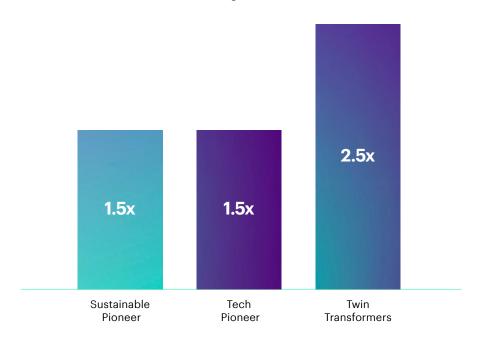


Figure 2 "Twin transformation" companies outperform other firms

Source: Accenture CEO Survey, All respondents (N-4050), North America



The Sustainability Leader

The Sustainability Leader sets bold ambitions for environmental sustainability as part of both its business strategy and operations, investing and innovating to meet aggressive, personalized targets while setting an example for peers.

These companies set bold environmental goals, invest in sustainable infrastructure and tools, and create new ways of working and products geared towards sustainability. Environmentally, their initiatives cover Scopes 1, 2, and 3 emissions, while addressing corporate Return on Investment (ROI) through lower energy cost, efficiency, and modern infrastructure plays. It also includes product innovation and circular economy principles to lower planetary impact and identify new revenue streams such as new, upcycled products or business-to-business (B2B) electric vehicle plays.



Sustainability Leadership in action:

Comcast, the multi-national telecommunications conglomerate drives sustainability across its businesses with continued emphasis on identifying new opportunities to lower emissions across its operations, invest in innovative technology, and support causes aligned with its sustainable agenda. Comcast Cable has partnered with Echo Environmental on a first-of-its kind recycling solution for coaxial cables which will recycle 70% of Comcast's cables and coax waste each year throughout this partnership.⁶

Likewise, **Sky** has invested over £25 million in innovations to end the devastating flow of plastic into the sea, across the world.⁷



Sustainability Leaders set ambitious emission reduction goals based on operational demands, projected growth, and past performance. They also enhance their credibility by certifying these goals through external organizations, such as the Science-based Target Initiative (SBTi), to formalize their commitments and ensure further transparency. Leaders define concrete action plans to pursue their goals, while investing in operational improvements and tracking their progress with definitive metrics, often employing dashboard solutions to monitor sustainability key performance indicators (KPIs).

These initiatives
are opportunities to
simultaneously achieve
their environmental goals,
reach net zero economics,
and contribute to
overall profitability.



Many CSPs have found this role as the natural starting point in their sustainability journey. While creating individual sustainability goals, efforts in sustainable operations and investments have had tangible results and impact the entire industry.

An Accenture analysis of public announcements from more than two dozen CSPs globally found that each reported their Scope 1 and 2 emissions, and several were committed to reductions in these areas.



T-Mobile has committed to using solely renewable energy sources and strives to reduce energy costs by about \$100 million in the next 15 years, with long-term renewable energy purchase agreements.⁸



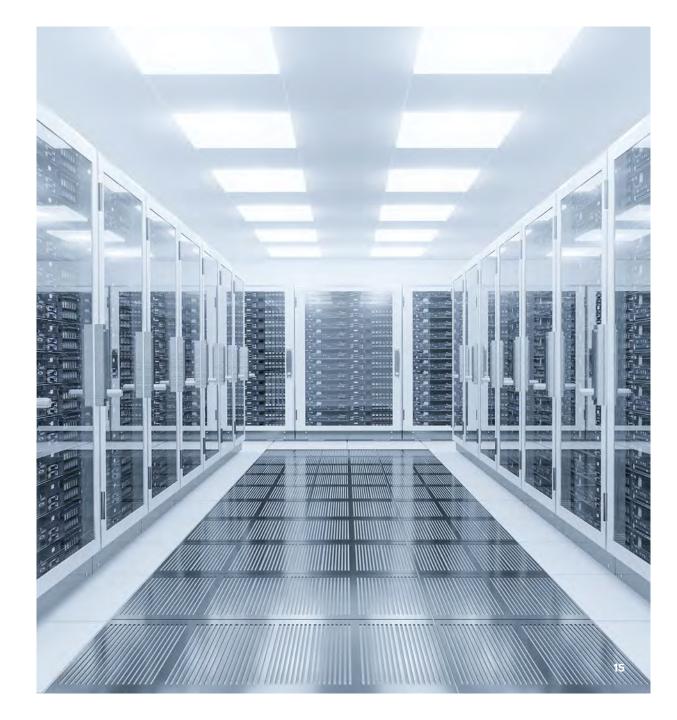
Vodafone has committed to reaching net zero emissions across their full value chain by 2040 and is implementing circular economy principles to reuse, resell, or recycle 100% of their network waste by 2025.9



Telstra has realized early benefits by using carbon-neutral operations in 2020 and 2021, including sizable improvements in energy efficiency, e-waste recycling, and Scope 2 emissions.¹⁰ As of this paper's publication, these companies are using the some of the most progressive methods available to reduce carbon emissions from their operations and help ensure their products and services reflect their sustainability goals. Many have shifted their IT and network systems to cloud-based models to lessen operational redundancies, optimize performance and elasticity, and use renewable energy sources as much as possible. Accenture's Journey to Cloud solution clients, for example, combine cloud-based technology with their environmental goals, helping enable a 'Green Cloud' approach that delivers sustainability, cost, agility, and consumer ROIs.

