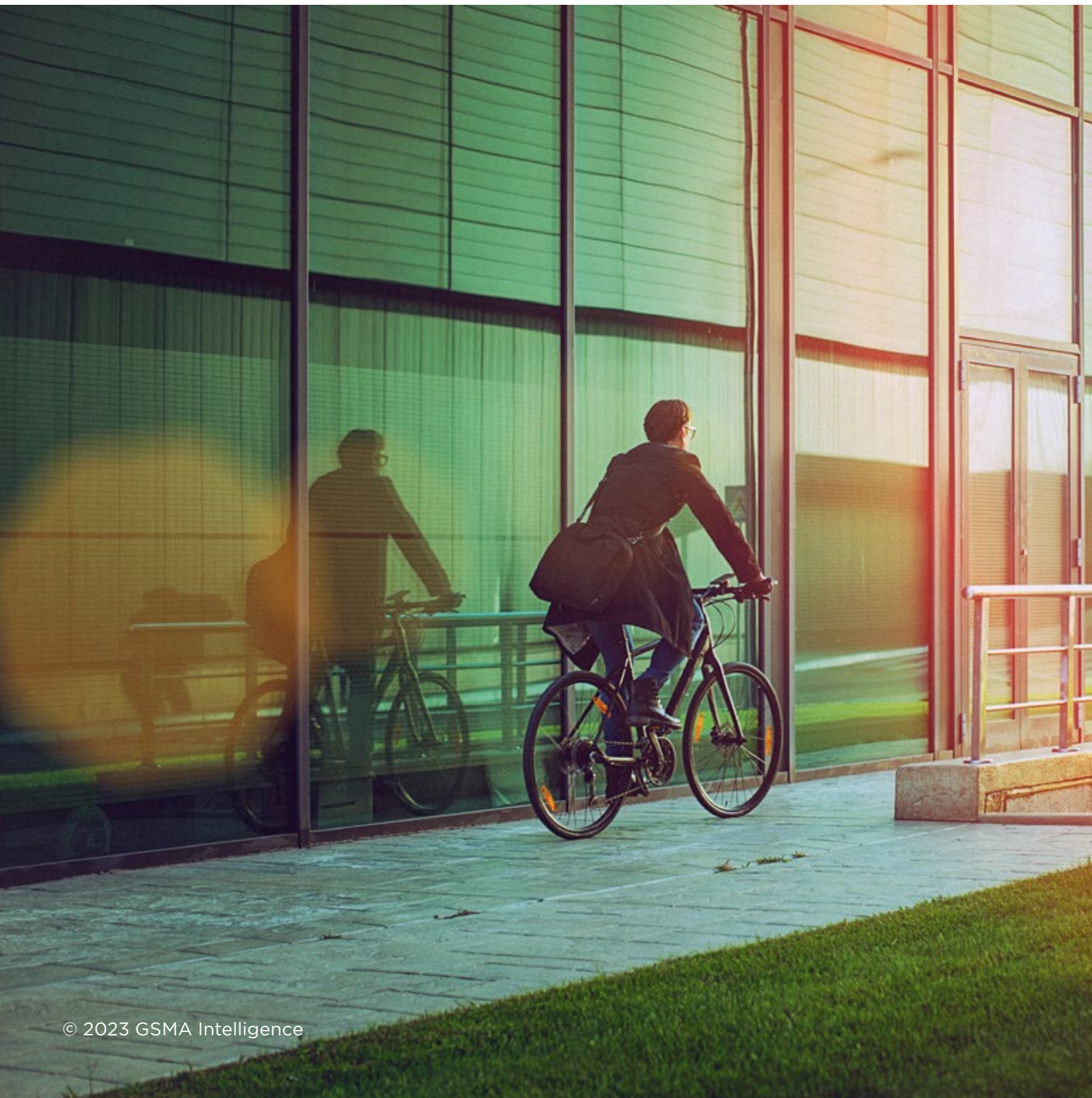


Green is good for business: the reputational case in telecoms

October 2023





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www.gsmaintelligence.com

info@gsmaintelligence.com

Authors

Tim Hatt, Head of Research and Consulting
Emanuel Kolta, Lead Analyst, Network Sustainability and Innovation

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Executive summary

This is the final report in a three-part series on the technological and business implications of sustainability in the telecoms industry. The research series aims to give an evidence-based view of why accelerating the pace of going green makes business sense and how it can be done effectively.

The focus of this report is reputation and external relations. It examines how perceptions among all touchpoints for telecoms operators – including consumers, enterprises, employees, suppliers and investors – are increasingly focusing on green priorities. The research assesses why this matters and how it can be addressed.

Customers and staff: voting with their wallets

Consumers and enterprise customers are increasingly prioritising ethical and moral considerations that reflect their own changing views of the world and its custodianship. Climate and energy security have risen to the top of the agenda. Around 80% of people now rate climate change as the No.1 global issue, above challenges such as inflation, war and geopolitical conflict. The priority remains the same looking five years ahead.

While it is well documented that consumer values incorporate environmental, social and governance (ESG) priorities, this has not always translated into purchase actions. This has now changed. A recent GSMA Intelligence survey indicates that 60% of people, on average across 16 countries surveyed, consider climate or sustainability criteria as an active part of product purchasing. The same proportion (60%) claim they would consider changing to a mobile operator with 100% renewable electricity. There is a correlation between green purchasing and those countries most exposed to extreme weather conditions induced by climate change, such as the Philippines and Pakistan.

Staff are similarly moving to spur action; 66% of people from the survey rate climate action very or extremely important in their choice of employer. How far does this go? Some 30–40% of people in Europe would take a pay cut to work for a company with a net-zero commitment. The figure exceeds 50% in the aforementioned countries on the front line of climate change.

For operators, selling 5G and other technologies to enterprise verticals offers a dual value proposition in terms of productivity gains and higher power efficiency. The latter has historically been underappreciated but is now centre stage as any company on a 2050 net-zero timeline will have to cut CO₂ emissions by 50% in each successive decade. The reputational gains from helping enterprise customers lower their own carbon footprint are significant and long lasting, considering the competitive advantage this confers.

The challenge for operators and their vendor partners is to get the technology through the channel at an affordable price, considering constraints on enterprise capex. The consensus that technology is part of the carbon solution is set against the reality that enterprises think there is not enough of it available at an affordable price.

Suppliers: sustainable procurement will only grow in importance

Suppliers of telcos are relevant to the discussion in terms of the need to coordinate Scope 3 emissions¹ tracking and comply with regulations. Sustainable procurement policies have emerged over the last five years to provide a means of ensuring commitment and alignment on ESG criteria between operators (or any company) and their supply chains.

Across the six industries surveyed by GSMA Intelligence, 75% of companies claim to have a sustainable procurement policy in place. There is little variation between industries. However, there

is variation as to what goes into a sustainable procurement policy and whether it is actually enforced. Less than a third of the companies in each of the industries surveyed screen more than half their suppliers on sustainable procurement policies. The percentage doing this for more than 75% is essentially negligible (including telecoms) despite it being the ultimate goal.

Establishing sustainable procurement as the default will take time but is important. Scope 3 reporting and regulatory compliance will eventually require it.

Investors: sustainability is no longer niche

The investment and asset management sector has increasingly moved to incorporate ESG key performance indicators (KPIs) into company ratings and broker research. Sell-side analysts have been joined by ESG specialists to complement the ratings ecosystem of investment banks, credit-rating agencies and financial information providers. The majority of major banks now have ESG research and ratings incorporated into their stock coverage. This reflects demand from buy-side clients, who have moved to increase the number of dedicated ESG funds and non-dedicated funds with higher ESG capital allocations as a share of assets under management.

