

EVALUATING THE TELECOM INDUSTRY'S SUSTAINABILITY POTENTIAL



**WORLD
BROADBAND**
ASSOCIATION

This second installment in the World Broadband Association's (WBBA) Sustainability White Paper series analyzes and conceptualizes the telecom industry's contribution to sustainability through the lens of the UN SDGs, a set of global goals that provide a framework for collective action to address global sustainability challenges.



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CONTENTS

Summary	4
Introduction	5
UN SDGs in the telco and broadband context.....	6
Incentives for investing in SDGs	12
Measuring UN SDGs and sustainability progress.....	16
Regional approaches to UN SDGs adoption.....	17
Conclusions and recommendations.....	22
Appendix.....	23

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SUMMARY

KEY FINDINGS

Embracing sustainability as a core element of corporate strategy offers great potential for the telecom industry, enabling companies to mitigate risks, improve operational efficiencies, enhance their reputation, access capital, and drive innovation. Though environmental sustainability is often the primary focus for telecom operators, it is increasingly important to also consider two other aspects of sustainable development: social and economic sustainability.

The UN Sustainable Development Goals (UN SDGs) provide a framework for governments, businesses, and civil society to work together to address global sustainability challenges in delivering progress toward the goals of the 2030 Agenda for Sustainable Development. In recent years, an increasing number of telecom operators have begun integrating UN SDGs in their corporate strategies and sustainability agendas, aligning internal strategic initiatives with UN SDGs and measuring impact and progress toward delivery of these goals.

To evaluate telecom operators' level of commitment to sustainability, key incentives for investing in and adopting UN SDGs, and the regional differences in approaches to sustainability, the Sustainability Working Group of the World Broadband Association (WBBA) conducted a survey of leading telecom service providers and vendors, which we complemented with additional research and a review of leading telecom providers' sustainability reporting. Some of the key findings are listed below:

- There remain big differences in terms of maturity of adoption of sustainability strategies across the industry: 68% of participants in the WBBA sustainability survey indicated that their organization has a well-defined sustainability strategy with strong governance mechanisms, but a third responded that they are either only in the process of developing a strategy or that they do not plan on doing so in the next two years. Though many companies, particularly in the mature telecom markets of Europe, Oceania, and North America, have already developed robust strategies, others (mostly in developing markets) are only starting to evaluate their approach.
- UN SDG 13 – Climate action and UN SDG 9 – Industry, innovation, and infrastructure are the core SDGs that resonate with the industry and are mentioned consistently across telco sustainability reporting. Other widely mentioned SDGs that organizations made a public commitment to support are UN SDG 5 – Gender equality and UN SDG 12 – Responsible consumption and production.
- The vast majority of companies view sustainability goals as being aligned with one or more of their wider company goals. The most common link is with customer satisfaction goals (96% agree or somewhat agree), followed by risk management goals (91% agree or somewhat agree) and revenue generation goals (87% agree or somewhat agree).
- When they were asked about the main benefits of having a well-defined sustainability strategy, most participants (77%) in the WBBA survey identified contributing to reducing the environmental impact of the industry on the planet as the main benefit. Increased customer and employee loyalty was the second most recognized benefit with 59%, and half of participants listed improving social conditions for people in markets where their company operates, such as eliminating the digital divide and promoting equality and diversity, among the key sustainability benefits.

RECOMMENDATIONS

- **Align business strategy with sustainability strategy.** A successful sustainability strategy must be integrated into the telecom operator's core business strategy and decision-making processes, and sustainability goals need to be aligned with the company's vision, mission, and values.
- **Setting ambitious targets is important, but they also need to be standardized across the industry.** Establish measurable targets and KPIs that are aligned with the relevant UN SDGs. Set specific goals related to environmental impact, social inclusion, and economic growth and regularly track and report progress. Adopting and aligning the UN SDGs is a start in the right direction, but the industry should work together on developing and promoting a standardized sustainability reporting framework and unified metrics that will be specific to the telecom industry.

- **Engage stakeholders and collaborate with partners.** Actively engage with stakeholders, including customers, employees, suppliers, local communities, and regulators. Seek their input, involve them in decision-making processes, and communicate transparently about sustainability initiatives and progress. Foster partnerships and collaborations with industry peers, governments, NGOs, and other stakeholders to share best practices, drive innovation, and address sustainability challenges collectively.
- **Promote a responsible supply chain.** Telecom operators can only do so much within their organizations, but inevitably the success of their sustainability strategy will depend on their supply chain. Telcos therefore need to adopt responsible supply chain practices by selecting suppliers that adhere to ethical and sustainable standards. They also need to assess and manage environmental and social risks within the supply chain.
- **Empower employees.** Foster a culture of sustainability within the organization by providing training, education, and awareness programs for employees. Empower and involve employees in sustainability initiatives, encouraging their participation and ideas.

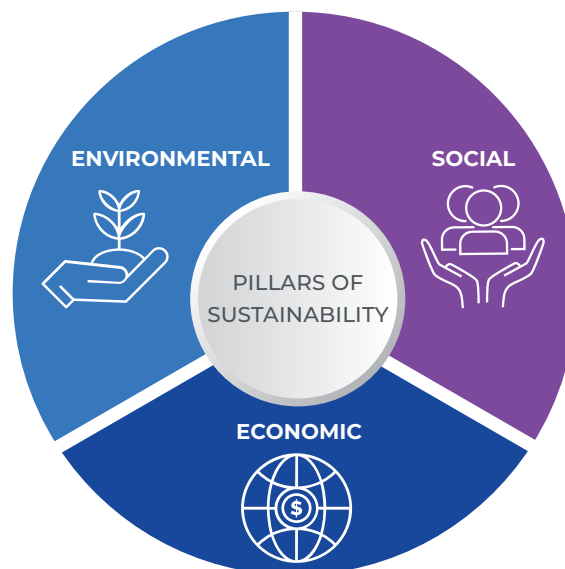
INTRODUCTION

Over the last few years, sustainability has become front and center in telecom network operators' and service providers' business strategies. Finding ways to meet the current and future demands of customers for high-speed internet and communication services, while also minimizing their damaging impact on the environment and society, is essential for service providers' ability to respond to the challenges of the rapidly changing world. A well-defined and operationalized sustainability strategy can help service providers remain relevant and in tune with their customers' needs and preferences, comply with increased regulatory pressures, and get ahead of competition.

In practical terms, this means that service providers are looking to implement strategies that reduce their carbon footprint, such as using renewable energy sources, reducing energy consumption in their networks, and promoting energy-efficient devices to their customers. Service providers are also increasingly considering the social impact of their activities, promoting digital inclusion, and providing affordable and accessible services to underserved communities. Additionally, they are also considering the ethical and social implications of their supply chains, for example, ensuring that their products are manufactured under fair labor conditions and that their suppliers meet certain environmental and social standards.

In general, there are three key aspects of sustainability: environmental, social, and economic. All of them are relevant to service providers' operations and profits:

FIGURE 1: THE THREE PILLARS OF SUSTAINABILITY



SOURCE: OMDIA

- **Environmental sustainability:** Telecom operators consume a significant amount of energy to power their networks and data centers, and this contributes to greenhouse gas (GHG) emissions and climate change. Therefore, environmental sustainability is a key consideration for the telecom industry. Service providers can promote environmental sustainability by investing in renewable energy, reducing energy consumption, and promoting responsible waste management practices. They can also promote the use of telecommuting and remote working, which can reduce commuting-related carbon emissions. The topic of the importance of environmental sustainability in telecom service provider strategy has been discussed in depth in the first WBBA sustainability white paper.¹
- **Social sustainability:** Telecom network operators and service providers offer critical services that enable communication and access to information for people all over the world. Social sustainability is therefore an important consideration for the telecom industry, and companies can promote it by ensuring that their networks and services are accessible to all, regardless of income or location. They can also promote digital literacy and inclusion to ensure that everyone can choose to participate in the digital economy.
- **Economic sustainability:** The telecom industry is a major contributor to the global economy. Economic sustainability is therefore an important consideration for the industry. Telecom operators can promote economic sustainability by investing in infrastructure development, promoting innovation, and creating jobs. They can also promote responsible business practices, such as ethical sourcing and supply chain management, to ensure that their operations are sustainable in the long term.

Overall, the three pillars of sustainability are interconnected and interdependent, and all are important considerations for the telecom industry and for the broadband industry specifically.

This second installment in the WBBA's Sustainability White Paper series analyzes and conceptualizes the telecom industry's contribution to sustainability through the lens of the UN's SDGs, a set of global goals that provide a framework for collective action to address global sustainability challenges.

For the purposes of this white paper, we have conducted a survey of leading telecom service providers and vendors, which we complemented with additional research and a review of leading telecom providers' sustainability reporting to evaluate service providers' level of commitment to sustainability, key incentives for investing in and adopting UN SDGs, and the regional differences in approaches to sustainability.

UN SDGs IN THE TELCO AND BROADBAND CONTEXT

The SDGs were adopted by the UN in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. The 17 SDGs are integrated: they recognize that action in one area will affect outcomes in others and that development must balance social, economic, and environmental sustainability. As such, the UN SDGs can be mapped against each of the three sustainability pillars as seen in **Figure 2**.