Embedded Sustainability

Sustainability Leadership for CSPs is about setting a bold ambition for carbon reduction and executing aggressively through continuous integration of climate considerations into their products and services across their lines of business. For example, in addition to adopting cloud technology, a CSP might direct focus on reducing energy consumption, enabling proactive network monitoring and maintenance with artificial intelligence, minimizing new material usage through circular economy principles, and expanding the use of renewable energy.



There are five ways that Sustainability Leaders in the Communications industry can transform their businesses:

01

Network sustainability and plant management

CSPs can use predictive analytics and other advanced tools to optimize energy usage and consolidate network assets strategically by retiring legacy, low-efficiency components, and transitioning to renewable energy sources. For example, the Radio Access Network (RAN) can play a valuable role in this transition to lower emissions in network operations. Nokia has estimated that its Intelligent RAN management system can reduce radio network energy consumption by up to 15%.¹¹

02

Network resiliency

Supporting overall sustainability by reducing down-time in the network, resiliency initiatives make a significant contribution to emissions reductions and can take many forms, such as transitioning back-up energy sources from diesel to batteries. Since extreme weather is a growing stressor globally, optimizing Artificial Intelligence (AI) enables CSPs to qualify the impact of extreme weather risk on network assets, plan the potential response to weather risk, and proactively hardening the network. These steps are integral, actionable steps.

03

Operations

Facility retrofits and upgrades can increase efficiency; combined with renewable energy sources, this can make a sizeable dent in emissions. Companies can install or retrofit facilities with enhanced heating, ventilation, and air-conditioning systems to ensure they are aligned to the standards set by Leadership in Energy and Environmental Design (LEED), a certification program started in 1994. They can also decarbonize their supply chain by adopting environmental standards and values as required criteria for selecting suppliers.

04

Fleet and logistics

Sustainable fleet and logistics management goes beyond switching to electric or lower-emission vehicles (EV). It includes optimizing the workforce and logistics by using AI to plot smart routes, reduce truck journeys, and optimize fleet use. Advanced technologies can also be used to reduce idling time for fleet vehicles, recommend EV driving routes to maximize re-charge, and optimize volume-weight ratios.

05

Enabling employees to pursue sustainability

A sustainable company must initiate a full-scale culture shift across the business. Training and other enablement efforts can go beyond worker education by empowering individuals to be corporate sustainability advocates and ignite innovation incentives. For example, when training product leaders and designers on sustainability, organizations can challenge their teams to embrace a circular economy mindset¹² to re-imagine their products and packaging to reduce the use of raw material wherever possible. Internal initiatives and training can create momentum towards greater innovation and lower emissions, cementing their stewardship role as a Sustainability Leader.

Sustainability Leaders face the environmental, social, governance (ESG) challenge with a different attitude than most. They go beyond approaching sustainability in terms of risk management or quick wins. Instead, they see it as an opportunity to simultaneously achieve environmental goals and to drive profit through reduced costs and increased revenues.

Several forward-thinking global CSPs are proving themselves as cross-industry leaders given their position to influence downstream industries¹³ in several ways, including:



Implementing critical innovations such as network cloudification



Adopting energy-efficient network technologies such as 5G and Open-RAN, a collaborative effort among CSPs and equipment makers to expand RAN access



Applying advanced data storage protocols such as improving the relationship between cloud and network-edge cloud Together, these changes can yield positive results for the telecommunications business today and lay the critical foundation for integrated sustainability.

These technologies, paired with stakeholder and consumer pressure, place CSPs as leaders in the push toward a sustainable future.

The Ecosystem Enabler

Ecosystem Enabler stewardship for CSPs reduces emissions across the value chain, and helps partners and adjacent industries to innovate and develop new sustainable products and services.

Their focus extends beyond in-house emissions to product and service downstream emissions (Scope 3) and further opportunities for carbon abatement (Scope 4). Ecosystem Enablers further develop the business need for responsible business by implementing sustainable standards and requirements for their vendors, partners, and peers. Moreover, they capitalize on sustainable impact on a far larger scale: technical innovation in connectivity and ICT services, when implemented with the environment in mind, can change the world's energy consumption habits.