There are many assessments from financial services providers of the growth trend. PwC analysis suggests ESG assets under management will almost double between 2021 and 2026, from \$18 trillion to \$34 trillion.² It also speaks to evidence of the inverse correlation between ESG scores and the cost of capital – in short, companies with higher ESG ratings have achieved a lower cost of capital.³ The telecoms industry is a leader in this respect. Carbon emissions reporting on Scope 1, 2 and (eventually) 3, along with electricity usage, are the most commonly disclosed ESG metrics for telecoms operators.

Other ESG KPIs and standards are emerging, such as Network Carbon Intensity energy or NCIE (which measures whether energy efficiency is getting better or worse as people use more data in the 5G era), e-waste and circularity-related metrics. Some 70% of operators worldwide (by revenue) report carbon emissions to CDP, 50% have signed up to the Science Based Targets initiative (SBTi) and 40% have publicly disclosed a net-zero target.

Significant regional disparity persists. Commitment rates among operators and ubiquity levels (i.e. the whole sector committing) are lower in Africa, China, India and much of Asia than in Europe. This matters not just for disclosure but because it puts companies behind where regulation will likely require them to be.

The majority of listed companies trade on exchanges tracked by the Sustainable Stock Exchanges (SSE) Initiative. So far, ESG disclosure requirements are needed by only 20% of exchanges (measured by market capitalisation), but this will rise as more governments seek to orchestrate the transition to green industries and economies, and as green finance (mostly bonds) expands as a share of capital raised. Legally mandated, standardised and audited carbon reporting requirements that provide clarity to investors and regulators are likely to become more common. Such reporting requirements are already in place in some jurisdictions.

¹ Scope 1, 2 and 3 emissions refer to CO2 emitted from direct operations, purchased electricity, and supply chain/end users respectively

² "ESG-focused institutional investment seen soaring 84% to US\$33.9 trillion in 2026, making up 21.5% of assets under management: PwC report" PwC, October 2022

³ "ESG and the cost of capital", MSCI, February 2020



Outlook

- In the long run, governments and societies will need to make difficult sustainability choices that impact day-to-day lives. Much of this comes down to political will and regulation, not technology. However, operators can get ahead of the curve by establishing strong green credentials in all stakeholder relationships.
- There is a latent ‘green premium’ available for operators if product design and marketing can be embedded with sustainability criteria (such as carbon-neutral tariffs). Consumers want to align with green brands and will pay for assured credentials on the products they buy.
- From an investor perspective, while it is too early to make definitive conclusions on whether, and to what extent, ESG performance is a driver of share performance, capital allocation and SSE Initiative data indicates sustainable investing is here to stay. The direction of travel is to incorporate more climate and ESG KPIs as a core part of company ratings, reflecting demand from asset managers, regulators and the public at large. Operators with a higher disclosure of climate and ESG performance will be best placed to attract mainstream and specialised capital, including green-linked bonds. Evidence suggests green bonds have proven a more cost-efficient means of financing investments in renewables development and other projects with environmental covenants.⁴
- GSMA Intelligence analysis throughout this series has underlined the need to embed forward thinking into product design. The circular economy will need to go beyond device recycling and other low-hanging fruit to involve consumer electronics more broadly, much of which is distributed by operators and therefore in the purview of their Scope 3 emissions. The same is true for network equipment.
- Though 70% of operators disclose carbon emissions to CDP, around 40% have committed to net zero. Given that net zero requires 50% CO₂ reductions by 2030 and each successive decade to 2050, there is only a two- to three-year window for those lagging to take action.

⁴ The Green Corporate Bond Issuance Premium, Board of Governors of the Federal Reserve System, 2022

1 Context: the sustainability pivot

Climate change has historically been the principal driver of moves from telecoms operators and those in other industries to a more sustainable operating model. The Paris Accord of 2015 and its key pledge to limit global temperatures to a ceiling of 1.5°C above pre-industrial levels by the end of the 21st century remains the central objective for governments across the world. However, a key change since then has been more assertive involvement from companies in the private sector. This includes committing to net-zero targets, reporting frameworks to track progress and, fundamentally, a reshaping of business practices towards a lower emissions environment.

Industry moves became particularly visible during COP conferences in Glasgow (UK) in 2021 and Sharm el-Sheikh (Egypt) in 2022. The same is expected to be true of COP28 in the UAE in December 2023 – in no small part due to ever-more urgent warnings. The latest information from the World Meteorological Organization shows there is now a 66% chance that temperatures will exceed 1.5°C above pre-industrial levels for at least one year between 2023 and 2027.

Operator network investment priorities now feature sustainability as a core tenet, so it has become an increasingly important part of reputation management for telecoms companies. GSMA Intelligence survey data supports this, with more than 80% of operators rating energy efficiency and sustainability as a top priority for mobile network transformation plans. This places sustainability ahead of traditional must-haves such as security and new feature upgrades to network capabilities.

The sustainability pivot is holistic; it includes everything from using renewable energy to power network operations and office premises, to corporate travel policies, product portfolios and supplier procurement. There are, though, significant regional differences in the pace of change in the telecoms sector. Reasons include the political environment, access to renewable energy supplies, the maturity of the telecoms sector, and corporate strategy.

About this research

This report is the final of a three-part series from GSMA Intelligence in partnership with Huawei on the technological and business implications of sustainability in the telecoms industry. The research aims to give an evidence-based view of why going green makes business sense and how this can be done effectively. The analysis comprises three reports:

- overall rationale and outlook
- the financial case
- the reputational and external relations case.

To bring new insights to the debate, GSMA Intelligence commissioned two surveys – one of consumers and one of enterprise sectors. The consumer survey covers 16 countries,⁵ each with 500 respondents. The enterprise survey covers six vertical industries,⁶ each with a sample of 100 respondents worldwide. Fieldwork was conducted during December 2022 and January 2023. The survey data has been complemented with a mix of research, data analysis and insights from conversations with key industry stakeholders from operators, equipment vendors, regulators and financial analysts. The research therefore offers a well-rounded perspective on an issue central to how business is likely to operate over the coming decade.

⁵ Argentina, Brazil, Egypt, France, Germany, Indonesia, Italy, Japan, Pakistan, Philippines, Saudi Arabia, South Africa, South Korea, Spain, Türkiye and UK

⁶ Telecoms, technology & cloud, manufacturing, healthcare, financial services, and transportation & logistics

2 The currency of reputational capital

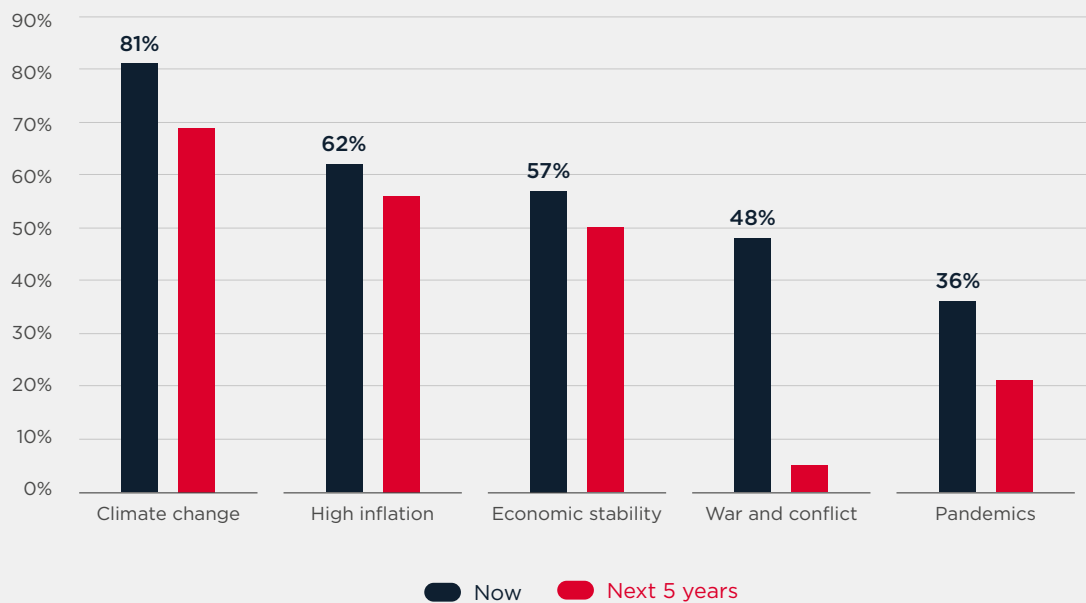
Climate rises to the top of the agenda

Consumers are increasingly prioritising ethical and moral considerations that reflect their own changing views of the world and its custodianship. Climate and energy security have risen to the top of the agenda. This reflects a broader perception that halting the progression and severe consequences