¹WBBA, "The Importance of Environmental Sustainability in Telecom Service Providers' Strategy," <https://worldbroadbandassociation.com/wp-content/uploads/2022/09/The-Importance-of-Environmental-Sustainability-in-Telecom-Service-Providers-Strategy-World-Broadband-Association-White-Paper.pdf>

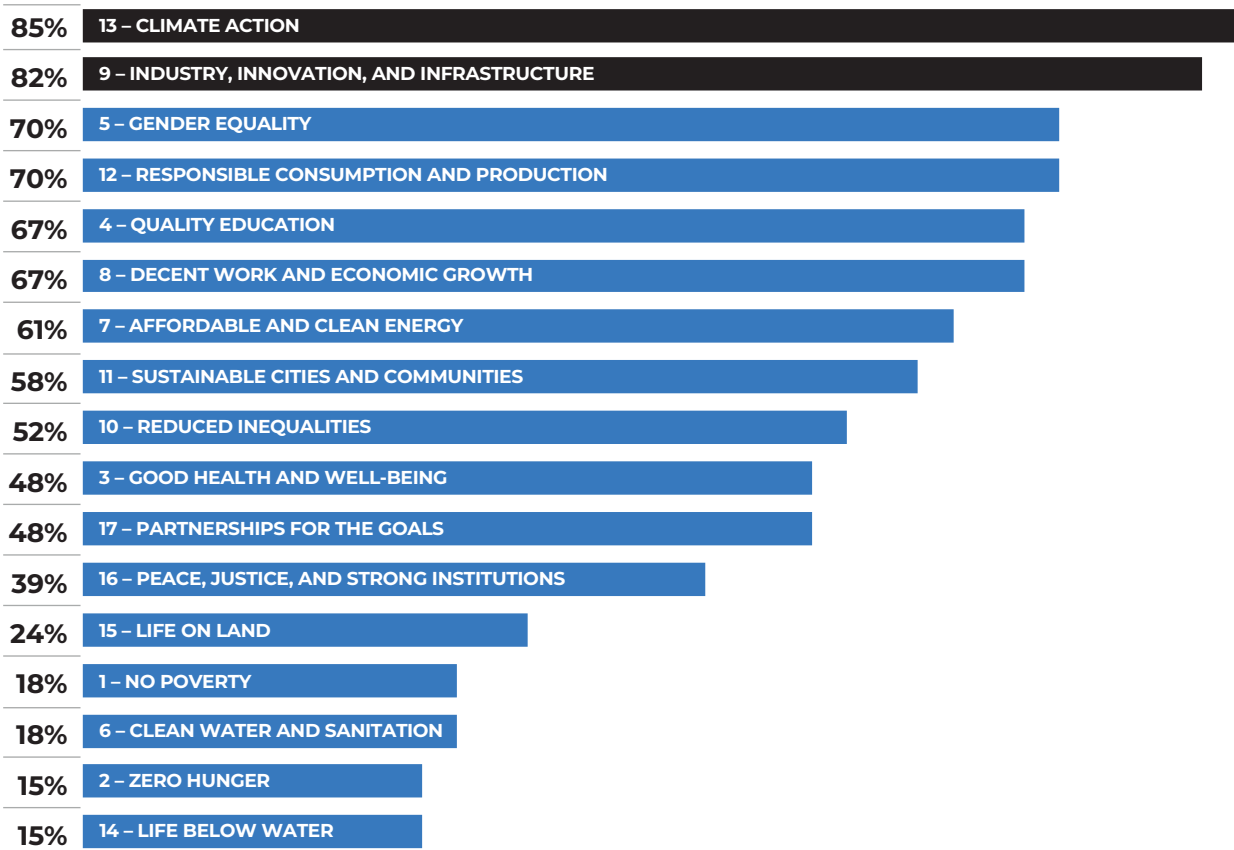
FIGURE 2: UN SDGs ENCOMPASS ENVIRONMENTAL, SOCIAL, AND ECONOMIC ISSUES

ENVIRONMENTAL		SOCIAL			ECONOMIC	
12. RESPONSIBLE CONSUMPTION & CONSTRUCTION 	13. CLIMATE ACTION 	1. NO POVERTY 	2. ZERO HUNGER 	3. GOOD HEALTH & WELL-BEING 	7. AFFORDABLE & CLEAN ENERGY 	8. DECENT WORK & ECONOMIC GROWTH
14. LIFE BELOW WATER 	15. LIFE ON LAND 	4. QUALITY EDUCATION 	5. GENDER EQUALITY 	6. CLEAN WATER & SANITATION 	9. INDUSTRY, INNOVATION, INFRASTRUCTURE 	17. PARTNERSHIPS FOR THE GOALS
		10. REDUCED INEQUALITIES 	11. SUSTAINABLE CITIES & COMMUNITIES 	16. PEACE, JUSTICE, & STRONG INSTITUTION 		

SOURCE: UNITED NATIONS DEVELOPMENT PROGRAMME

While the UN SDGs provide a framework for governments, businesses, and civil society to work together to address global sustainability challenges, the adoption of individual SDGs in telecom industry sustainability initiatives is not consistent and varies significantly company by company.

FIGURE 3: UN SDGs IN SELECT TELECOM INDUSTRY PLAYERS' STRATEGIES



SOURCE: OMDIA, WBBA SUSTAINABILITY SURVEY

Clearly, UN SDG 13 – Climate action and UN SDG 9 – Industry, innovation, and infrastructure are the core SDGs that resonate with the industry and are mentioned consistently across telco sustainability reporting. Other widely mentioned SDGs that organizations have made a public commitment to support were UN SDG 5 – Gender equality and UN SDG 12 – Responsible consumption and production. On the other hand, UN SDG 2 – Zero hunger and UN SDG 14 – Life below water were mentioned by only a handful of telcos.

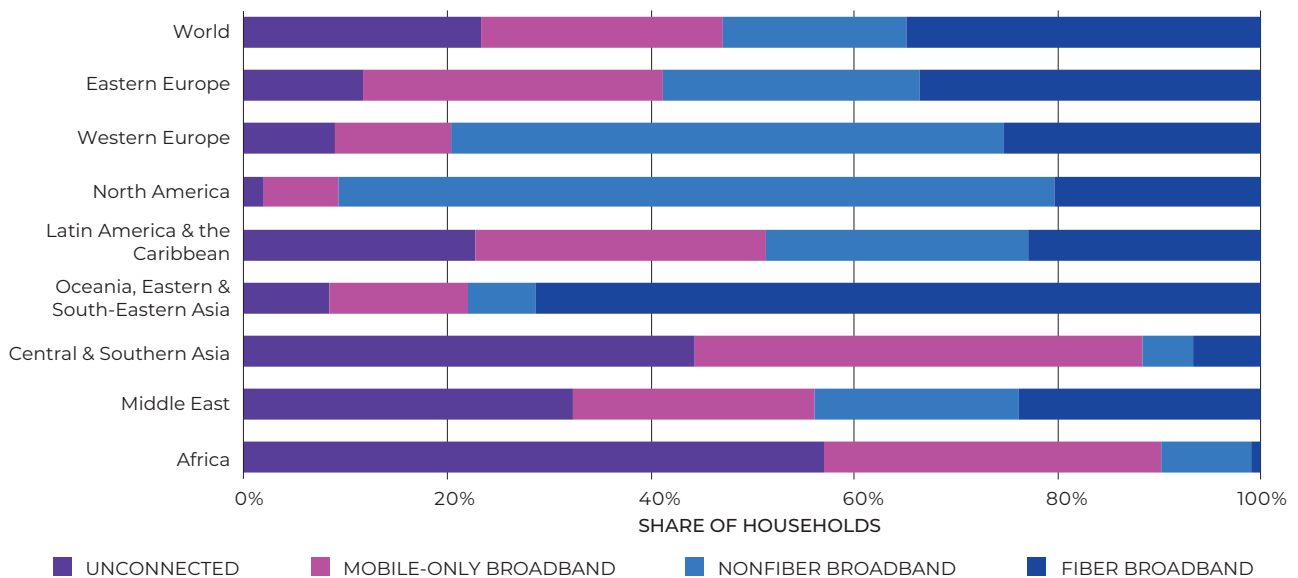
Both UN SDG 13 – Climate action and UN SDG 9 – Industry, innovation, and infrastructure rely on the telecom industry to provide the necessary digital solutions, which are key to creating a low-carbon economy across a vast range of sectors and to the development of resilient infrastructure that will enable further economic growth and societal progress.

DIGITAL INCLUSION AS AN OVERARCHING AREA FOR TELCO SUSTAINABILITY

Another key area, highlighted by most players, is digital inclusion and closing the digital divide. Many companies increasingly focus not just on expanding their network coverage but also on initiatives to improve digital skills and make connectivity more affordable for disadvantaged groups.

With a third of the global population currently not connected to any type of (fixed or mobile) broadband service and stark differences among regions, promoting strategies aimed at closing the digital divide is essential for the telco industry.

FIGURE 4: CONNECTED-HOUSEHOLD PENETRATION BY REGION, 2022



SOURCE: OMDIA

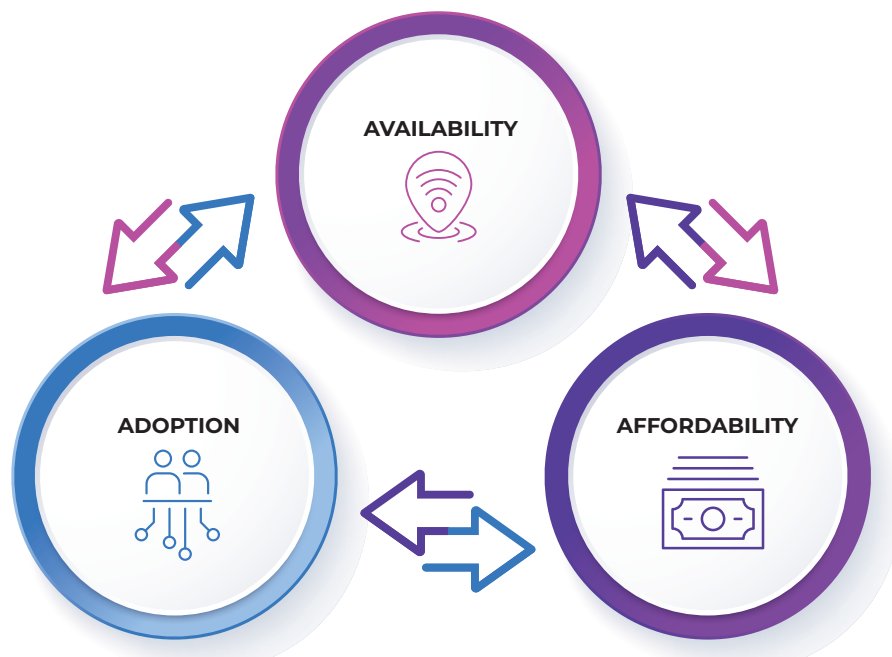
However, providing access to reliable, high-speed broadband internet is only one part of the digital-divide puzzle. The broader challenge of digital inclusion can be viewed in terms of three distinct though interconnected components: availability, affordability, and adoption. All three components need to be addressed in order for societies to benefit from advancing digital equity.