Ecosystem Enablement in action:

Telstra recently implemented supplier sustainability requirements to better manage their value chain and downstream emissions. In this request, Telstra partnered with Accenture as their supplier to proactively define the environmental impact that Accenture services for Telstra have. Leveraging external and internal environmental data, along with Telstra specific project information, Accenture was able to calculate the carbon footprint associated with relevant facilities, travel, hotels, and other significant emissions sources to provide a detailed estimate of the carbon intensity of the services it provides to Telstra by location and resource. Through this collaboration. Accenture identified several opportunities to continue to reduce emissions associated with delivery. This is largely possible due to Accenture's commitment to the use of 100 per cent renewable energy at all its facilities by the end of 2023.¹⁴

North American telecommunications consortiums Cellular Telecommunications Internet Association (CTIA)¹⁵ and Canadian Wireless Telecommunication Association (CWTA)¹⁶ asked Accenture to analyze and estimate the carbon abatement potential beyond their core member services across five cross-industry groupings. These studies identified the 5G had the potential to address 20% of the US carbon abatement target by 2025 and 23% of Canada's 2030 emissions reduction goal, respectively. This helped identify sustainable opportunities throughout their ecosystem for innovative

partnerships and co-investment opportunities.





Ecosystem Enablers look beyond their operations and products and across a diverse set of partners, peer and adjacent industries, and suppliers in their ecosystems. They take the lead in pushing sustainability measures across their spheres of influence and with their peers, going beyond regulatory and shareholder requirements to deliver broader value across partners and cross-industry. Importantly, they evaluate and collaboratively enhance the social and environmental impact of their products and services across their broader ecosystem.

This role requires a CSP to not only consider its organization, operations, and products but go further to assess goals and targets for its partners, suppliers, and other industries within its sphere of influence; like partnering with utilities in a "dig once" approach or collaborating on their transition from diesel generators to clean energy solutions. These goals permeate across the organization, down to all lines of business, including (but not limited to) supply chain and procurement teams.

Supplier emissions and sustainability

Many CSPs are assessing the footprints of their suppliers and considering their reported targets and emissions as part of supplier selection. AT&T, for example, is working to ensure that at least half of its suppliers have set their own 2024 emissions targets, and others, including Telenor and Verizon, are using outside ratings agencies like EcoVadis to judge the sustainability standards of their suppliers. These leaders are recognizing that beyond the environmental benefits, helping suppliers improve their operations enables a robust ecosystem and strengthens CSPs' resilience against external disruptions.

The progress made on ecosystem goals, such as achieving more supply chain diversity or enabling cross-industry innovation, must be monitored and reviewed regularly. While immediate measures offer quick results, invested

CSPs need close collaboration over an extended period to achieve optimal impact and truly transform the company into a sustainable business.

Beyond the sustainability impacts, there are additional benefits to reducing risks along the supply chain: cost efficiencies, greater resiliency, and supplier consolidation are among the biggest. Numerous geopolitical factors are also impacting consumer device production and delivery schedules. Meanwhile, socially, activists and consumers are enacting boycotts or forsaking once-trusted brands to push for transparency in labor and environmental practices along supply chains. These external pressures compounded by the need to address sustainability, urge CSPs to invest

and make sustainable changes throughout their organization.

An Accenture analysis of CSPs found that while most disclose emissions from their own operations, products, and services, few formally reported emissions generated by their supply chains, and even fewer have publicly announced targets for their suppliers. However increasingly, companies are assessed across ESG frameworks with an overall performance score that covers supply chains, human rights standards, board diversity, and ecological impact. Companies need to develop clear internal and external communications plans that address progress on goals, industry trends, and stakeholder impact, among other topics for a cohesive company mission reflected across their business.

CSPs' wide-reaching cross-industry impact will change the world

Accenture has found that as CSPs build on their sustainability initiatives through enhanced network capabilities and fleet improvements, they create sustainable and innovative opportunities. For example, in transportation, vehicle-to-vehicle communications leveraging 5G networks implemented by CSPs can create significant sustainability and carbon abatement benefits.

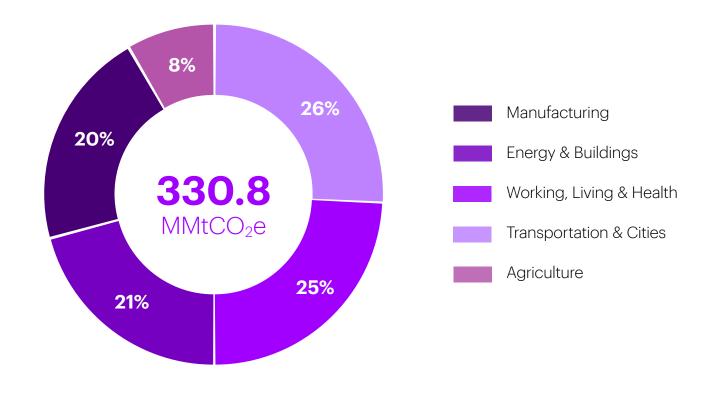
In a 2019 report, GSMA, the global trade organization for mobile operators, wrote that mobile technologies were already responsible for abating 2.1 billion tons of $\rm CO_2$ emissions in 2018—more than 10 times the global carbon footprint of mobile networks.²¹ Most of the abatement came from lower electricity, natural gas, and fuel use enabled by mobile applications.