of climate change is the challenge of a generation, and represents a shift from the past when economic stability, growth and a rise in living standards were seen as the bedrock of advancement and social cohesion. GSMA Intelligence survey data underscores that climate concerns are here to stay (see Figure 1).

Figure 1 Climate is the pre-eminent challenge of our generation

Which of the following global challenges do you feel is most pressing for action?



Source: GSMA Intelligence based on Sustainability Consumer Attitudes Survey across 16 countries

Reputational case just as important as financial case

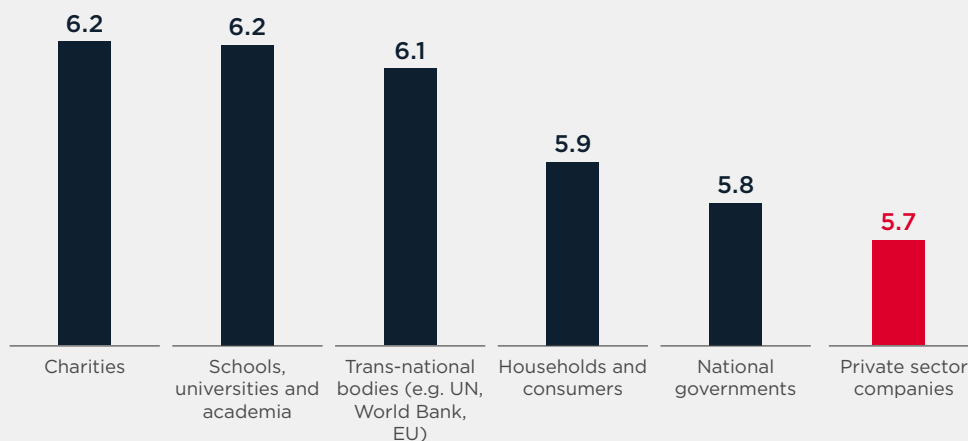
The commercial implications of climate change are many and varied but stem from the need to achieve net zero by 2050, as explored in [Green is good for business: embedding sustainability in digital transformation](#). The financial rationale involves cost reductions from the shift to renewables and the use of more energy-efficient technology, while revenue implications arise from green-minded product strategies and the circular economy. Circularity is an emerging paradigm shift to embed reuse into product design from the ground up, reducing e-waste and presenting revenue upside from device trade-in schemes. Orange, Vodafone and Telefónica are among a raft of operators that have introduced

such initiatives in their retail and online distribution channels. This is covered in [Green is good for business: making the financial case in telecoms](#).

The reputational case is just as important, if less appreciated. The perception among consumers is that the private sector as a whole is doing the least to fight climate change compared to other stakeholder groups (see Figure 2). When respondents were asked to rate actor groups on a scale of 1 to 10, academia, charities and trans-national bodies such as the UN were seen as most active, with politicians and companies languishing behind.

Figure 2 How consumers assess the performance of different actors in fighting climate change

Rated on a scale of 1-10, where 1 = doing almost nothing to help and 10 = doing everything possible



Source: GSMA Intelligence based on Sustainability Consumer Attitudes Survey across 16 countries

If the data is analysed by sector, an interesting story emerges. See Figure 3. Consumers were asked to rate which industries they saw as doing the most and the least to help climate change. The difference between the scores gives a net favourability rating for each industry:

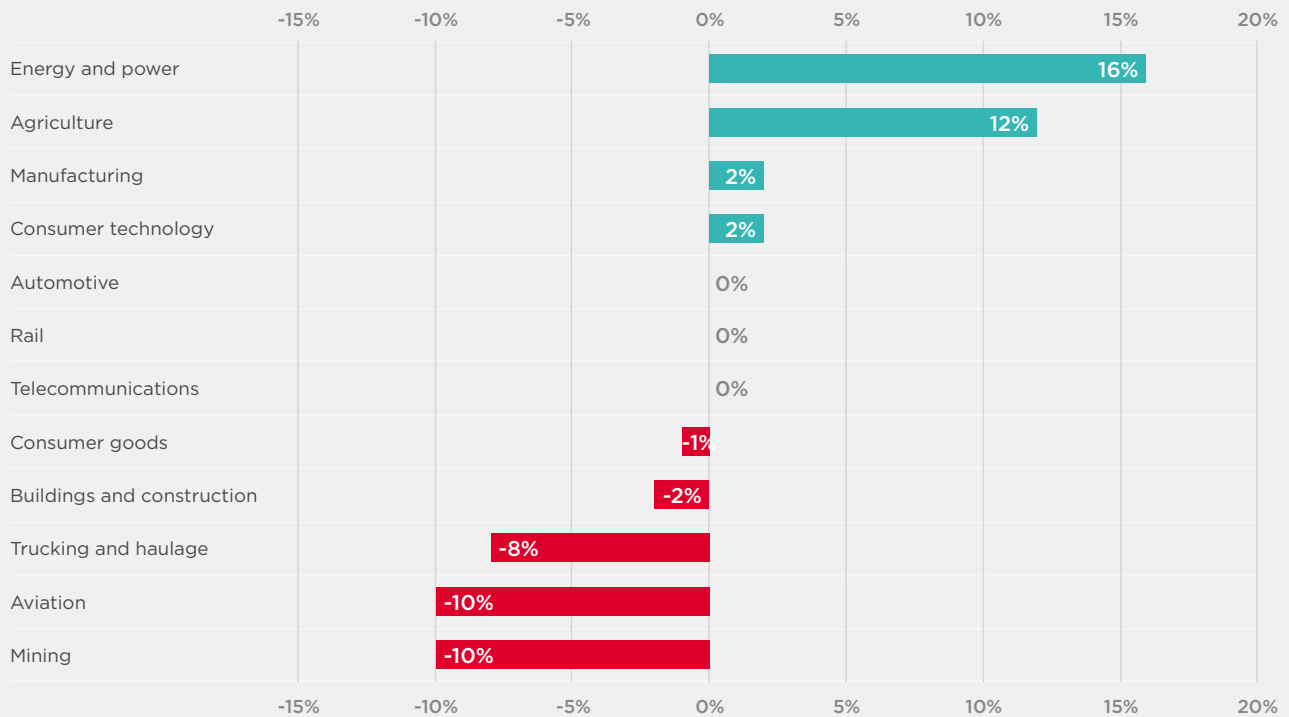
- **Energy** and **agriculture** top the list. For agriculture, this likely reflects increasing public awareness of, and desire to be associated with, sustainable farming practices, along with reductions in pesticide use. For energy, it reflects the growing visibility of solar and wind farms, along with smart meters in residential households

(this is distinct from upstream energy producers reliant on oil & gas extraction).