The achievement of availability requires not only ubiquitous access to broadband services but also the assurance that the quality and reliability of broadband connectivity is such that it can support advanced digital applications. Moreover, device availability is also crucial for people to take advantage of the opportunities presented by broadband connectivity. Upgrading existing networks and rolling out new fiber and 5G networks is, of course, front and center for telecom network operators, but schemes such as device recyclability and donations can and should be supported by service providers as well.

Yet even if broadband services and devices are available, they may not be affordable for the most disadvantaged groups. Service providers therefore need to work together with both national governments and local authorities to offer affordable internet programs that help mitigate affordability barriers.

Finally, digital exclusion is often also a result of insufficient information about the benefits that connectivity brings. Lack of digital skills and technical knowledge and a lack of trust and confidence in digital applications also add to low adoption levels among digitally marginalized groups. For this reason, access to information, technical support, and digital skills development needs to be promoted on a local level. For service providers, there may be opportunities to partner with community-based organizations and government agencies to develop new digital-equity initiatives and outreach programs.

FIGURE 5: THE COMPONENTS OF DIGITAL INCLUSION



SOURCE: OMDIA

Governments and telecom operators in different regions adopt digital inclusion strategies based on the varying levels of the digital gap. In underserved developing regions such as Africa and Central and Southern Asia, the focus is primarily on network access expansion, while in developed regions such as North America or Western Europe, the focus may be more on affordability and adoption strategies to incentivize broadband uptake.

Nevertheless, digital inclusion and eliminating the digital divide presents a great economic opportunity for both governments and the telecom industry. European Commission (EC) data indicates that a 10% increase in broadband penetration may increase GDP by 1–1.5%.² A 2022 study by the Centre for Economics and Business Research values the economic impact of digital inclusion in the UK at £12.2bn (\$15.4bn) over a 10-year period to 2032.³ And a recent report by NERA Economic Consulting in New Zealand estimated the benefit of connecting the remaining disconnected homes across New Zealand to be up to about NZ\$700m (\$425m) per year.⁴

²European Parliament (2015) "Bridging the digital divide in the EU," [www.europarl.europa.eu/RegData/etudes/BRIE/2015/573884/EPRS_BRI\(2015\)573884_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/573884/EPRS_BRI(2015)573884_EN.pdf)

³Good Things Foundation, "The economic impact of digital inclusion in the UK," www.goodthingsfoundation.org/insights/the-economic-impact-of-digital-inclusion-in-the-uk/ (accessed June 2023)

⁴NERA Consulting (2023) "The economic benefits of digital inclusion and connectivity," Spark Foundation, www.sparknz.co.nz/content/dam/SparkNZ/pdf-documents/reports/The Economic Benefits of Digital Inclusion and Connectivity.pdf (accessed June 2023)

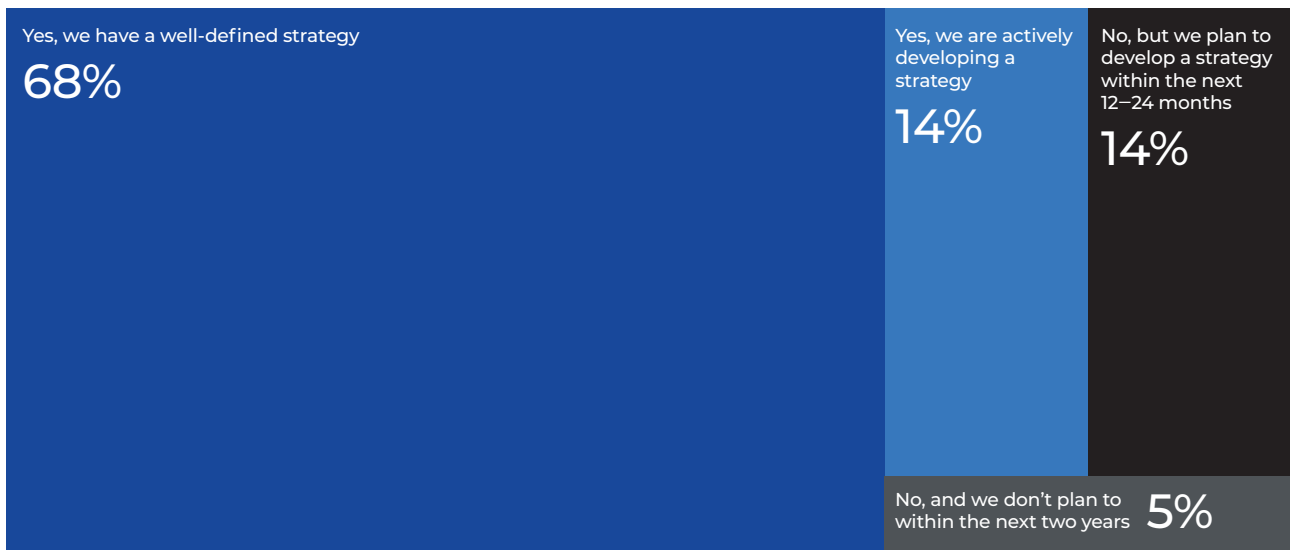
Even though digital inclusion is not explicitly listed as a separate UN SDG, the concept is embedded within the broader goals of sustainable development, acknowledging the transformative power of digital technologies in achieving social, economic, and environmental progress. This being the case, digital inclusion can be directly associated to several UN SDGs: UN SDG 4 – Quality education; UN SDG 5 – Gender equality; UN SDG 8 – Decent work and economic growth; UN SDG 9 – Industry, innovation, and infrastructure; UN SDG 10 – Reduced inequalities; and UN SDG 16 – Peace, justice, and strong institutions.

VARYING MATURITY LEVELS OF SUSTAINABILITY STRATEGIES

However, differences remain in terms of maturity of adoption of sustainability strategies across the industry. Of the 22 participants of the WBBA Sustainability survey, 68% indicated that their organization has a well-defined sustainability strategy with strong governance mechanisms, but a third responded that they are either only in the process of developing a strategy or that they do not plan on doing so in the next two years.

There is a clear regional distinction in the operationalization of sustainability strategies, corroborated by the recent study conducted by the Fiber Council Global Alliance, which showed regional and cultural differences in sustainability priorities. Europe has the highest percentage (81%) of respondents that currently have a sustainability strategy, followed by Latin America (45%), North America and Middle East & North Africa (both at 16%), and Asia & Oceania (15%).⁵

FIGURE 6: “DOES YOUR ORGANIZATION HAVE A WELL-DEFINED SUSTAINABILITY STRATEGY, WITH STRONG GOVERNANCE MECHANISMS?”

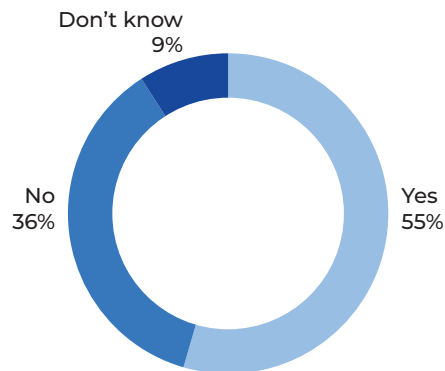


SOURCE: OMDIA, WBBA SUSTAINABILITY SURVEY

One of the signs of a mature sustainability strategy is accountability for the success of sustainable policies at management level. This is a point pertaining to the “G” in environmental, social, and governance (ESG) sustainability evaluation criteria. In the WBBA survey a little over half (54%) of respondents indicated that their organization’s C-level management compensation (salary or bonus payments) is tied to the company’s sustainability performance.