Rolling out new technologies, such as 5G, and updating strategies for network implementation will boost CSPs' efficiencies exponentially. A study by Accenture this year found that, with use cases across five industries, 5G networks in the United States can deliver the equivalent of cutting 330.8 million metric tons of CO₂ emissions annually by 2025—an impact roughly equal to taking 71 million cars off the road.²²

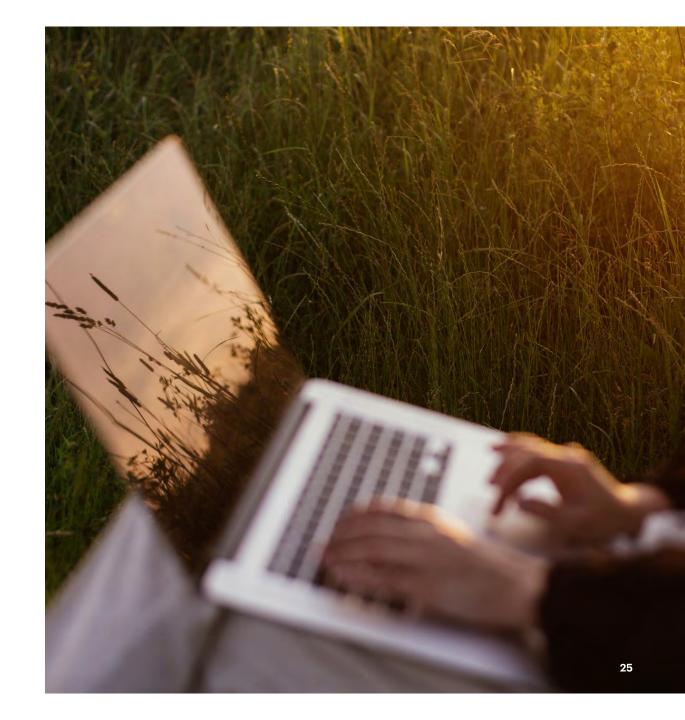
These initiatives drive sustainability results for CSPs beyond their footprints, and can help drive new revenue opportunities, and influence partners and consumers.

Figure 3
5G-Enabled Abatement Potential by Industry in 2025



In addition to efforts to reduce emissions from their operations, CSPs are expanding their efforts to reduce emissions across other sectors and industries. Three opportunities arise for CSPs as they lean into the Ecosystem Enablers role:

- Implementation of next-generation networks to better manage smart buildings, smart grid, and smart transport use cases
- Cross-industry partnerships with vehicle manufacturers, utility providers, and community leaders focused on electric vehicle charging facilities and advocating for the adoption of electric fleets and consumer vehicles
- Cooperation with media and technology companies to reduce emissions, for example working with over-the-top streaming services to identify carbon reduction opportunities such as enabling "eco-viewing" by optimizing energy to video quality by device type



The Consumer Champion

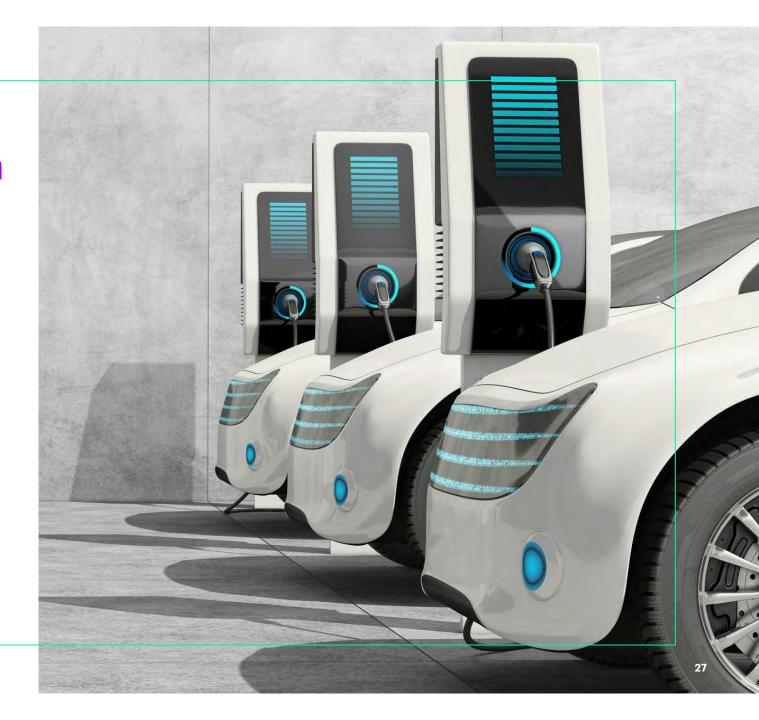
The Consumer Champion role calls on CSPs to use their influence, resources, and relationships to educate consumers of all types on the environmental impact of their activities, ways to reduce that impact, and drive improved sustainability outcomes in their communities.