- **Aviation** and **other transport** sectors (with the exception of rail) are at the opposite end of the spectrum, with mining and heavy industry.
- **Telecoms** sits in a neutral position. This likely reflects a lack of public awareness of the CO₂ footprint from smartphones and mobile networks – much less the industry efforts on climate and sustainability, even if telecoms is one of the leading sectors in this respect.

Figure 3 How consumers view industry performance on climate action

Net favourability rating*



*The percentage of consumers who think an industry is doing the most to fight climate change minus the percentage who feel that industry is doing the least.

Source: GSMA Intelligence based on Sustainability Consumer Attitudes Survey across 16 countries

It is important to caveat that these are broad stakeholder groups and industries with variation in their structure. Though consumer perceptions do not always reflect reality, the perceptions have a bearing on behaviour and actions, such as voting intentions, purchasing criteria and brand associations. For operators, examples can be drawn from other

industries offering green-certified products and helping to orient consumer behaviour towards a more sustainable lifestyle. Examples include renewable energy tariffs, electric-vehicle charging access, solar or wind-based energy supply (powered by on-site generation) and incentives for recycling mobile phones. This is the currency of reputational capital.

3 Customers and suppliers: aligning values and plans

Consumers

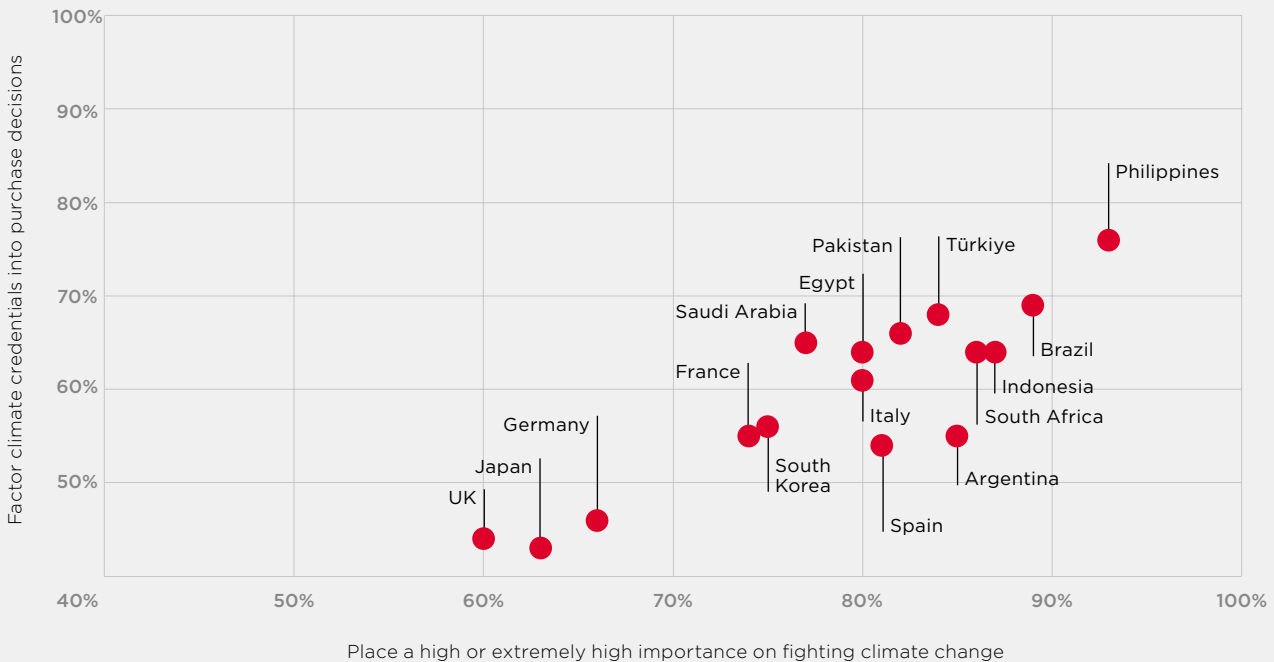
The reputational impact of corporate green credentials and actions extends to brand perception and purchasing decisions. While it is well documented that consumer values incorporate ESG priorities, this has not always translated into purchase actions. However, that has now changed. Analysis of data from a recent GSMA Intelligence survey indicates that 60% of people, on average across 16 countries studied, consider climate or sustainability criteria an active part of product purchasing.

More strikingly, there is a clear correlation between green purchasing and countries on the front line of climate change (see Figure 4). The highest rates are

seen in the Philippines, Brazil, Türkiye, Pakistan and Indonesia. All are high-growth, emerging economies with direct exposure to warming and extreme weather events, something which has been painfully apparent in, for example, the Pakistan floods and Philippine typhoons.

Climate concerns and green purchasing criteria are comparatively lower in developed economies. However, should warming effects continue to spread more broadly and begin to have a pronounced and visible impact on these countries, consumers will vote with their wallets.

Figure 4 Consumers on the front line of climate change are most likely to vote with their wallets

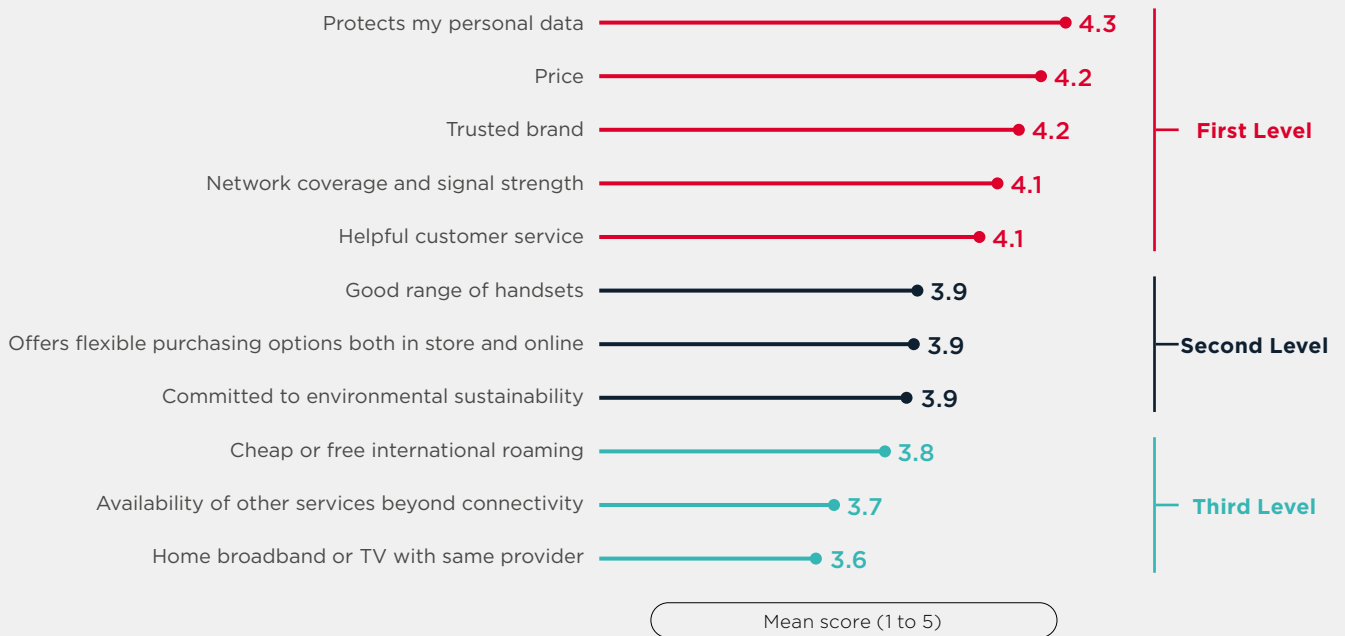


Source: GSMA Intelligence based on Sustainability Consumer Attitudes Survey across 16 countries

Telecoms sector churn averages around 10–15% in markets with a high proportion of postpaid, such as Europe, the US, Japan and Australia. The fall in customer switching rates induced by the pandemic has largely been sustained as the handset replacement cycle has continued to lengthen from inflationary pressures on discretionary income. While a positive for operators in terms of lower customer acquisition costs and commission to third-party retailers, this relative stasis is unlikely to remain indefinitely. In this context, the reputational impact of going green should be seen as a competitive selling point, and one earned through several years of investment and cultural change.

