

THE INDUSTRY'S ROLE IN **CLIMATE SUSTAINABILITY**





“EMBRACING THE NEW PARADIGM WILL REQUIRE NEW STRATEGIES AND NEW USE OF TECHNOLOGIES AND SOFTWARE, AND OPEN SOURCE IS WHERE INNOVATION HAPPENS.”

Introduction

Telecom organisations have always played a key role in how societies function. Today, telcos are at the heart of the digitisation of public services, healthcare, education, and financial services, to name just a few sectors. Operators across the world are deploying new network and connected solutions that continue to reshape how businesses and citizens interact with each other.

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The scope and scale of these telco projects has huge implications for

a better future; but until recently business has taken a reactive approach to measuring the impact. That is changing. A new paradigm has arrived, one where sustainability is the umbrella under which all other priorities fall. The question is no longer “How can this project be made more efficient?” but “How can sustainability be achieved with technology?”

The answer is not to do less, but to do better. Networks must grow to feed innovation and the expanding

world of connected things. But the resultant increase in energy consumption does not need to be a threat. Instead, a focus towards energy-efficient networks is now taking place. 5G operators have a unique opportunity to help this drive to net-zero, and then climate positive, by leveraging connected technologies, hyperconverged infrastructure, automation capabilities, ML/AI technology and behavioural changes that deliver more efficient energy consumption for customers.



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Energy efficiency is just the tip of the iceberg. With these new capabilities in place, telcos can achieve other important environmental goals for themselves and their customers. Predictive modelling in the usage and repair of network equipment can reduce waste and extend recycling and traceability of other equipment, while new data centers can be designed with climate protection as a prerequisite.

More than ever, telcos must be conscious that digital transformation and sustainability overall goals cannot be separated. Embedding it as a core deliverable instead of

tagging it on as an afterthought is becoming the standard approach. For example, the GSM Association, which represents the interests of mobile network operators worldwide, is starting to develop measurable and standardised KPIs that will ensure the industry moves as one towards shared goals. Telcos that fail to recognise this shift risk their relevance.

Embracing the new paradigm will require new strategies and new use of technologies and software, and open source is where innovation happens. But when has it ever been different? The telecoms industry has

proven itself to be one of the most forward-thinking and innovative sectors. Focus on energy efficiency is merely the next pivot it must make. Those that truly recognise that sustainability is an opportunity, not a burden, will profit most. At Red Hat we believe so and we want telcos to make the most of our technologies to achieve this important goal for the future.

In the survey, we asked service providers about how goals, key players, enablers and how this new paradigm will affect other industries and help them thrive.

About Red Hat

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The industry's role in climate sustainability

It's clear that telcos will play a vital role in climate action now and the future, especially as the industry pursues ambitious sustainability goals, such as the GSMA's previously announced commitment to achieve net-zero emissions by 2050.



That's because the industry has such immense global reach and influence: Climate action will be important to telcos' own infrastructure and operations, but also have cascading impacts on customers, suppliers, governments, and more.

It's still early days in terms of defining specific strategies and action: 41% of respondents in our Climate Action Survey said they are currently in a planning phase and assessing where their organisation can have the most impact; another 20% have no initiative in place at all.

The opportunities for action remain widely untapped. ^{Figure 1.1}

What may be less visible is that climate sustainability initiatives have the potential to benefit not just the planet and greater good, but also the bottom line. In fact, some of the top catalysts for developing sustainability strategies are rooted in business benefits – a trend likely to spur more strategic planning now and in the near future.

More than half of respondents (51%) in our Climate Action Survey said increased operational efficiencies

FIGURE 1.1: COMPANY CLIMATE SUSTAINABILITY STRATEGY

QUESTION: HOW WOULD YOU DESCRIBE YOUR COMPANY'S CLIMATE SUSTAINABILITY STRATEGY?

We do not have an active strategy



We are currently working on a strategy and assessing where we can have the most impact



We have launched a climate sustainability strategy but are now in the operationalising phase, and it is not linked to the company strategy



We are operationalising a well-defined sustainability strategy with science-based targets, and it is related to our company strategy



and innovation as the top drivers behind offering climate-sustainable products and services; that made them the top two catalysts for sustainability initiatives among telcos. Gaining a competitive advantage (37%), compliance and risk management (33%), and brand improvement (33%) round out the top five.