CSPs' products, services, and initiatives can help support better, more informed consumer choices and can drive consumer behavior change. The role of the Consumer Champion varies by geopolitical region with tailored solutions that are community and population specific. They further drive downstream emissions reduction (Scope 3) and opportunities for carbon abatement (Scope 4) and embody the strong sustainable business benefits of brand loyalty and enhanced customer experience.



Consumer Champion in action:

In 2021, Accenture partnered with **Swisscom** to create an even more ambitious sustainability vision to drive higher impact for the company, their people, and the environment. Swisscom focused on driving net zero faster than planned, inclusive of Scope 4 abatement for customers by enabling work from home, or powering Internet of Things (IoT) solutions to optimize everything from personal and business vehicles to buildings, or a full electrical grid. Based on Accenture's recommendations, Swisscom increased its goal to reduce emissions, together with customers, by 1 million metric tons of carbon by 2025. This is the equivalent of 2% of Switzerland's greenhouse gas emissions. The recommendations were supported by bottom-up calculations and business cases that showed the goals are realistic and achievable.²³



Given the size of CSPs' consumer reach and their integration with consumer's homes and daily life, CSPs are well-positioned to influence not only their ecosystems, but also those of the consumers and communities to whom they sell their products and services.

CSP consumers include both residential and commercial customers with varied needs. For commercial consumers, CSPs may offer new and improved insight into the consumer's carbon footprint through calculated emissions reports, tailored products or service bundles that the consumer can use to reduce emissions and advice on steps businesses can take to define and shape their sustainability narrative. For residential consumers, CSPs may provide information on product improvements, or offer products and services for reducing energy consumption in the home, saving on resources, or managing e-waste.²⁴ CSPs should seek to partner with vendors who can offer or are open to developing far-reaching energy management strategies, favoring those partners focused on advanced functionalities bundled in their products that combine with CSP service offerings.

Educating—and enabling—consumers

Consumer Champions strive to supplement and increase their end-users' knowledge of general sustainability trends and behaviors with their own efforts to drive informed consumer decisions For example, in 2021 SoftBank Corporation deployed an Eco-Electric App that helps customers save electricity and money free of charge to their customers. Within four months, this app was used by 32,000 household participants resulting in 122 tons of CO₂ reduction and 233,237 kilowatt hours saved.²⁵ CSPs can take their impact even further by continuing to create tools that enable and empower consumers to lower their emissions. For example, continued working from home post the COVID-19 pandemic can have a significant impact on global emissions and CSPs can provide connectivity services and related tools that make this a continuing option for people. For example, if 30 million additional people worked from home, emissions could be reduced by 75-100 million metric tons of CO₂ by

2030, roughly equivalent to the yearly emissions of Sweden and Finland combined.²⁶ This type of input should be considered by employers against their sustainability goals when defining their return-to-work plans.



By identifying synergies between their customers' sustainability interests and their offerings, CSPs can deliver impact, drive the sustainability agenda, and strengthen their customer relationships. For example, mobile phones are up to 80% recyclable with the average UK household owning 2-3 unused devices.²⁷ Creating e-waste programs for consumers helps them to responsibly dispose of old technology like mobile phones, advance the company's sustainability agenda, and make consumers' lives easier. In 2020, Liberty Global refurbished 2.1M consumer units avoiding approximately 3.5 metric tons of e-waste.²⁸ By anticipating consumer needs, CSPs can promote the sustainability benefits of their products and services and provide innovative solutions, particularly around energy and costs savings.

Companies that work toward net zero in internal processes will find more opportunities to turn sustainability efforts and goals into new products and services for their end-users. Through the multiplier effect, CSPs that embrace new sustainable capabilities and emerging industry expertise to help customers reduce carbon emissions and energy consumption that can have an impact on overall sustainability far beyond their internal efforts.

Primary objectives of Consumer Champions are to educate customers on how the products and services they use impact the environment, provide ways to help reduce this impact, and additional tips and tricks to drive sustainable habits in daily life.