⁵FCCA (2023) “Sustainability Survey,” https://fiberbroadband.org/wp-content/uploads/2023/04/FCCA-Sustainability-Survey_March2023-final.pdf

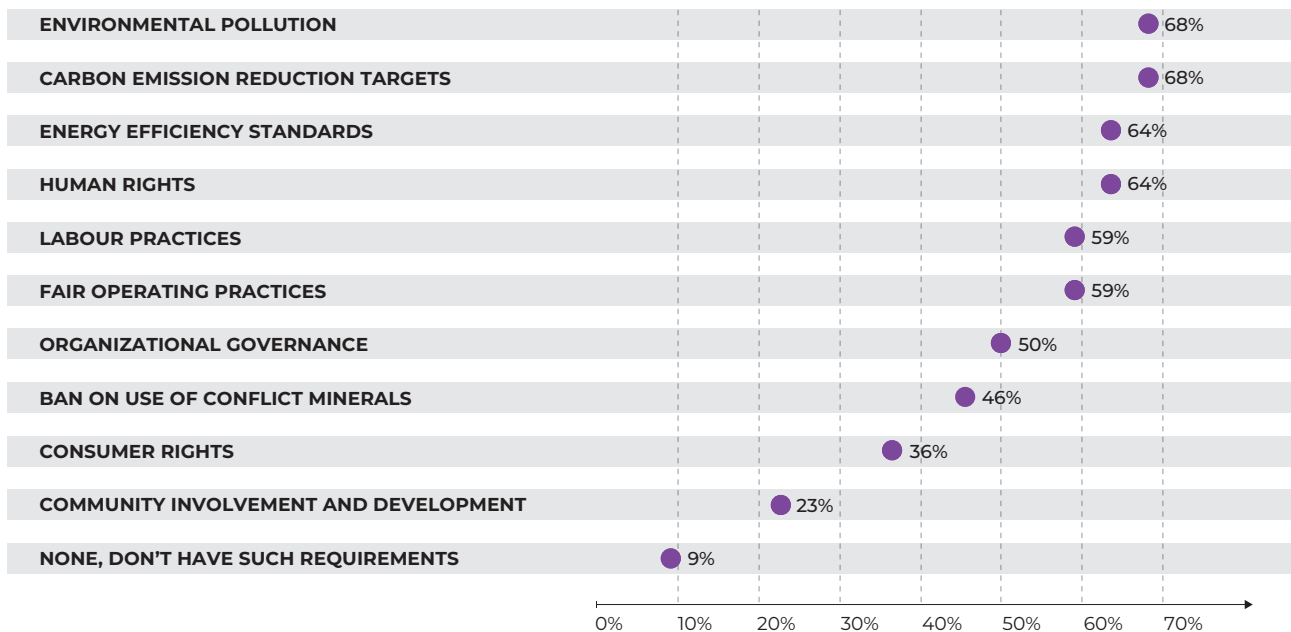
FIGURE 7: "DOES YOUR C-LEVEL MANAGEMENT HAVE SALARY/BONUS INCENTIVES TIED DIRECTLY TO YOUR COMPANY'S SUSTAINABILITY STRATEGY PERFORMANCE?"



SOURCE: OMDIA, WBBA SUSTAINABILITY SURVEY

However, telecom network operators and service providers have the ability to also influence the sustainability impact within their supply chain by incorporating sustainability-related clauses in the procurement process. Requiring suppliers to have their own sustainability standards helps drive the sustainability agenda further across the industry and promotes responsible business practices. Recognizing and acting on this responsibility points to an advanced sustainability strategy.

FIGURE 8: "WHICH OF THE FOLLOWING CLAUSES ARE INCLUDED IN YOUR PROCUREMENT POLICY?"



SOURCE: OMDIA, WBBA SUSTAINABILITY SURVEY

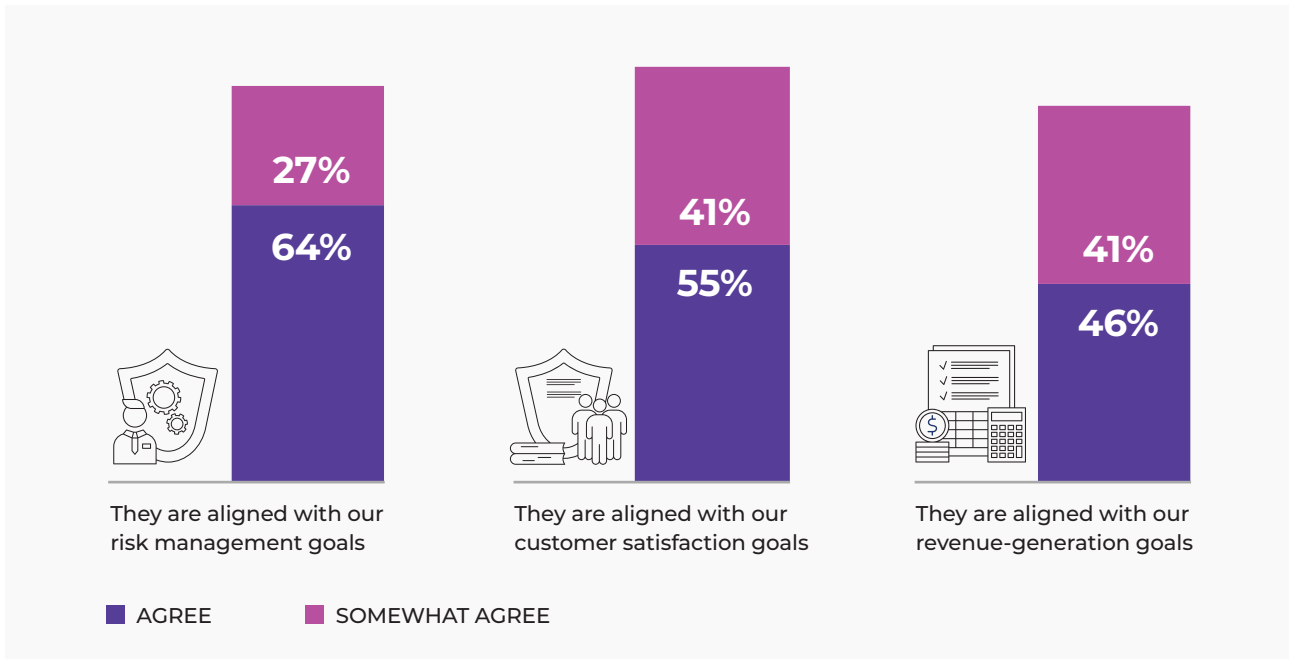
When they were asked about the particular clauses included in their company's procurement policy, most survey participants identified clauses pertaining to environmental pollution, carbon emissions, energy-efficiency standards, and human rights protection clauses.

ALIGNMENT OF SDGs WITH TELCO CORPORATE STRATEGY

Incorporating sustainability into corporate strategy presents a great opportunity for telecom service providers to demonstrate their commitment to responsible business practices, enhance their brand reputation, attract environmentally and socially conscious customers, drive operational efficiencies, and contribute to global sustainability goals.

A positive finding from our research is that the vast majority of companies view sustainability goals as aligned with one or more of their wider company goals. The most common link is with customer satisfaction goals (96% agree or somewhat agree), followed by risk management goals (91% agree or somewhat agree) and revenue-generation goals (87% agree or somewhat agree).

FIGURE 9: "TO WHAT EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS REGARDING YOUR COMPANY'S SUSTAINABILITY GOALS?"



SOURCE: OMDIA, WBBA SUSTAINABILITY SURVEY

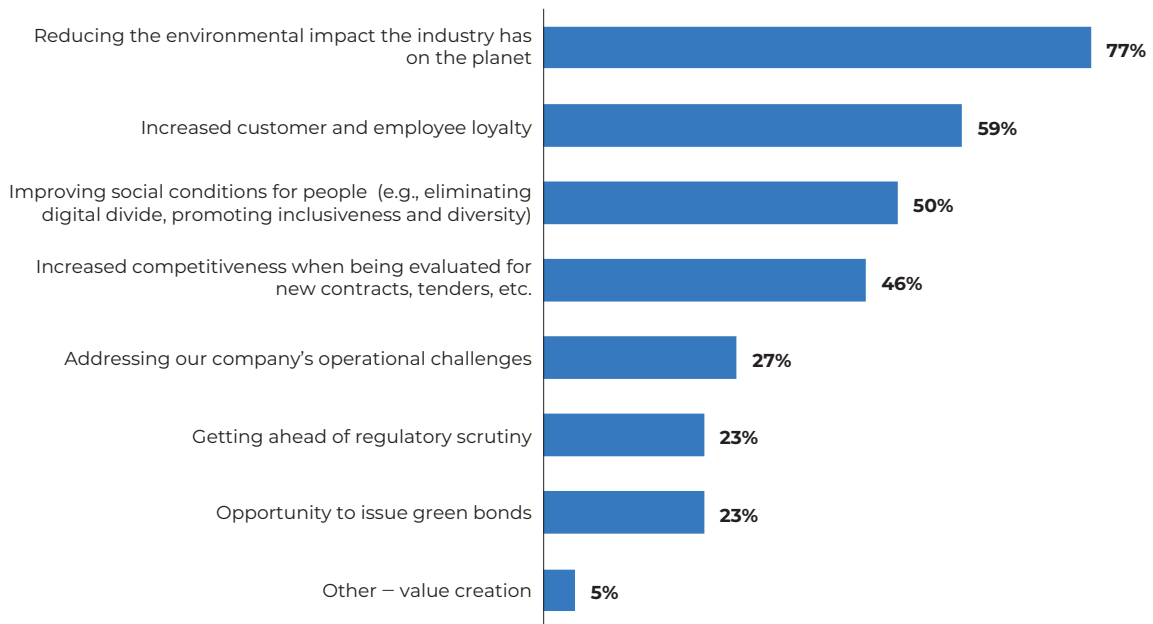
The fact that alignment with revenue generation goals has been listed as the last of the wider corporate goals shows that there needs to be more focus on promoting sustainability as a revenue-generating opportunity and raising awareness of best-practice cases across the telecom industry.

INCENTIVES FOR INVESTING IN SDGs

The industry clearly sees benefits in investing in sustainability and incorporating SDGs into wider corporate strategies. When asked about the main benefits of having a well-defined sustainability strategy, most participants (77%) in the WBBA survey identified contributing to reducing the environmental impact of the industry on the planet as the main benefit. Increased customer and employee loyalty was the second most recognized benefit with 59%, and half of participants listed improving social conditions for people in markets where their company operates, such as by eliminating the digital divide and promoting equality and diversity, among the key sustainability benefits.

Interestingly, addressing their own operational challenges and getting ahead of regulatory scrutiny ranked lower than the environmental and social benefits, suggesting that more needs to be done to tie sustainability policies and initiatives to concrete operational efficiency improvement.