To a certain extent, marketing activity from operators already doing this is pre-empting a future shift. As of now, the attributes most highly prioritised by consumers in selecting a mobile operator are privacy and personal data protection, price, network coverage, brand and device range (see Figure 5). Environmental reputation is a second-level consideration but is expected to move up, in much the way other products and services with green credentials have risen in importance as countries are exposed to the effects of climate change.

Figure 5 The importance of particular attributes in selecting a mobile operator

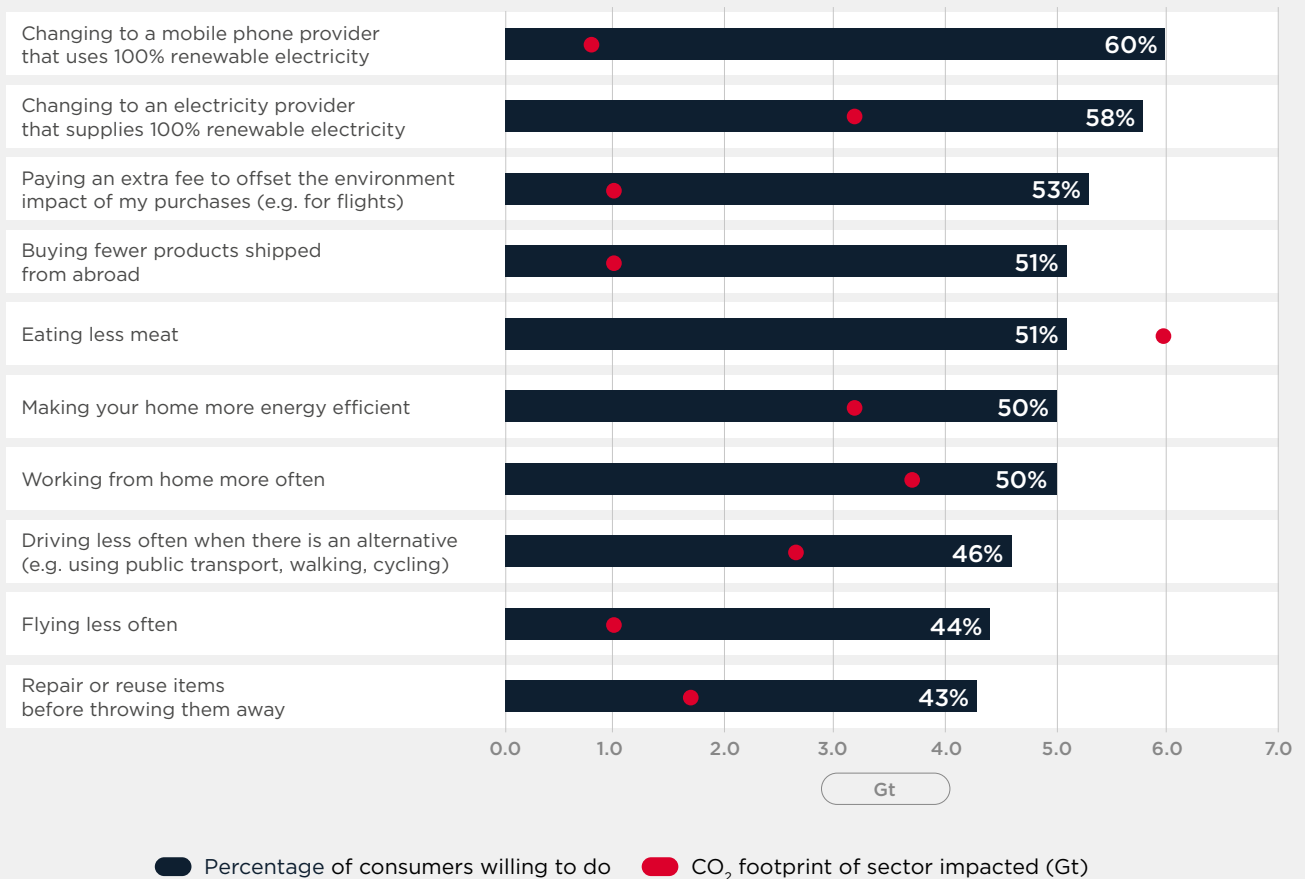


Source: GSMA Intelligence based on Sustainability Consumer Attitudes Survey across 16 countries

Figure 6 shows consumers' propensity to change behaviour across a number of categories. Behaviour is arguably the hardest thing to change. In this vein, it is unsurprising that rates are lowest for activities where people are giving something up for the betterment of the planet. Flying and driving less have the least consensus, at less than 50% of people being willing to change a little or a lot. Switching to telecoms and energy providers that use 100% renewables are the top choices, offering a win-win with widespread support for phasing out fossil fuels. The fact that more than 50% of people are willing to pay a fee (premium) to offset the carbon impact of a purchase – be that on a flight or buying goods from abroad, for example – speaks to a willingness to spend discretionary income before giving something up.

In the long run, governments and societies will need to make difficult choices that impact day-to-day lives, but much of this comes down to political will and regulation, not technology. Importantly, the renewables appetite is the tip of the iceberg. From an industry perspective, there is a latent 'green premium' available for operators if product design and marketing can be embedded with sustainability criteria (such as carbon-neutral tariffs) before regulation requires product adherence to strict environmental standards. The timeline for emissions-related regulations will vary by country and industry, but it has already started in automotive and aviation (among others) and is likely to extend further before 2030.

Figure 6 Consumers are willing to change behaviour



Source: GSMA Intelligence based on Sustainability Consumer Attitudes Survey across 16 countries



Enterprises

For operators, selling 5G and other technologies to enterprise verticals offers a dual value proposition in terms of productivity gains and higher power efficiency. The latter has historically been underappreciated but is now centre stage; any company on a 2050 net-zero timeline will have to cut CO₂ emissions by 50% in each successive decade.

With global CO₂ emissions now approximately 53 gigatonnes (Gt), the overall cut required this decade is around 26 Gt. For context, that is 26 billion

tonnes of carbon, or 3 tonnes of CO₂ taken out of circulation for each person on the planet over the 10 years to 2030. GSMA Intelligence modelling suggests mobile and digital technology could drive 40% of the required CO₂ reductions over the 10 years to 2030 within the top four emitting industries that account for 80% of global emissions – manufacturing, power and energy, transport, and buildings. This includes a collection of products from 5G connectivity to private networks to IoT and cloud, supported by digital-twin (AI) modelling.