Four opportunities for CSPs as consumer leaders:



Educate consumers on product innovation and enhancements that lead to a more sustainable digital experience



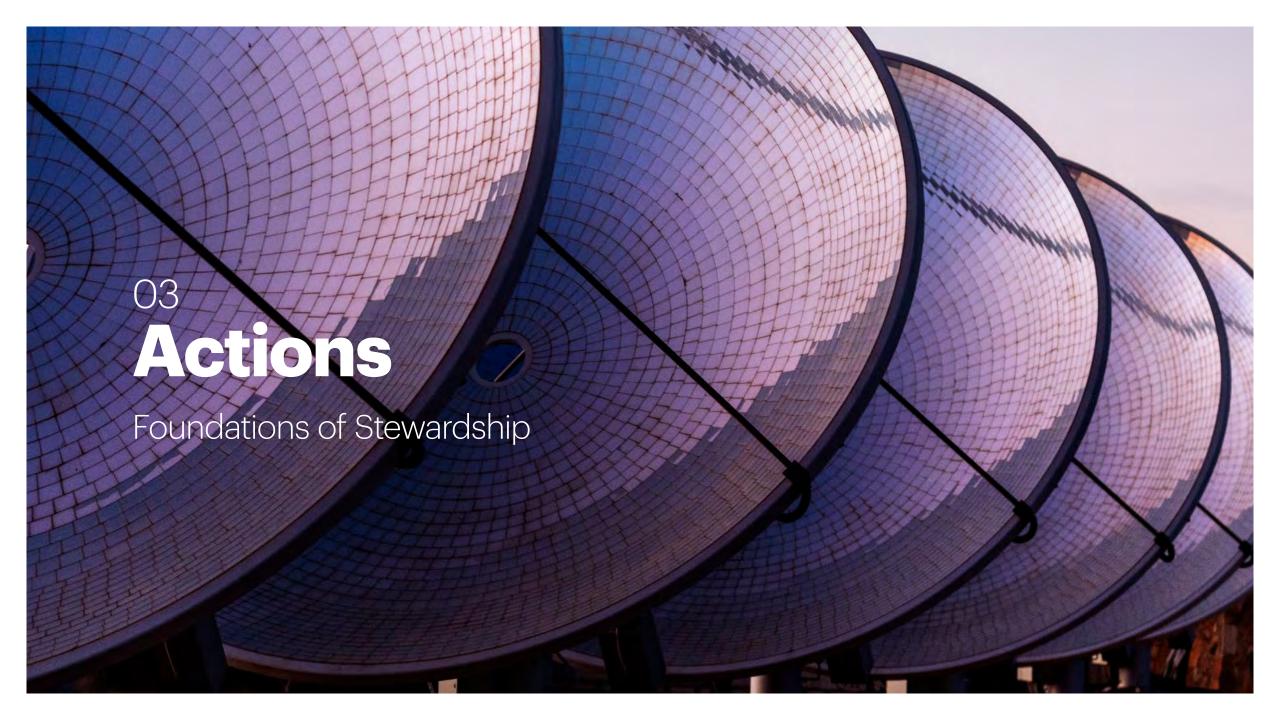
Share information and enablement campaigns on the sustainable impact of remote and hybrid work



Advocate and enable home energy management using easy tools or reward programs



Engage with users on device end-of-life management and e-waste



The sustainability journey follows a path much like digital transformation—both are disruptive forces that require companies to adapt. CSPs that pursue sustainability quickly have the chance to define the new space and build advantages before slow-moving peers even get started.

There is no one-size-fits-all solution for a sustainable CSP, and solutions must be tailored based on the opportunity, existing capabilities, and supporting infrastructure. It also must be a comprehensive cultural shift within the organization. Tactically, Accenture's experience and research suggest three investment areas and two new ways of working for CSPs preparing for sustainable stewardship.

Invest in

Energy management

Investment in consolidated data-driven tools that can provide a holistic view of energy sources, pricing, and utilization. These tools also generate insights about the overall organization of the network, network operating expenses, and help find opportunities to integrate more renewables, remedy inefficiencies, and optimize buying schemes

Operations and hardware

Strategic investment in newer, more efficient chips, network infrastructure, and other materials (when necessary) integrating sustainability into daily business decisions

Circular economy and supply chain optimization

Investment in products, procurement, innovation, and supply chain to infuse sustainability in the full lifecycle of a product

Find new ways to work in

Organization, Processes and Reporting

Many CSPs have convened some form of internal leadership on sustainability. Sustainability initiatives are driving profitability in the core business: 29% of CEOs report sustainability is driving cost savings today (SBTi), 29 and firms that have adopted environmental standards have experienced a 16% increase in productivity. 30 These internal leaders focus on building new capabilities around sustainability, and guiding and offering teams ongoing support during the process. They also champion investments in the right tools, data management, and enterprise processes necessary to boost sustainability so the workforce is equipped to implement change. Sustainability metrics need to be engrained into overall business metrics, like net subscribers, to become a core tenet of a company. A pragmatic, widely visible sustainability change management roadmap, aligned with CSPs' emission reduction long term plan, drives change, as does quarterly accountability.

Innovation

As organizations recognize savings, new investments increase; as employees learn more about sustainability, new ideas grow; and as tools and data tracking investments mature, new opportunities are identified. Sustainability innovation is driving benefits for the core business: 63% of CEOs who report setting science-based targets say it is driving innovation in their companies (SBTi).³¹ A sustainably oriented approach to creative development and problem solving will continuously drive new ways to change practices, processes, and products and services to move a company closer to or even beyond the net zero goalpost.