Clearly, telcos see the importance of climate sustainability not only to the public good but also to their own businesses. As a result, they're poised to take the reins of climate action in their own industry – and

influence sustainability goals and initiatives broadly among suppliers, customers, and elsewhere in the ecosystem.

How and why telcos will take action within their own industry

While the business drivers behind climate sustainability strategies may vary from organisation to organisation, there's a growing collective urgency to act to protect the industry's vital infrastructure from the impacts of extreme weather and other climate-related events.

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More than half of respondents (52%) said it's "critical" to ensure that telecom infrastructure is resilient – and that their footprints are already under pressure from extreme weather events. Another 19% describe it as "important" and think the industry as a whole needs to act within the next 12-18 months. Just six percent don't think it's relevant.

Figure 1.2

FIGURE 1.2: IMPORTANCE OF ENSURING TELECOM INFRASTRUCTURE IS CLIMATE CHANGE RESILIENT
QUESTION: HOW IMPORTANT IS IT TO ENSURE TELECOM INFRASTRUCTURE IS RESILIENT TO IMPACTS DRIVEN BY CLIMATE CHANGE?



Shoring up telecommunications infrastructure itself will be one key pillar of the industry's broader climate initiatives, since it's obviously in the interest of any provider to ensure its long-term resiliency.

As telecom businesses shape their strategies, they're looking inward first. Asked where telcos should focus their efforts in terms of energy efficiency and minimising

greenhouse emissions, 56% said: "Optimising own operations and networks to be more efficient." That's the top reason, followed by demanding sustainable practices from their suppliers (38%).

Figure 1.3

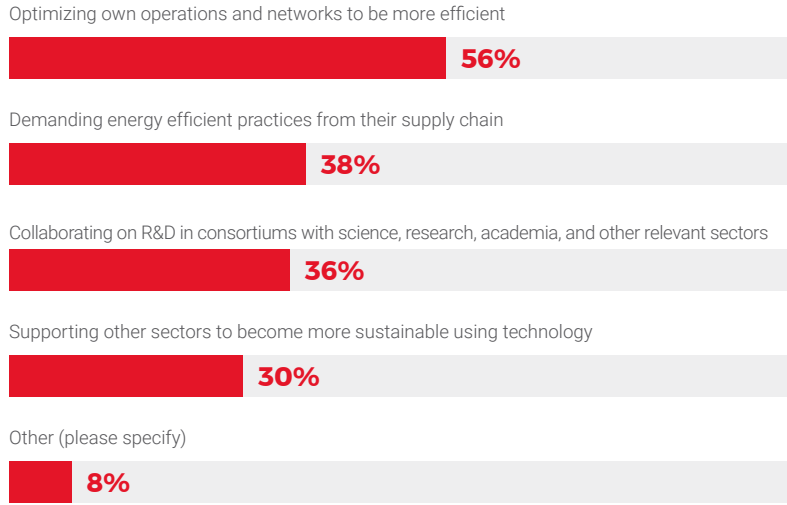
In terms of optimisation and efficiency, there's an enormous opportunity that will likely be prioritised in many strategies: Energy consumption. As a technology-driven industry, energy usage – and energy costs – are sky-high. As a result, increasing energy efficiency is a prime example of how climate action can be good for the world

(by reducing consumption and emissions) and for the bottom line (by reducing energy-related costs). Nearly two-thirds (64%) of respondents said reducing energy consumption was their top operational challenge, followed by procuring and using renewable energy (45%).

As such, it's no surprise that technical advances and changes in the industry are viewed as significant opportunities. Telcos view these technologies as having the most potential for positive sustainability impacts:

FIGURE 1.3: KEY SUSTAINABILITY FOCUS AREAS FOR TELCOS

QUESTION: WHERE SHOULD TELCOS FOCUS THEIR EFFORTS ON ENERGY EFFICIENCY AND MINIMIZING GREENHOUSE GAS EMISSIONS? (SELECT TOP TWO.)