Examples of enterprise use of 5G and other technologies to reap power efficiencies

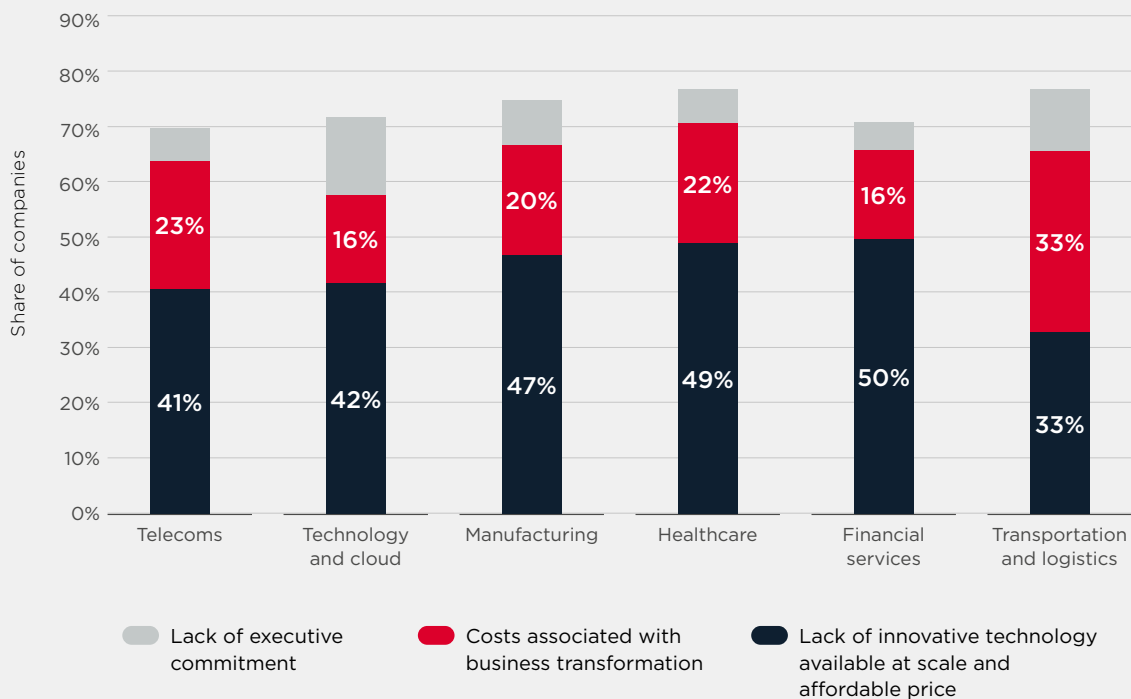
Bosch uses IoT sensors linked to a 5G network at factories in the UK and Germany to manage robotics and pre-emptive repairs of equipment, reducing call-outs and associated energy consumption. Meanwhile, Volkswagen has a private 5G network at its plant in Wolfsburg, Germany to monitor vehicle production and enable pre-emptive maintenance. In the US, Verizon has a strategic partnership with Fermata Energy to extend its vehicle-to-everything (V2X) platform to EVs. Fermata has developed a bidirectional charging system that connects an EV battery to a household or business premises, or to the electricity grid so that energy can be consumed or sold back (if in excess). Verizon's platform is underpinned by its own 5G network and at the edge via AWS Wavelength.

When GSMA Intelligence surveyed enterprise sectors on the value of reducing carbon emissions for their business, cost reductions (30%) came top, followed by revenue growth (22%). Brand reputation came third, at 16% – more than double other reasons such as improving ESG ratings or valuation. The reputational aspect adds another dimension to productivity gains and power efficiency, and is one operators should be aware of when selling into B2B customers – particularly for managed services contracts or other engagements with timeframes over several years.

The challenge for operators and their vendor partners is getting the technology through the channel at an affordable price, considering the constraints on enterprise capex. The consensus that technology is part of the carbon solution is set against the reality that enterprises think there is not enough of it available at an affordable price. Figure 7 shows the split by industry, with 40-50% rating this the No.1 barrier to meeting CO₂ reduction targets for their own company. As with any survey, there is an element of uncertainty – what is an ‘affordable price’? Regardless, there is an opportunity for operators to make more of the energy-saving potential of 5G, IoT and other enterprise connectivity solutions.

Figure 7 Technology can be the solution, but it needs to scale and fall in price

Looking 12-18 months ahead, what do you see as the top three challenges in meeting carbon reduction targets on a company and, secondly, industry level?



Source: GSMA Intelligence based on Enterprise Sustainability Attitudes Survey across six industries

Suppliers

Suppliers of telcos are relevant to the discussion in terms of the need to coordinate Scope 3 emissions tracking and comply with regulations. Examples include the EU's Corporate Sustainability Reporting Directive, and South Korea's Emissions Trading Scheme, which covers 74% of the country's greenhouse gas (GHG) emissions. The notion of a sustainable procurement policy is something that has only developed at scale over the last five years. By choice or by law, companies are increasingly incorporating ESG criteria into procurement requests for proposals (RfPs) and supplier selection decisions.

Policy components

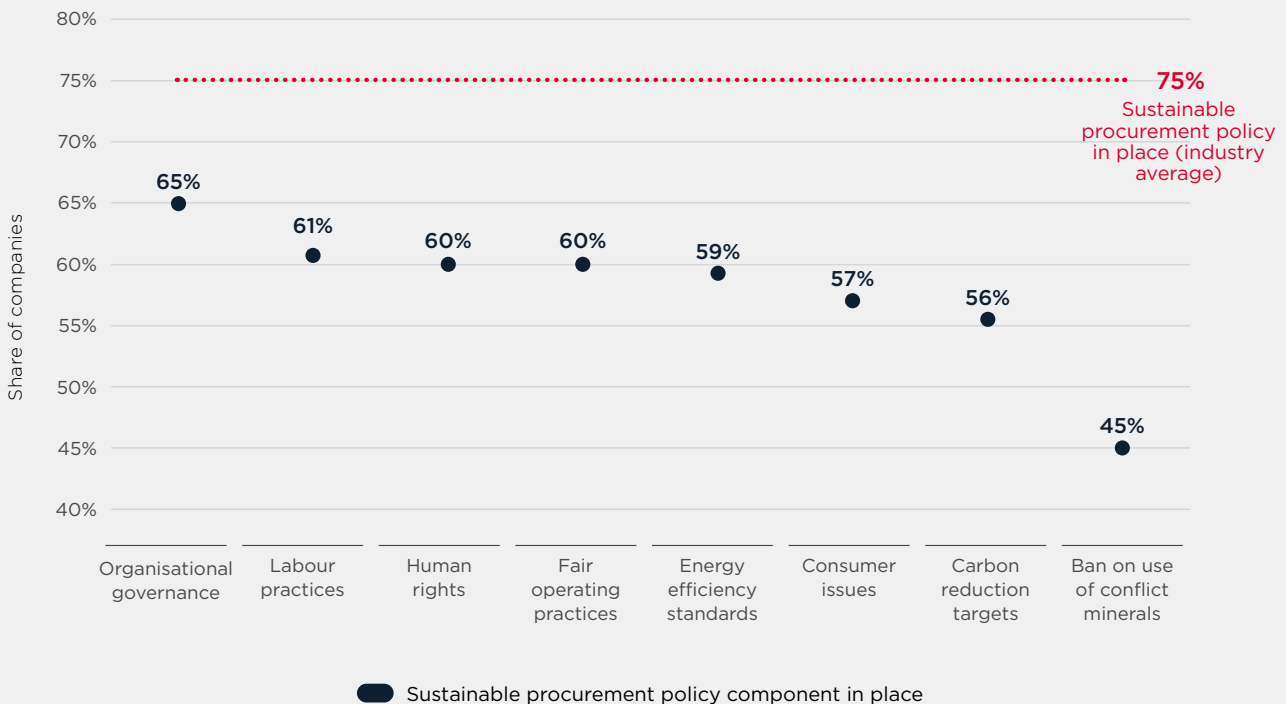
Even the most commonly used components such as fair labour practices, child labour prohibitions and energy-efficiency standards are included in only 50-60% of companies' policies. Similarly, 55% of companies require carbon-reduction targets of their suppliers, which is far from a strong majority. This may be because companies have not yet formulated metrics they are prepared to commit to with independent auditing, rather than a lack of will.

This includes a range of factors, including net-zero commitments, verifiable carbon-reduction targets, gender diversity and ethical labour practices.