Many CSPs have already begun efforts to reduce their carbon footprints and through their products and services, have supported broader sustainability achievements. Leveraging their experience, core capabilities, and growth ambitions, CSPs can continue the momentum toward a truly sustainable model for themselves, their partners, consumers, and communities. This requires putting sustainability at the forefront of daily business and investment strategy, as well as adapting their KPIs.

When sustainability is part of internal performance metrics, it becomes an important factor in business decisions, such as new product initiatives, decisions on legacy equipment, and investor reporting. Creating a tight operational link with a quarterly or monthly cadence between sustainability and enterprise KPIs clarifies how to allocate capital towards the company's sustainability targets.





The rapid shift toward sustainability presents a tremendous opportunity for CSPs to play a critical role in achieving global net zero ambitions. With their vast networks of suppliers and customers, CSPs are in a unique position to inspire and lead change that reaches well beyond emission reductions secured by their own internal operations.

We're at a critical point in time for CSPs to build and amplify their sustainability programs. Change is an imperative for business growth and long-lasting opportunities. Following the definitive, actionable steps Accenture takes with our own clients. CSPs will find themselves primed to assume the role of Sustainability Leader, Ecosystem Enabler, and Consumer **Champion**. These roles are not exclusive and. indeed, are best pursued together, with success in one spilling over into supporting the others. The progress companies make is good for sustainable business and good for a sustainable environmental future. By growing into stewards of the industry, CSPs around the world will build their core business, deepen customer relationships, and position themselves for sustainable innovation in the future, driving the environmental impacts we need now.



Executive Sponsors



Albert TanGlobal Sustainability Lead,
Communications & Media



Lauren IngManaging Director, Accenture
Strategy, Sustainability

Authors



Jonathan WeitzManaging Director, Accenture Strategy,
North America



Monica KurokiDirector, Accenture Strategy, Sustainability,
United Kingdom and Ireland



Mark Flynn
Global Research Lead,
Communications & Media

Contributors



Gagan Gupta
Principal Director, Capability Network,
Accenture Strategy & Consulting



Ajesh SinghManager, Capability Network, Accenture
Strategy & Consulting



Kiran RaikarConsultant, Capability Network,
Accenture Strategy & Consulting



Marta Krysa
Analyst, Capability Network, Accenture
Strategy & Consulting

References

- 1 What is the environmental footprint for social media applications? 2021 Edition, Greenspector blog, 2021. https://greenspector.com/en/social-media-2021/
- **2** Harnessing data to empower a sustainable future, Accenture, 2021. https://www.accenture.com/_acnmedia/PDF-164/Accenture-BT-ThoughtLeadershipReport2021-FINAL.pdf
- **3** Mobile sector declares climate action breakthrough, Race to Zero, 2021. https://racetozero.unfccc.int/mobile-sector-breakthrough/
- **4** The European Double Up: A twin strategy that will strengthen competitiveness, Accenture, 2020. https://www.accenture.com/_acnmedia/PDF-144/Accenture-The-European-Double-Up.pdf
- **5** Net Zero is the 'what' but technology with purpose will drive the 'how,' Siemens, 2021. https://new.siemens.com/global/en/company/stories/infrastructure/2021/net-zero-carbon-technology-with-purpose-sustainability-apacregion.html
- 6 Comcast Partners with Echo Environmental on First-of-its-Kind Recycling Solution for Coaxial Cables, Comcast, 2022. https://corporate.com/press/releases/comcast-echo-environmental-industry-first-recycling-solution-coaxial-cables#:~:text=Echo%20Environmental's%20first%2Dof%2Dits,and%20coax%20waste%-20each%20year
- **7** Accelerating ideas to solve the ocean plastic crisis, Sky Ocean Ventures, 2021. https://www.skygroup.sky/skyoceanventures
- 8 Magenta Goes Green: T-Mobile Commits to 100% Renewable Energy, T-Mobile, 2018. https://www.t-mobile.com/news/press/tmobile-commits-renewable-energy
- **9** Tackling climate change and creating a greener, connected future, Vodafone, 2020. https://newscentre.vodafone.co.uk/viewpoint/tackling-climate-change-and-creating-a-greener-more-connected-future/