FIGURE 10: "WHAT ARE THE BIGGEST BENEFITS OF HAVING A WELL-DEFINED SUSTAINABILITY STRATEGY?"



SOURCE: OMDIA, WBBA SUSTAINABILITY SURVEY

ENVIRONMENTAL IMPACT INCENTIVES

The importance of environmental sustainability in telecom service providers' strategy was discussed in detail in the first WBBA sustainability white paper (<https://worldbroadbandassociation.com/wp-content/uploads/2022/09/The-Importance-of-Environmental-Sustainability-in-Telecom-Service-Providers-Strategy-World-Broadband-Association-White-Paper.pdf>), but it is important to reiterate the incentives associated with aligning telco strategy with the environment-oriented UN SDGs. Initiatives focused on eliminating an organization's carbon footprint and improving energy efficiency and responsible waste management can help telecom operators reduce their operating costs. By investing in sustainable technologies and practices, telecom operators can achieve cost savings and improve their operational efficiency.

As a concrete example of financial benefits achieved by service providers in recent years, BT highlighted in its 2021/2022 sustainability report a cost saving of £159m (\$220m) through energy-efficiency measures and a reduction of 13,000 tons of carbon emissions. Telefónica valued group-level cost savings generated by the energy-efficiency measures implemented between 2008 and 2020 at €1.2bn (\$1.4bn). Telia reported cost savings of SEK393m (\$47m) across its Nordic and Baltic operations resulting from energy-efficiency improvements and reduced CO₂ emissions.

Though it is not highlighted as the most important benefit of sustainability adoption, the ability to generate additional revenue by issuing green bonds should not be underestimated. Several telecom service providers, such as Telia, NTT, Orange, Telefónica, Verizon, and Vodafone, have been issuing green bonds, in which commitment to sustainable targets is necessary to access proceeds. For example, Telia used the proceeds from its 2020 green bonds sale to fund its fiber network transformation in Sweden and to develop Internet of Things (IoT) solutions focused on reducing customers' environmental impact.

SOCIAL IMPACT INCENTIVES

Many telcos are building social sustainability into their core business values, and social dimension is becoming one of the key indicators for evaluating the impact of companies' operations on people, including employees, customers, communities, and other stakeholders. It involves promoting social equity, fair labor practices, employee well-being, community development, and customer satisfaction.

Telecom companies can find additional opportunities to increase revenue and enhance their contribution to society by focusing on:

- Internal practices, centered around offering a great place to work, promoting diversity and equality
- Digital inclusion

Creating a great workplace is imperative for companies to attract and retain employees and to improve work productivity. This includes promoting diversity, employee engagement, and a sense of employee belonging. Moreover, social inclusion targets such as diversity and equality in the workplace are increasingly valued by investors and equally measured in ESG ratings alongside environmental sustainability progress.

Digital inclusion as a means of equipping more people with proper information and communication technologies can create new jobs, accelerate economic development in innovative ways, and expand people's access to digital applications. Closing the digital divide can also expand the customer base. By providing affordable and accessible services to previously unconnected populations, operators can tap into new markets and attract a larger customer base, leading to increased revenue.

Social sustainability initiatives often involve collaboration with various stakeholders, including governments, nonprofit organizations, and community groups. Telecom operators that engage in such partnerships can access new opportunities, gain market insights, and develop innovative solutions. These collaborations can lead to revenue-generating projects, joint ventures, and expanded service offerings.

REPUTATIONAL INCENTIVES

Combining both environmental and social aspects of sustainability in a strong, well-defined, and well communicated strategy can have a huge impact on a service provider's brand reputation and value. Telecom operators that invest in UN SDGs are seen as responsible corporate citizens, which can help them attract and retain customers, employees, and investors that value sustainability.

Both consumers and employees are increasingly basing their decisions on whether to choose a particular telecom company as their service provider or employer on the presence (or absence) of the company's commitment to sustainability principles. In a 2022 survey conducted by Accenture, 93% of respondents said that it was important for companies to operate in a sustainable way. Moreover, 62% of respondents said that they would pay more for products and services from companies that are committed to sustainability.⁶

Additionally, in a 2022 survey conducted by GlobeScan, 90% of corporate employees said their motivation and loyalty grows as their employer becomes more socially or environmentally responsible. Younger people working for large companies are more likely than those over 30 to "strongly" agree, suggesting that a strong reputation for sustainability also gives companies an edge in attracting and retaining young talent.⁷

⁶Accenture, "Shaping the Sustainable Organization," www.accenture.com/us-en/insights/sustainability/sustainable-organization (accessed June 2023)

⁷GlobeScan (2023) "Insight of the Week: Social and Environmental Responsibility Motivates Corporate Employees," <https://globescan.com/2023/01/31/insight-of-the-week-employees-are-motivated-by-responsible-comapnies/>

This finding is corroborated by BCG's 2023 study, which found that around 70% of Gen-Zers (people born in the mid to late 1990s) say it is important to work for organizations that focus on ESG. Nearly 20% of those surveyed listed ESG as among the top five factors influencing their decision to join or remain with their current employer.⁸

Awards and recognition for sustainability efforts can also further enhance telco companies' brand reputation and customer loyalty. In 2023 Greek telecom group OTE and Nokia were both named among the "World's Most Ethical Companies" by the Ethisphere Institute, which recognizes companies that demonstrate a commitment to ethical and sustainable business practices.⁹

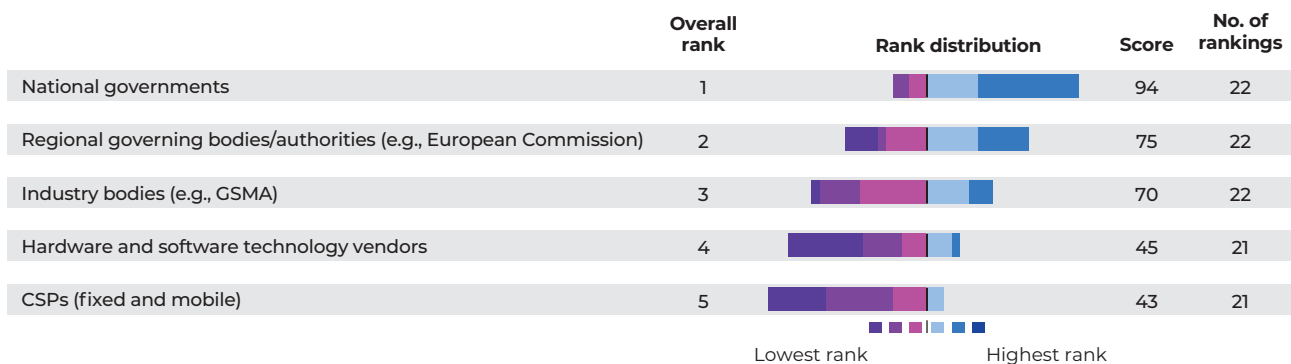
REGULATORY COMPLIANCE INCENTIVES

In many countries, there are regulations and policies that promote sustainability and require companies to report on their sustainability performance. By investing in SDGs, telecom operators can ensure compliance with these regulations and avoid penalties.

Moreover, investing in UN SDGs can help telecom operators mitigate risks related to climate change, social inequality, and other sustainability issues. By proactively addressing these risks, telecom operators can reduce their exposure to potential lawsuits, regulatory fines, and other legal and financial liabilities. Proactively meeting regulatory requirements and government policies can also result in benefits such as government support, grants, subsidies, or favorable regulatory treatment, which can lead to cost savings or additional revenue opportunities.

The WBBA survey suggests telcos are aware of the regulatory impact on the industry's sustainability agenda. When respondents were asked to rank key players from most to least important, national governments and regional governing bodies came out on top, and telcos' own perception among key influencers of the sustainability agenda is muted: service providers ranked last.

FIGURE 11: "RANK THE KEY PLAYERS IN ORDER OF THEIR IMPORTANCE TO DRIVING THE TELECOM INDUSTRY'S SUSTAINABILITY AGENDA."



SOURCE: OMDIA, WBBA SUSTAINABILITY SURVEY

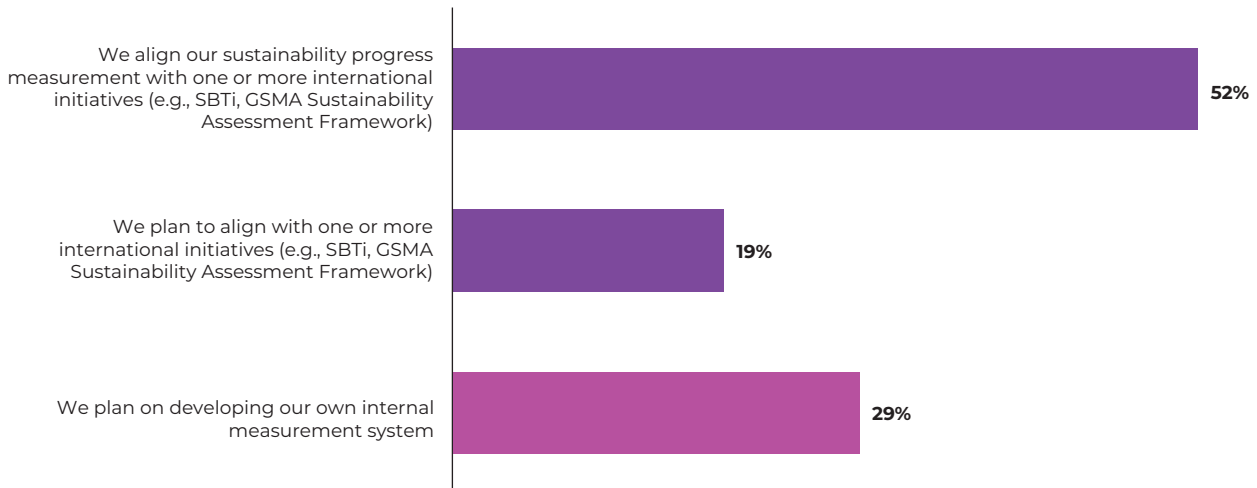
⁸BCG (2023) "The Sustainability Imperative in Emerging Markets," <https://www.bcg.com/publications/2023/the-importance-of-sustainability-in-business>

⁹Ethisphere Institute, "The 2023 World's Most Ethical Companies® Honoree List," https://worldsmoethicalcompanies.com/honorees/?fwp_industry=telecommunications-2 (accessed June 2023)

MEASURING UN SDGs AND SUSTAINABILITY PROGRESS

One of the main barriers to promoting sustainability in the telecom industry is the absence of unified and widely accepted reporting metrics. In the WBBA sustainability survey, a majority of respondents (71%) indicated that they already align or plan to align measurement of the progress toward their company's sustainability goals with at least one international initiative. The remaining 29% plan on developing their own internal measurement system.