Across the six industries surveyed by GSMA Intelligence, 75% of companies claim to have a sustainable procurement policy in place - a strong majority. There is little variation between industries, with only financial services significantly lagging. However, there are differences in terms of what goes into a sustainable procurement policy and whether it is actually enforced.

Until there is consensus, suppliers dealing with different companies in the same industry (be that telecoms, healthcare, transport or anything else) face inefficiencies in responding to RfPs with different criteria.

Figure 8 Most companies claim to have a sustainable procurement policy, but there is little consensus as to what goes into it



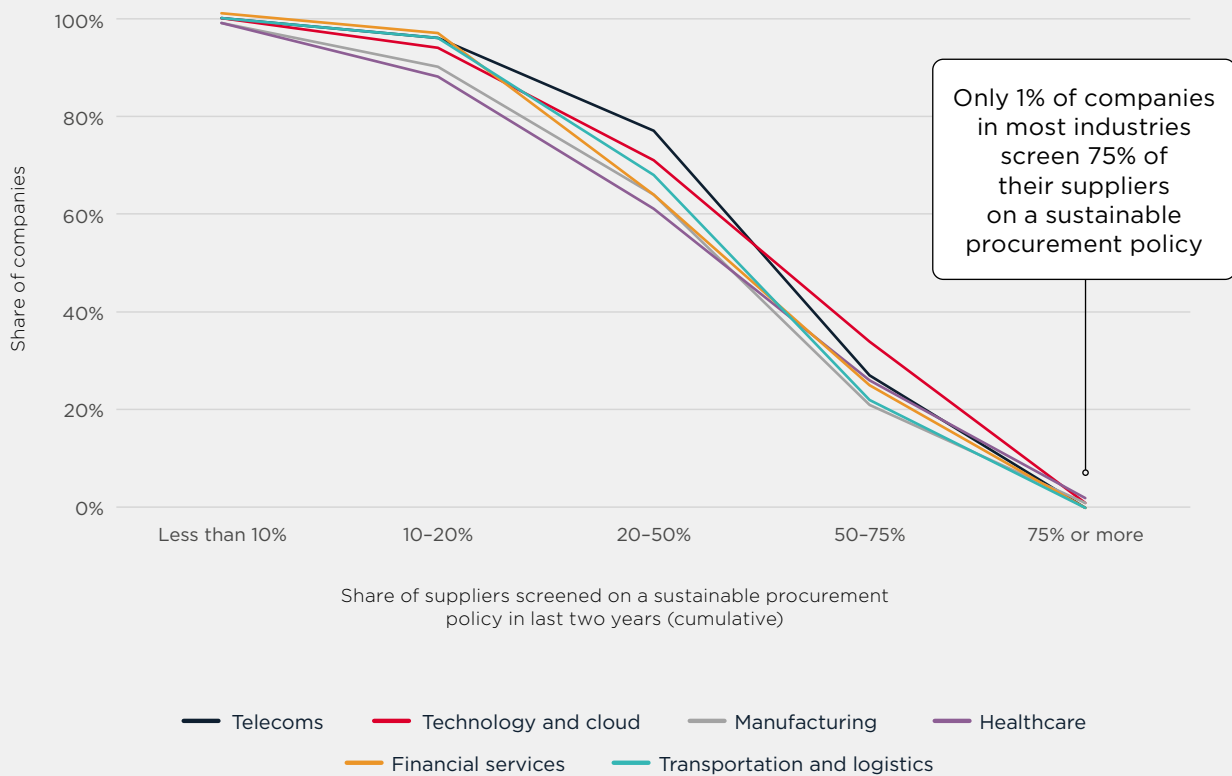
Policy implementation

While 75% of companies claim to have a sustainable procurement policy, a far lower proportion have put this into practice at any appreciable frequency.

Figure 9 shows how commissioning companies in each industry compare on the share of suppliers screened on the policy. The downward-sloping nature

of the curve is near uniform, with the majority only screening up to 20% of their suppliers. Less than a third of each industry screens more than half its suppliers, with the share doing this for more than 75% being essentially negligible – despite it being the ultimate goal.

Figure 9 It's one thing to have a sustainable procurement policy, another to implement it



Source: GSMA Intelligence based on Enterprise Sustainability Attitudes Survey across six industries

Establishing sustainable procurement as the default will take time but is important. Scope 3 reporting requires cooperation between companies to measure and report on the emissions that occur in the supply chain. Regulatory compliance will require sustainable procurement, as has happened already in some countries. BT, Vodafone, Verizon and NTT Docomo

represent good examples. The Joint Alliance for CSR (JAC) Initiative, now comprising 27 operators, helps by having common standards for assessing and auditing the ESG practices of telco suppliers, whether network vendors (e.g. Nokia, Ericsson, Huawei, ZTE) or device makers (e.g. Apple, Samsung, Xiaomi or their suppliers).

4 Telecoms industry investors, markets and regulators: finding an equilibrium

The move to ESG KPIs

The investment and asset management sector has increasingly moved to incorporate ESG KPIs as a component of company ratings and broker research. This will affect the relative investment attractiveness of different telecoms stocks. Sell-side analysts have been joined by ESG specialists to complement the ratings ecosystem of investment banks, credit-rating agencies and financial information providers such as MSCI, Bloomberg and Refinitiv. The vast majority of major banks now have ESG research and ratings incorporated into their stock coverage. This reflects demand from buy-side clients, who have moved to increase the number of dedicated ESG funds and non-dedicated funds with higher ESG capital allocations as a share of assets under management.

The telecoms sector is no different, with most operators publicly reported companies traded on major stock exchanges. Carbon emissions reporting on Scope 1, 2 and (eventually) 3 are the most commonly disclosed ESG metrics for telecoms operators. Other ESG KPIs are emerging, though with less consensus. The Network Carbon Intensity energy (NCIE) measure is one KPI being reviewed at the ITU. NCIE measures the carbon emissions associated with an overall network, per unit of data traffic (e.g. Telecom Italia's mobile network in Italy; Telecom Italia is one of the promoters of the metric). The advantage is in discerning whether energy efficiency is getting better or worse as people use more data in the 5G era.

Ultimately, ESG being viewed and blessed as a core part of company ratings comes down to an equilibrium between the value of E, S and G and financial metrics. The question of, for example, do companies that perform well on ESG also perform well on stock growth is often asked, and hotly contested. Correlations do exist. For example, Deloitte found that companies with a 10-point higher ESG score have an approximate 1.2× higher EV/EBITDA multiple.⁷ However, these are just correlations. It is too early to make definitive conclusions on whether ESG performance is driving that outperformance on the valuation multiple. Regardless, sustainable investing is here to stay, and the direction of travel is to incorporate more climate and other ESG KPIs as a core part of company ratings, reflecting demand from asset managers and regulators.