- 10 How we went carbon neutral, Telstra Exchange, 2020. https://exchange.telstra.com.au/carbon-neutral/
- 11 Zero emission: Building zero-emission radio access networks, Nokia. https://www.nokia.com/networks/topic/zero-emission/
- 12 The Shift, the role of telcos in the circular economy, Telia, https://www.teliacompany.com/globalassets/teliacompany/documents/sustainability/the-shift---the-role-of-telcos-in-the-circular-economy.pdf
- **13, 15, 20** 5G Connectivity: A key enabling technology to meet America's climate change goals, CTIA, https://api.ctia.org/wp-content/uploads/2022/01/5G-Connectivity-A-Key-Enabling-Technology-to-meet-Americas-Climate-Change-Goals-2022-01-24.pdf
- **14** Bigger Picture 2021 Sustainability Report, Telstra, 2021. https://lu0b5867gsn1ez16a1p2vcj1-wpengine.netdna-ssl.com/wp-content/uploads/2021/09/Telstras-Bigger-Picture-2021-Sustainability-Report-1.pdf
- **16** Accelerating 5G in Canada: The Role of 5G in the Fight Against Climate Change, Accenture and CWTA, 2020. https://www.cwta.ca/wp-content/uploads/2020/10/5G_Role_In_Fight_Against_Climate_Change.pdf
- 17 Greenhouse Gas Emissions | AT&T Social Responsibility, AT&T. https://about.att.com/csr/home/reporting/issue-brief/greenhouse-gas-emissions.html
- **18** Supplier monitoring and risk mitigation, Telenor. https://www.telenor.com/sustainability/responsible-business/supply-chain-sustainability/supplier-monitoring-and-risk-mitigation/
- **19** Human Capital: Supply Chain | Verizon 2019 Environmental, Social And Governance (ESG) Report. Verizon, 2022, https://www.verizon.com/about/sites/default/files/esg-report/2019/social/human-capital/supply-chain.html

References

- 21 The Enablement Effect: The impact of mobile communications technologies on carbon emission reductions, GSMA, 2019. https://www.gsma.com/betterfuture/wp-content/uploads/2019/12/GSMA_Enablement_Effect.pdf
- 22 5G Connectivity: A key enabling technology to meet America's climate change goals, CTIA, https://api.ctia.org/wp-content/uploads/2022/01/5G-Connectivity-A-Key-Enabling-Technology-to-meet-Americas-Climate-Change-Goals-2022-01-24.pdf
- 23 Swisscom doubles its environmental ambition, Accenture, 2022. https://www.accenture.com/th-en/case-studies/communications-media/swisscom-doubles-environmental-ambition
- **24, 26** Green ICT Technologies: how they can help mitigate the effects of Climate Change, ITA, https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/Documents/ICTCC_Session_7_Green%20ICT%20 Technologies%20V4.pdf
- **25** "Eco-Denki App", an App for Saving Electricity and Money in a Game-like Way Wins "SDGs Special Award" in MCPC award in 2021,SB Power Corp, https://www.sbpower.co.jp/news/pdf/20211126_01_en.pdf
- **27** Brits have 55,000,000 unused mobile phones lying around, research finds, Metro, 2020. https://metro.co.uk/2020/11/26/brits-have-55000000-unused-mobile-phones-lying-around-research-says-13657334/
- 28 Liberty Global Corporate Responsibility Report 2020, Liberty Global, https://www.libertyglobal.com/wp-content/uploads/2021/07/Liberty-Global-2020-Corporate-Responsibility-Report.pdf
- **29, 31** Galvin, Dexter, Six Business Benefits Of Setting Science-Based Targets. http://sciencebasedtargets.org/blog/six-business-benefits-of-setting-science-based-targets.
- **30** Delmas, Magali A., and Sanja Pekovic. "Environmental Standards And Labor Productivity: Understanding The Mechanisms That Sustain Sustainability". Journal Of Organizational Behavior, vol 34, no. 2, 2012, pp. 230-252. Wiley, https://doi.org/10.1002/job.1827

About Accenture

Accenture is a global professional services company with leading capabilities in digital, cloud and security. Combining unmatched experience and specialized skills across more than 40 industries, we offer Strategy and Consulting, Interactive, Technology and Operations services — all powered by the world's largest network of Advanced Technology and Intelligent Operations centers. Our 674,000 people deliver on the promise of technology and human ingenuity every day, serving clients in more than 120 countries. We embrace the power of change to create value and shared success for our clients, people, shareholders, partners and communities.

Visit us at www.accenture.com

Copyright © 2022 Accenture. All rights reserved.

Accenture and its logo are trademarks of Accenture.

About Accenture Research

Accenture Research shapes trends and creates data-driven insights about the most pressing issues global organizations face. Combining the power of innovative research techniques with a deep understanding of our clients' industries, our team of 300 researchers and analysts spans 20 countries and publishes hundreds of reports, articles and points of view every year. Our thought-provoking research—supported by proprietary data and partnerships with leading organizations, such as MIT and Harvard—guides our innovations and allows us to transform theories and fresh ideas into real-world solutions for our clients. For more information,

visit www.accenture.com/research

This document makes descriptive reference to trademarks that may be owned by others. The use of such trademarks herein is not an assertion of ownership of such trademarks by Accenture and is not intended to represent or imply the existence of an association between Accenture and the lawful owners of such trademarks.