FIGURE 12: "WHICH BEST DESCRIBES HOW YOU MEASURE PROGRESS TOWARD YOUR SUSTAINABILITY GOALS?"



SOURCE: OMDIA, WBBA SUSTAINABILITY SURVEY

When asked to specify which initiatives they aligned with or were planning to align with, the survey participants provided a wide variety, with the Science Based Targets initiative (SBTi) mentioned most often. The SBTi is focused on climate sustainability and helps companies set science-based targets (SBTs) to reduce GHG emissions in line with the goals of the Paris Agreement. SBTs are emission reduction targets that are aligned with the level of decarbonization required to keep the global temperature increase well below 2°C above preindustrial levels. Telecom operators can set SBTs that cover their direct emissions (Scope 1), indirect emissions from purchased energy (Scope 2), and emissions from their value chain (Scope 3). The SBTi then reviews and validates the submitted targets to ensure they are in line with the latest climate science, adding credibility to the targets and ensuring that they are based on robust scientific evidence.

Another often mentioned initiative is the Global Reporting Initiative (GRI), a widely used sustainability reporting framework that provides guidelines for organizations to report on their economic, environmental, and social impacts. Telecom operators can use the GRI standards to measure and disclose their sustainability performance across various areas, such as energy consumption, GHG emissions, customer privacy, labor practices, and community engagement.

Carbon Disclosure Project (CDP) and Task Force on Climate-related Financial Disclosures (TCFD) were also listed numerous times. CDP is a global disclosure system that enables companies to measure and disclose their environmental impacts, including carbon emissions. Telecom operators can participate in the CDP climate change program and report their emissions data, climate risks, and sustainability strategies. CDP also offers a specific questionnaire for the information and communications technology (ICT) sector. The TCFD provides recommendations for companies on how to disclose their climate-related financial risks and opportunities. Telecom operators can follow these guidelines to measure and report on the physical and transition risks associated with climate change and on the resilience of their operations and strategies.

Remarkably, the most often cited initiatives are focused primarily on climate and environmental sustainability. This is understandable because the emission reduction and energy-efficiency targets are more easily measured than some of the social- and governance-related goals. Moreover, telecom operators have only more recently started to address social and economic sustainability topics.

There are also international ratings such as EcoVadis, MSCI, or Refinitiv (to name a few) that consider all elements of ESG performance. While they can be helpful tools in evaluating companies' level of commitment to sustainability practices and policies, the sheer number of these rating agencies can often contribute to muddying the waters because rating scores can differ significantly and may be hard to decode.

REGIONAL APPROACHES TO UN SDGs ADOPTION

There are regional differences in telecom operators' approach to sustainability, because sustainability initiatives are often shaped by regional regulations, market conditions, and stakeholder expectations.

EUROPE

In Europe, telecom operators have been early adopters of sustainability practices and have set ambitious targets for reducing carbon emissions and increasing renewable energy use. Several telecom operators (e.g., Vodafone Europe, Swisscom, and Telia) have already achieved 100% renewable energy, and others such as Telefónica and Deutsche Telekom have brought their targets forward by 10 or more years.

These initiatives have been propelled by the European Green Deal, a set of environmental policy initiatives put forward by the EC in 2020. It includes targets and provisions for achieving climate neutrality, energy efficiency, digital transformation, and circular economy and provides the regulatory framework necessary to guide and incentivize companies and governments to adopt sustainable practices and comply with environmental standards.

Most leading European telecom operators have fully incorporated sustainability and UN SDGs in their overall business strategy and view it as essential for their long-term success. European business leaders recognize the value of sustainability as an investment that protects their organization from disruption and a tool that can help their organizations optimize and reduce costs.

For leading companies, such as Telia, Swisscom, Vodafone, or Telefónica, sustainability is a concept that is intertwined with every aspect of company operations and decision-making. The sustainability agenda is not just an add-on or a sideline; it is thoroughly integrated in companies' business strategies.

For Telia, integrating ESG into all material processes and strategies led to some impressive results highlighted in its 2022 "Annual and sustainability report."¹⁰ For example, in 2022 Telia was able to reduce its operational expenses, excluding energy cost increases, by SEK600m as a result of continued benefits from sustainable digital transformation. Employee engagement reached 77/100, in line with the top 25th percentile of companies, and 41% of Telia's extended leadership team are women. Telia also achieved the highest (Platinum) level in EcoVadis, a rating used by many B2B customers, and was awarded the highest score (AAA) by MSCI ESG Research, which provides insights to investors. In terms of customer enablement, Telia's IoT services for buildings and utilities enabled energy reductions equivalent to the annual electricity consumption of 90,000 Swedish households.

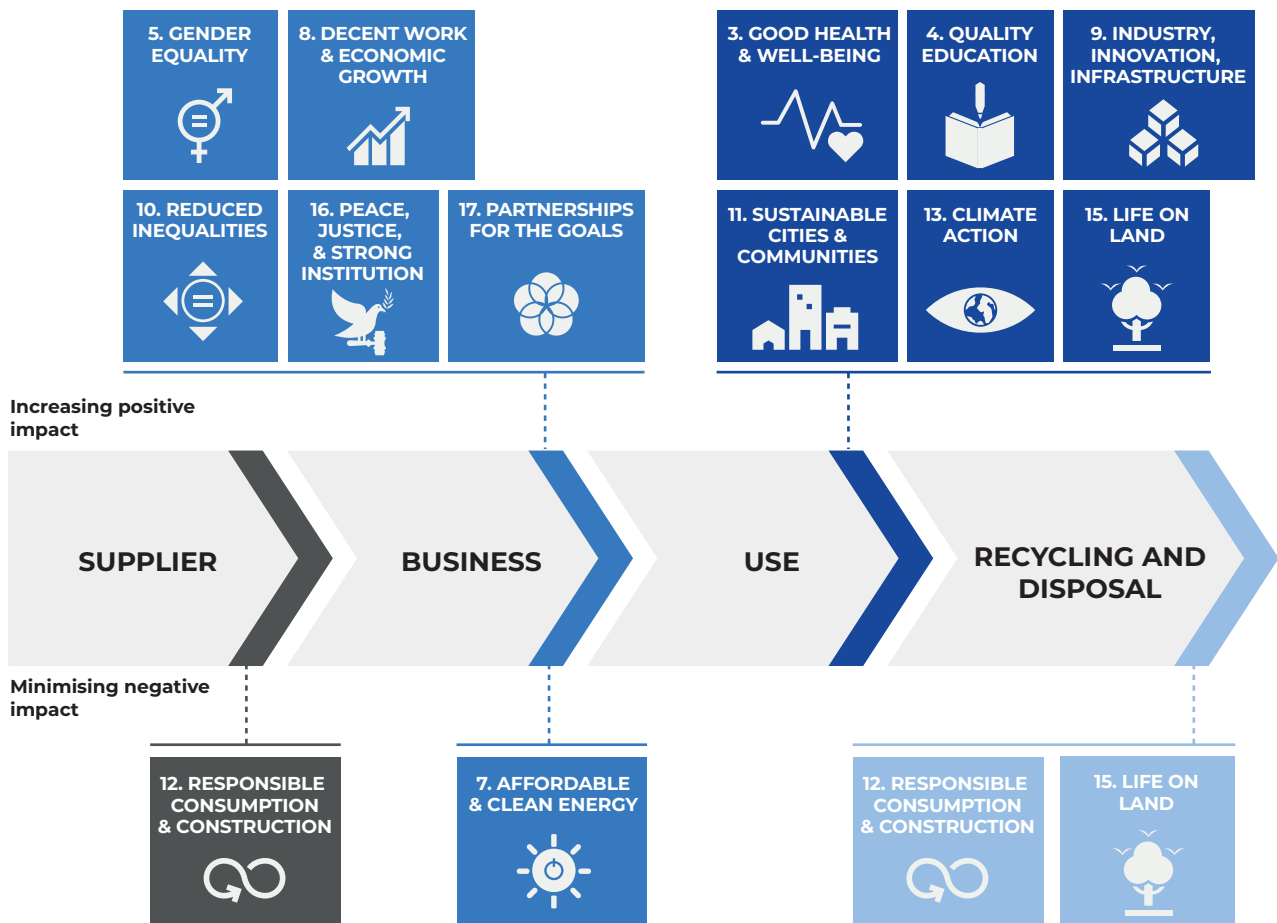
¹⁰Telia (2022) "Annual and sustainability report," www.teliacompany.com/assets/u5c1v3pt22v8/Gp5w6fVQITao50XukMg3B/706817669b20ad8ac8809472bbe386cd/telia-company-annual-and-sustainability-report-2022_ENG_FINAL.pdf

Vodafone's approach to ESG and sustainability is an integral part of the company's purpose and strategy to enable an inclusive and sustainable digital society. Vodafone's strategy is divided into three pillars—digital society, inclusion for all, and planet—and ensures Vodafone acts responsibly and ethically wherever the company operates. All three pillars are also aligned with the UN SDGs, and Vodafone is accelerating connectivity and digitalization in order to meet the SDGs by 2030. The company has identified two priority SDGs (SDG 9 to build resilient infrastructure and innovation, and SDG 17 to strengthen the means of implementation and partnerships for sustainable development) that will enable it and its partners to find lasting solutions to social, economic, and environmental challenges and thereby accelerate the delivery of other SDGs.¹¹

Since 2020, Swisscom has been repeatedly named the world's most sustainable telecommunications company by *World Finance* magazine. Swisscom adopted a new, redesigned sustainability strategy in 2021, with goals set out to 2025, which are aligned with UN SDGs.