- Intelligent data centers (44%)
- Intelligent supply chain management (40%)
- IoT (38%)
- Artificial Intelligence/Machine Learning (35%)
- Automation (32%)
- Buildings monitoring and management systems (32%)

How telcos will impact climate sustainability elsewhere

Telcos aren't merely acting in their own self-interest. Rather, they're

increasingly aware of the industry's role and influence on sustainability more broadly.

One in three (36%) firms think R&D collaboration with science, research, academia, and other relevant sectors should be a focus in sustainability plans, and 30% view supporting other sectors to become more sustainable via technology as key.

Indeed, telcos recognise that climate action and sustainability is not the

purview of any one specific sector. That's reflected in the diverse list of key players telcos see as influencing the industry's overall sustainability agenda. Figure 1.4

But the telecom industry also understands that its global reach means it can be a positive change agent, especially given the deep relationship between energy efficiency and technology. Asked to select the other sectors where the telecom industry can have the greatest climate-related impact, respondents ranked transport and logistics (41%), technology (36%), agriculture (34%), utilities (including the fuel industry) (30%), and manufacturing (29%) as the top five. Figure 1.5

As telcos are at the vanguard of so many modern technologies – including those that have considerable potential for positive sustainability impacts – they can play a leading role in how other industries harness technology to achieve their own climate and sustainability goals.

FIGURE 1.4: KEY PLAYERS DRIVING CLIMATE CHANGE MITIGATION AGENDA

QUESTION: WHO ARE THE KEY PLAYERS DRIVING THE TELECOM INDUSTRY'S AGENDA ON CLIMATE CHANGE MITIGATION? (SELECT ALL THAT APPLY.)

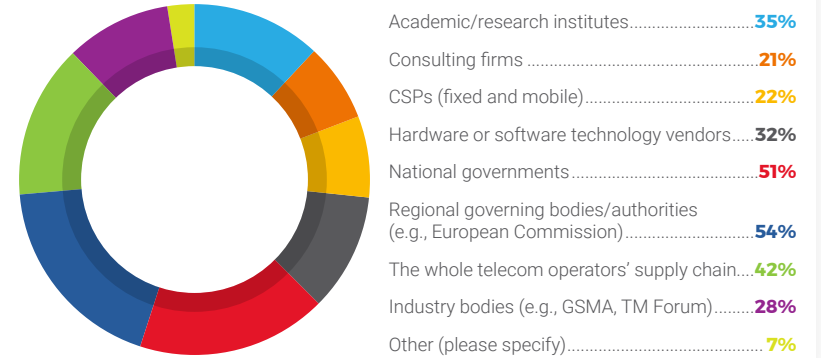
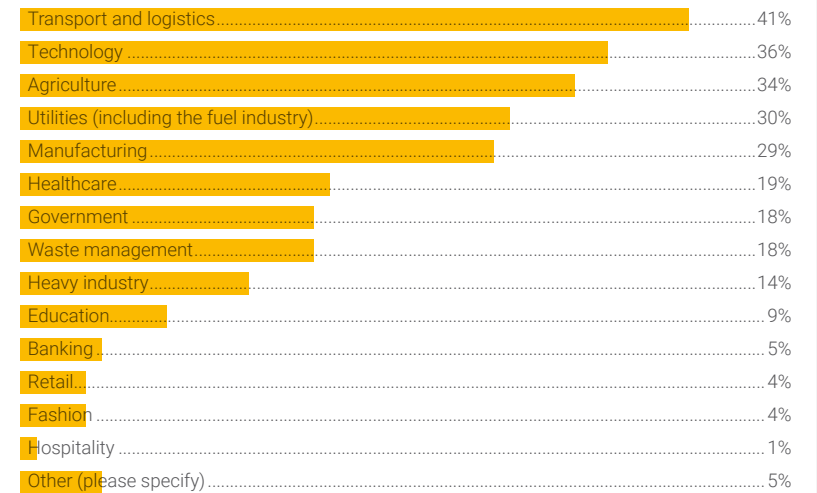


FIGURE 1.5: INDUSTRIES TELCOS CAN MOST ENABLE IN TACKLING CLIMATE CHANGE

QUESTION: WHICH INDUSTRIES CAN TELCOS MOST ENABLE IN TACKLING CLIMATE CHANGE? (SELECT TOP THREE)





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