⁷ "Does a company's ESG score have a measurable impact on its market value?", Deloitte

Operators at the vanguard, but with uneven geographic representation

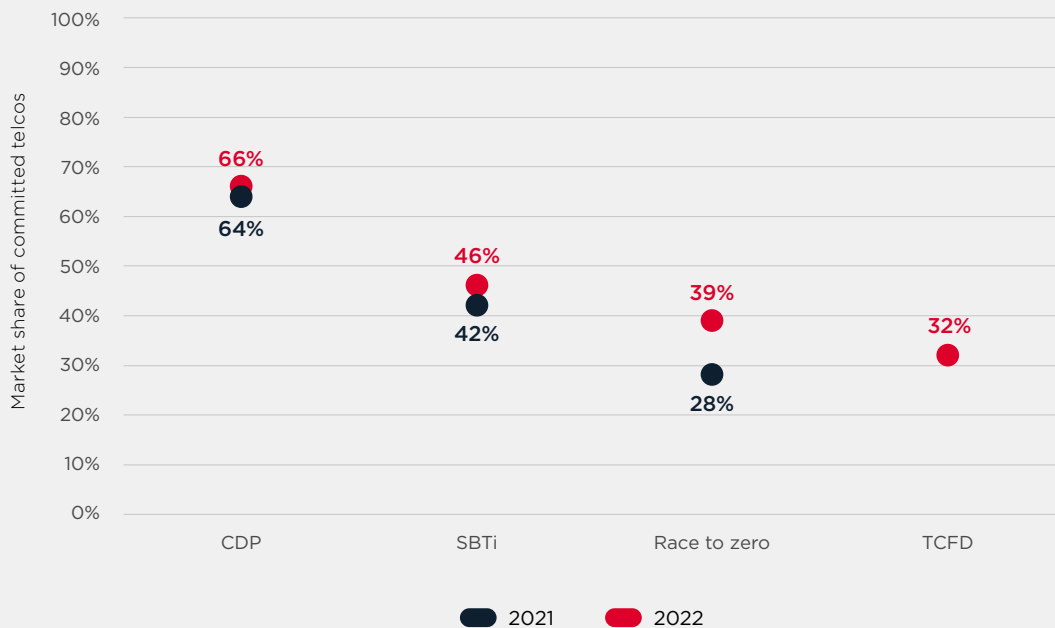
Some 70% of operators worldwide (by revenue) report carbon emissions to CDP, 50% have signed up to the Science Based Targets initiative (SBTi) and 40% have a publicly disclosed net-zero target. These rates have only nudged up in the last year, in large part because leading companies continue to sit in Europe and other high-income nations, many of whom committed years ago. The bulk of the gap between current commitment rates among telecoms operators and ubiquity (the whole sector committing) lies in Africa, China, India and much of Asia.

The TCFD reporting framework is a means of assessing the financial impact of ESG performance and climate risk. It was originally launched in 2017. The TCFD body reports that 80% of public companies

that it surveyed followed at least one of the 11 metric disclosures. However, this falls considerably when more metrics are included; 40% aligned with at least five metrics, and only 4% disclose data in line with all 11. In the telecoms sector, around a third of companies from the GSMA Intelligence survey claim to report on TCFD's framework, though this is much higher in some countries. Some operators also now explicitly include climate change in their own material risk assessments.⁸

Singtel was an early joiner and has issued its own perspective on TCFD. From an executive level, the company learned early on that to cut through and resonate with investors, language had to be changed from climate jargon to everyday finance terms.

Figure 10 Telecoms sector commitments to climate reporting are on the rise, with some way to go



Source: CDP, GSMA Intelligence



Stock exchange requirements may come into play

There are myriad ways investors rate ESG performance and reflect these in investment products. Analysis of the Sustainable Stock Exchanges (SSE) Initiative provides useful data (see Figure 11). This covers 121 stock exchanges worldwide, including more than 62,000 companies and a gross domestic market capitalisation of \$127 trillion.⁹ It includes many of the largest exchanges that handle the highest trading and capital volumes. The LSE in London, the New York Stock Exchange and Nasdaq in the US, Japan Exchange Group, Hong Kong Exchanges, Deutsche Börse in Frankfurt and several Euronext exchanges are all included.

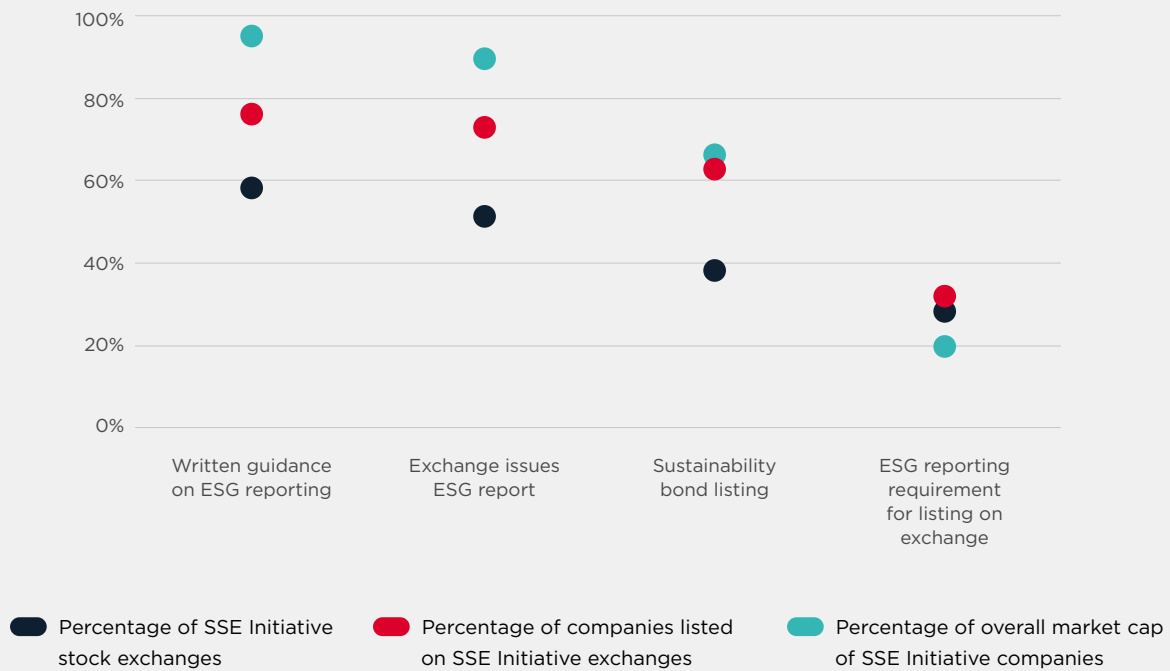
How many of the exchanges conform to ESG criteria? Figure 11 outlines exchange KPIs as a share of the total SSE Initiative universe.

The vast majority of companies (77%) trade on exchanges tracked by the SSE Initiative that have issued ESG reporting guidelines. Similar figures are visible for exchanges that have issued an ESG annual report. These companies account for around 90% of market capitalisation on the SSE exchanges.

ESG reporting as a requirement for listing is less common, at least so far. This requirement extends to 20% of company market cap on included exchanges.

⁹ <https://sseinitiative.org/exchanges-filter-search/>

Figure 11 A third of exchanges covered by the SSE Initiative require ESG reporting to list, but this will likely rise



Source: Sustainable Stock Exchanges Initiative, GSMA Intelligence

While the latter figure is low, it is expected to rise to conform to changing government regulations, investor demand for ESG data and availability of green financing. Green bonds, for example, link capital raisings to investments in renewables capacity or other sustainability projects – and, as highlighted earlier, have come out cheaper than other debt raisings in analysis carried out by the US Federal Reserve. Verizon’s fifth issuance takes its total to \$5 billion since 2019, with the proceeds from the most recent two allocated to renewable generation. Telecom Italia launched its first green bond back in 2021 to raise €1 billion, with the 4x over-subscription helping lower the cost of debt compared to its other raisings. Telefónica has similarly tapped this market. Exchanges currently requiring ESG reporting include Euronext (multiple European financial centres), SIX (Switzerland), Singapore Exchange, Bombay Stock Exchange (India), and the Argentinian BYMA and BCDA. In each case, the exchange resides in a country where government policy is supportive of ESG for a variety of reasons.

The US exchanges are conspicuous absentees, and the main reason for market cap in this metric being low. However, this is an anomaly. US stock exchanges already account for a vastly outsized share of global trading activity, providing less of an incentive to use ESG requirements as a means of attracting companies. There is also a degree of political impediment in the US Congress, with a number of vocal Republican officials opposed to ESG being a core part of valuation, for fears this compromises traditional notions of return on investment, particularly for pension funds.