In general, the company places great value on climate neutrality both in its own operations (its network has been climate neutral since 2021) and through its supply chains, monitoring and promoting social, ethical, and environmental aspects in its sustainable procurement policies. The company also offers digital skills and media literacy programs through the Swisscom Campus, a platform containing various training programs for the different target groups to improve their accessibility.¹²

FIGURE 13: SWISSCOM STRATEGY: SDGs ALONG THE VALUE CHAIN



SOURCE: SWISSCOM

¹¹Vodafone Group (2023) "Annual Report," <https://investors.vodafone.com/sites/vodafone-ir/files/2023-05/vodafone-fy23-annual-report.pdf>

¹²Swisscom (2022) "Sustainability Report 2022," <https://reports.swisscom.ch/en/2022/report/sustainability-report>

NORTH AMERICA

In North America, telecom operators have also made significant commitments to sustainability, but these initiatives have been driven more by customer demand than by regulatory requirements. North American telecom operators have focused on reducing their carbon emissions, increasing renewable energy use, and promoting social responsibility initiatives.

It is important to note that while most leading Tier 1 service providers and network operators have adopted robust sustainable strategies that are aligned with UN SDGs and integrated in wider business strategy, it is generally only now that the smaller operators are beginning their sustainability journey and evaluating the best approach to incorporating sustainability in their business strategies.

One of the leaders among North American operators, Verizon, launched its Citizen Verizon companywide business plan in 2020, focusing on three key areas: digital inclusion, climate protection, and human prosperity. The Citizen Verizon plan is aligned with UN SDGs and includes ambitious environmental and societal goals. Verizon expects that its investment in Citizen Verizon initiatives will exceed \$3bn by the end of 2025. Verizon has also designed the Green Financing Framework, which articulates how the company's sustainable finance strategy aligns with the UN SDGs, supports its renewable energy strategy, and promotes diversity, equity, and inclusion in the US capital markets. Verizon is one of the largest corporate green bond issuers in the US, having issued four \$1bn green bonds as of February 2023.¹³

In Canada, TELUS has also been strengthening the ties between its financing and its environmental sustainability targets, issuing a \$900m 10-year sustainability-linked bond in 2022. The company also manages one of the world's largest corporate impact funds, the TELUS Pollinator Fund for Good, which is helping tackle social challenges, support the environment, and enable inclusive communities. Furthermore, TELUS's digital inclusion Connecting for Good programs provide vital support for low-income families and seniors, at-risk youth, individuals experiencing homelessness, Indigenous women at risk of or surviving violence, and people living with disabilities. Through its four Connecting for Good programs—Internet for Good, Mobility for Good, Health for Good, and Tech for Good—more than 342,000 individuals have been empowered with greater connectivity. The company has been gaining accolades for its sustainability performance, being listed among the *Wall Street Journal's* Top 100 Sustainably Managed Companies and recognized by the Dow Jones Sustainability Index.¹⁴

ASIA & OCEANIA

In the Asia & Oceania region, telecom operators have focused on expanding access to broadband services and promoting digital inclusion as a way to support sustainable economic growth. These initiatives are often driven by government policies that promote digital infrastructure investment and prioritize universal access to broadband services.

In addition, companies are also investing in renewable energy and setting targets for GHG emissions reduction. Regulatory impetus also plays a role here; for example, New Zealand was one of the first countries to introduce mandatory climate disclosures for listed companies, and Australia is following suit with consultations underway. Therefore, ESG investing is experiencing rapid growth in the Asia & Oceania region. Countries such as Japan, Australia, and South Korea have seen significant developments in sustainable finance frameworks and ESG reporting requirements. Additionally, investors in China are increasingly considering ESG factors in their decision-making. The region is witnessing a rise in ESG-themed investment funds and products, reflecting the growing interest in sustainable investing.

¹³Verizon (2022) "Environmental, Social and Governance (ESG) Report 2022," www.verizon.com/about/sites/default/files/Verizon-2022-ESG-Report.pdf

¹⁴TELUS (2022) "Making a world of difference," https://assets.ctfassets.net/fltupc9ltp8m/2PXeAJVjBdd8ivjg4ppYUu/d68465666e793708b19e34202a6631a7/TELUSsustainability2022EN_04_06_2023.pdf

One of the leading sustainability-oriented telcos in the region is Singtel. As part of its sustainability strategy development, Singtel undertook a UN SDGs prioritization exercise outlining seven UN SDGs with UN SDG 17 – Partnerships for the goals being an underpinning element of Singtel's strategy. Singtel focuses on four key sustainability pillars: climate change and environment, people and future of work, community impact, and sustainable value creation. The company was also the first telco in Asia & Oceania to establish a sustainability-linked bond framework in 2021 and issued a A\$300m Optus sustainability-linked bond. As part of the community impact pillar and in support of its customers' interest in engaging in both social and environmental actions, the company built on the success of Optus's unique Donate Your Data program, which enables its customers to provide vulnerable people with mobile data access, and extended it to Singapore. This is in addition to a Donate Your Device program.

In Japan, NTT Group's vision of sustainability uses the concept of "self as we" and is built on three pillars: ensuring the coexistence of nature and humanity, which includes initiatives focused on decarbonization, resource recycling, and living in harmony with nature; improving prosperity for all people and cultures, which promotes establishing shared ethical standards, preparing for the future with new digital skills, and moving toward a safe, secure, and resilient society; and maximizing well-being for all, which advocates for respect for human rights, diversity, and inclusion and creating new work models.¹⁵ All three pillars are correlated with the UN SDGs.

China Mobile has a comprehensive sustainability strategy that focuses on green development, inclusive growth and digital intelligence innovation, underlined by advanced governance with goals aligned with UN SDGs. China Mobile is committed to reducing its carbon footprint and minimizing environmental impact. The company aims to achieve energy efficiency and reduce GHG emissions. It invests in energy-saving technologies, renewable energy sources, and green infrastructure to optimize energy consumption and promote environmental sustainability. The company recognizes the importance of bridging the digital divide and promoting digital inclusion. It strives to provide affordable and accessible telecom services to all segments of society, including rural and underserved areas. It invests in network expansion, infrastructure development, and innovative solutions to ensure equal access to digital technologies and services. China Mobile also supports education, poverty alleviation, disaster relief, and other community programs. It also promotes responsible business practices, ethical supply chain management, and employee well-being.¹⁶

LATIN AMERICA

In Latin America, telecom operators have focused on expanding access to broadband services in rural and remote areas and promoting social responsibility initiatives. These initiatives are often driven by stakeholder expectations for corporate social responsibility and the need to bridge the digital divide in underserved communities.

Telecom operators in Latin America are also making strides in upgrading their networks' power sources to renewable energy, focusing particularly on solar power. Most of these moves are concentrated in Brazil, although multinationals such as América Móvil and Telefónica have been investing in renewables in other markets including Colombia, Venezuela, and Mexico as part of their global sustainability drives.

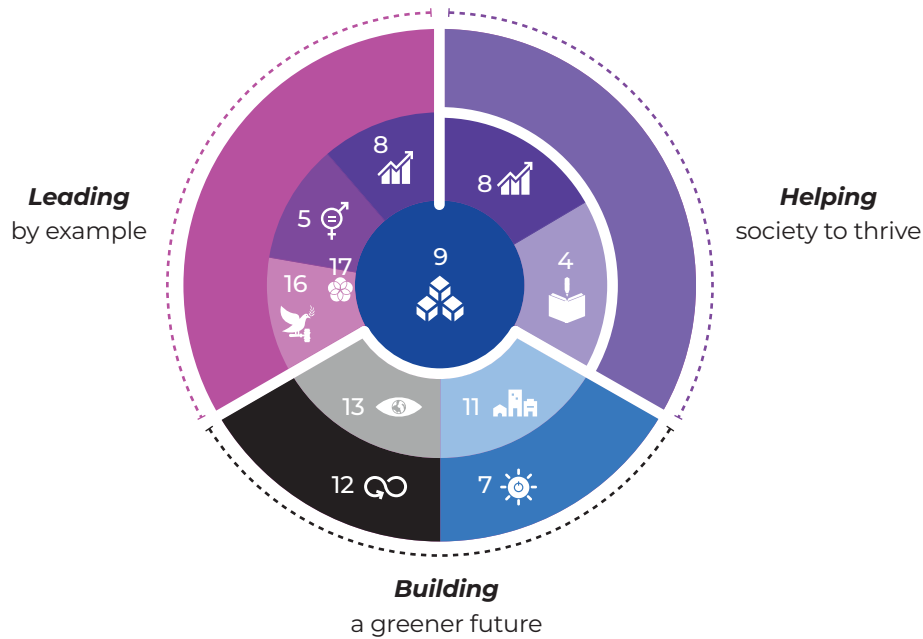
Telefónica is among the leading telcos in sustainability globally, and its Latin American operations are following suit. ESG principles built around UN SDGs are an integral part of Telefónica's business strategy, emphasizing that sustainability commitments translate into growth, efficiency and long-term value creation for the group. Telefónica values the 2022 impact of its sustainability strategy at more than €98bn (\$107bn) globally, with specific annual positive impact of €15bn in Brazil and another €15bn across the rest of its Latin American markets.¹⁷ It is worth noting that Telefónica is one of the few telecom operators to assess and measure the impact of its sustainability efforts.

¹⁵NTT, "NTT's Vision of a Sustainable Society: Self as We," <https://group.ntt/en/csr/selfaswe/> (accessed June 2023)

¹⁶China Mobile (2022) "Sustainability Report," www.chinamobileltd.com/en/ir/reports/ar2022/sd2022.pdf

¹⁷Telefónica (2022) "Measuring the social and environmental impact of Telefónica 2022," www.telefonica.com/en/wp-content/uploads/sites/5/2022/12/report-impact-measurement-telefonica.pdf

FIGURE 14: TELEFÓNICA SUSTAINABILITY STRATEGY AND ALIGNMENT WITH UN SDGs



SOURCE: TELEFÓNICA

In Latin America specifically, in addition to its environmental sustainability initiatives Telefónica focuses on promoting digital inclusion through expansion of inclusive and sustainable rural broadband networks, working toward the goals and best practices set out in the company's Rural Manifesto.¹⁸ It is also developing digital skills training programs such as its youth STEM (science, technology, engineering, and mathematics) program or Conecta Empleo, a digital training program for unemployed people, and promoting the participation of women in the telecom sector through the Mujeres en Red initiative.¹⁹

Multinational group América Móvil is also very active in promotion of sustainability practices in its operations adopting the UN SDGs framework. The company focuses on expansion of networks to rural areas aiming to bridge the digital divide and has also developed multiple online education platforms. América Móvil has also begun to participate in sustainable financing and issued its first sustainable bond in the amount of MXN24bn (\$1.4bn), the largest sustainable bond ever issued in the Mexican market. The proceeds are committed to the development of environmental and high-impact social projects.²⁰

MIDDLE EAST & AFRICA

In the Middle East & Africa, telecom operators are increasingly adopting sustainability initiatives to reduce their environmental impact, promote social responsibility, and drive economic growth. Even though they emit fewer greenhouse gases per capita than developed markets, emerging markets have an outsized stake in mitigating climate change because they suffer some of the most devastating consequences of global warming.

However, sustainability reporting is still limited, and many companies are only in the beginning stages of their sustainability strategy development. Additionally, national policy frameworks aimed at sustainability regulation are also less robust than those in developed regions, meaning regulatory incentives are less of a motivator for companies to embed sustainability in their corporate strategy.

¹⁸Telefónica, "Manifiesto Rural," www.telefonica.com/es/wp-content/uploads/sites/4/2022/04/Infografia-Manifiesto-Rural.pdf (accessed June 2023)

¹⁹Telefónica (2022) "Management and Sustainability (ESG) Report 2022," www.telefonica.com/en/shareholders-investors/financial-reports/integrated-annual-report/

²⁰América Móvil (2022) "Sustainability: Enabling a Better World," <https://sustainability.americamovil.com/portal/su/pdf/2022-Sustainability-Report.pdf>

However, the telecom industry is one of the leading sectors pushing for change, both within (e.g., by setting ambitious targets around carbon emissions reductions and energy efficiency) and externally, promoting digital inclusion as a way to support sustainable economic growth and bridge the digital divide, supporting education, healthcare, and disaster relief efforts.

Vodafone Group is present in seven African markets and is very active in digital inclusion and gender equality through programs such as Mum & Baby, which gives customers in South Africa free access to maternal, neonatal, and child health information. In Egypt, Vodafone launched the Egyptian Gender Alliance in partnership with the Ministry of Communications and Information Technology, National Council for Women, UN Women, and other private sector partners. The Alliance promotes the social and economic empowerment of women in Egypt through digital inclusion and skills training to increase their employability and economic participation.

Moreover, Vodafone's expansion into financial services in the region can serve as an example of a new revenue-generating opportunity with a sustainable reach. Together with Safaricom, Vodafone developed the first mobile money platform, M-Pesa, which provides financial services to millions of people who have a mobile phone but limited access to a bank account. It is also widely used to manage business transactions and to pay salaries, pensions, agricultural subsidies, and government grants and reduces the associated risks of robbery and corruption in a cash-based society. In addition to its core service, Vodafone has developed a number of additional financial and business services to increase financial independence and health.²¹

Many other telecom operators have also been promoting digital inclusion across Africa. Orange Group has launched several initiatives to provide affordable broadband services to rural areas in the region. For example, in 2020 Orange partnered with the government of Burkina Faso to launch a rural connectivity project to provide internet connectivity to more than 1,000 villages in the country. In 2021, MTN Nigeria launched a rural connectivity project to provide internet connectivity to more than 100 rural communities in Nigeria. The project aims to support economic development in rural areas by providing access to digital services such as e-commerce and e-health. And Airtel Africa has launched several initiatives to provide affordable broadband services to rural areas in Africa, including its 2020 partnership with Facebook to launch a rural connectivity project in Uganda to provide internet connectivity to more than 3 million people in rural areas.

CONCLUSIONS AND RECOMMENDATIONS

Though it is still a work in progress in many regions, countries, and companies, sustainability is becoming a strategic imperative for the telecom industry. Adoption of sustainability principles and policies can not only have a positive impact on telecom companies themselves (e.g., through reduction of their own carbon footprint or promotion of employee equality) but also enable positive change in countries' economic and social development and empower environmental sustainability across the telecoms supply chain and customer base.

The analysis conducted as part of this white paper shows that telcos are increasingly adopting the concept of the UN SDGs and incorporating them into their sustainability initiatives and strategies. More and more companies now take into account not just financial profits when evaluating their business performance but also the so-called triple bottom line, which includes economic, social, and environmental dimensions of performance. If these three aspects, often also referred to as the "three Ps" (profit, people, and planet), are considered conjointly, companies can create a shared value, align their strategies with broader societal and environmental goals, and contribute to global sustainable development.

However, sustainability and ESG performance is difficult to measure, and ratings are inconsistent because of the wide differences in the KPIs that companies use. Company-supplied data can also often be misinterpreted or overstated, leading to greenwashing of companies' actual activities and performance. Within the telecom industry specifically, clear definitions of the specific economic, social, and environmental factors are generally missing, and companies provide varying levels of detail, listing all kinds of initiatives in their reporting.

²¹Vodafone Group Plc (2023) "Annual Report 2023," <https://investors.vodafone.com/sites/vodafone-ir/files/2023-05/vodafone-fy23-annual-report.pdf>

There are several organizations currently working to standardize and codify some of the aspects of environmental sustainability, such as the ITU's Study Group 5 (ITU-T SG5) on environment, climate change, and circular economy and ETSI's Technical Committee EE, which is responsible for defining the environmental and infrastructural aspects of all telecommunications equipment and its environment, including equipment installed in subscriber premises. Similarly, the European Commission's Code of Conduct on Energy Consumption of Broadband Equipment also sets out rules for maximized electrical efficiency of broadband equipment and identifies explicit caps for consumption of individual functions and interfaces.

The Global Enabling Sustainability Initiative (GeSI) is one global telecom-oriented organization that brings together stakeholders from the ICT sector to foster digital innovation to help address the world's most pressing environmental and social challenges. However, more needs to be done to create a widely accepted and adopted standardized approach to sustainable telecom development. The UN SDGs can help with that mission and serve as a stepping-stone toward creating a dedicated framework for telecom sustainability measurement. When a clear link is made between sustainability and profitability, more and more companies in all parts of the world will see the benefit of adopting sustainable corporate governance.

FINAL RECOMMENDATIONS

- **Telecom operators need to work together to define common sustainability targets and indicators to promote global change.** If service providers can agree on a standard measurable approach that includes unified ESG metrics, they can help build transparency and serve as both lead contributor and catalyst for delivery of the UN SDGs commitments and the 2030 Agenda for Sustainability Development.
- **Partnerships are key for progress in all three aspects of sustainability: environmental, social, and economic.** Telecom operators alone cannot fully execute their sustainability initiatives without cooperation with partners, be it in their supply chain or in collaboration with national and local governments, regulatory bodies, and multinational institutions (such as the EU).
- **Materiality analysis is an important tool for telecom companies to identify which sustainability initiatives and specific UN SDGs to focus on.** Materiality assessment can help companies understand which issues are of the highest importance to their stakeholders and to prioritize resources dedicated to sustainability solutions delivering maximum business and social value. One major benefit of this approach is that it leverages existing service provider business processes related to practical initiatives that have senior management and board oversight. Most companies mentioned in this white paper already include such analysis in their reporting, but more needs to be done to make this a common occurrence.
- **A clear line needs to be drawn connecting profitability to sustainability.** The company risk of not being sustainable is far higher than the investment needed to set up a robust, encompassing, and well-defined sustainability strategy. Making resilience and change a priority for telecom operators' core operations through sustainability principles and ESG will result in long-term profit returns.
- **The benefits of telco sustainability initiatives to consumers need to be effectively communicated and promoted.** Consumers are highly receptive to information about sustainable products, and most also say that sustainable practices play a role in their purchasing decisions. Service providers have many channels through which they can communicate how they benefit communities and the environments they operate in. This can be a major differentiator among competitors and a potential enabler of sustainability-driven revenue generation.

APPENDIX

METHODOLOGY

This white paper provides analysis of results of a survey conducted in March and April 2023, combined with a review of telecom companies' reporting and sustainability publications. Omdia data on broadband subscriptions has also been used in this white paper analysis.



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