

The opportunity for telcos to act on climate

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Contents

The opportunity for telcos to act on climate	2
What is changing for the telecoms sector?	3
If action is urgent, what can the telecoms industry do?	4
The sector is responding – and the rulebook is changing rapidly	5
Mobile operators are uniquely placed to make a difference	6
5G technology can play its part	7
In conclusion	8

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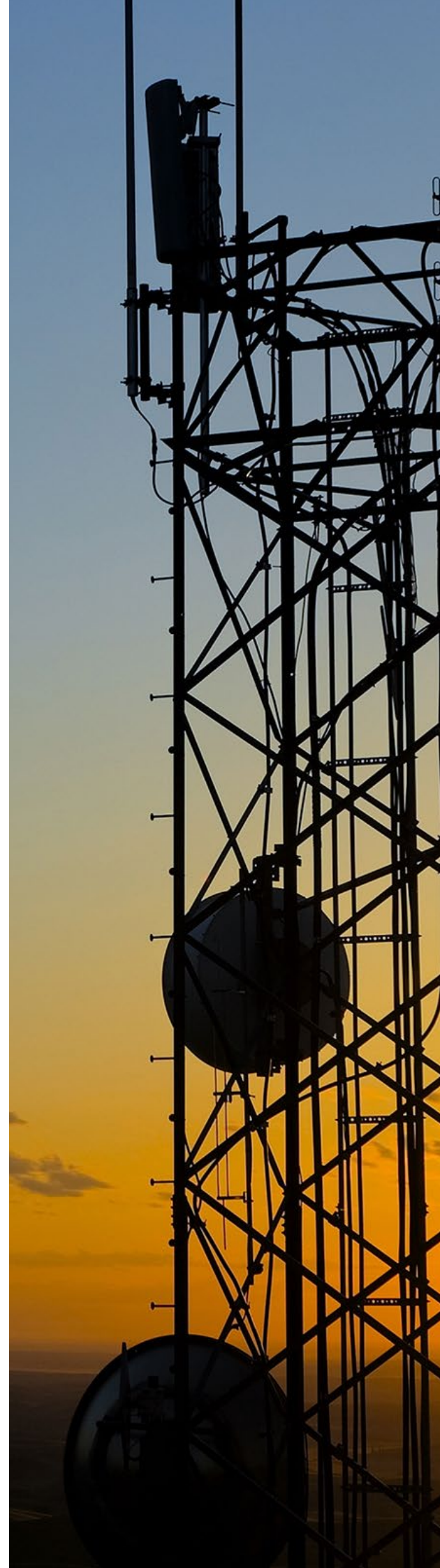
George joined Macquarie in 2019, and has previously worked for over 25 years in telecoms, both at operators (e.g. Vodafone, Telecom Italia, Mercury Communications) and in the service provider ecosystem.

The opportunity for telcos to act on climate

In comparison with other sectors, the telecoms industry has been slower to respond to the growing environmental concerns of its customer base.

There are signs that this is changing, and the industry is well positioned to move more rapidly to both reduce its own impact while also seizing the opportunities that exist to help its customers reduce their own environmental footprints.

The positive news for the sector is that environmental sustainability does not have to be at odds with good business sense, and ultimately can drive differentiation for the savvy operator.

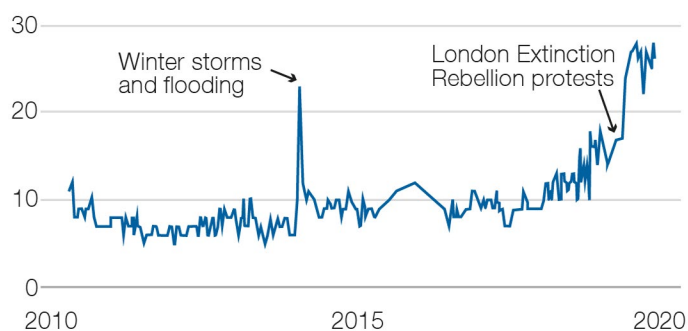


1 What is changing for the telecoms sector?

Public awareness of and concern about climate change continues to grow. In the UK public consciousness is now at a high level; 27 per cent of voters in the 2019 General Election said their choice of political party was influenced by its stance on climate change.¹ The percentage of people who identify the climate as one of the top three issues in the country is at a similar level, a threefold-increase since 2017, according to the 2019 YouGov poll.

Environmental concern at highest level

% who say environment is one of top three issues facing country



Source: YouGov

In parallel, governments are adopting more ambitious climate policy. Last June, the UK became the first major economy to pass legislation committing itself to reach net-zero emissions by 2050.² In December, the EU followed suit with its own net-zero commitment. As of February 2020, nearly half of the world's GDP is generated in jurisdictions where authorities have set or are proposing to set a net-zero target in or before 2050.³ These targets presage a wide and growing range of policies and regulations whose effects will be felt across the entire economy.

Large companies are stepping up. Thus far, most companies that have set targets to reduce their emissions have focused on those they produce directly – known as Scope 1 emissions – or those that are produced as a consequence of the electricity they consume, Scope 2 emissions. However, some companies are setting targets based on their Scope 3 emissions – those that result from the use of their products.

Notably, BP committed in February to becoming net zero in 2050, including in this target the emissions from the use of its oil and gas products.⁴ Microsoft has gone even further: by 2030, it has vowed that both it and its supply chain will remove more carbon from the atmosphere than it produces; by 2050, it will “remove from the environment all the carbon the company has emitted either directly or by electrical consumption since it was founded in 1975”.⁵



The positive news for the sector is that environmental sustainability does not have to be at odds with good business sense, and ultimately can drive differentiation for the **savvy operator**

1. Concern for the environment at record highs, Yougov.co.uk [\[Full article\]](#)
 2. UK becomes first major economy to pass net zero emissions law, Gov.uk [\[Full article\]](#)
 3. Almost half of global GDP under actual or intended net-zero targets, Ecuinet.net [\[Full article\]](#)
 4. BP sets ambition for net zero by 2050, BP.com [\[Full article\]](#)
 5. Microsoft will be carbon negative by 2030, Microsoft.com [\[Full article\]](#)

2 If action is urgent, what can the telecoms industry do?

The telecoms industry has an opportunity to respond positively to this challenge. While it currently accounts for only around 1.4 per cent of global greenhouse gas emissions, this figure could grow to around 14 per cent by 2040 – half the level of the entire transport sector.⁶ It is also a large consumer of scarce and/or carbon-intensive materials; the manufacture of each smartphone requires around 35kg of raw materials and produces 55kg of carbon dioxide (CO₂).

However, across the telecoms value chain there are multiple opportunities to take action to create an environmentally sustainable industry. To seize them, telcos should revisit business models and look for more innovative solutions, considering both *environmental* sustainability together with *economic* sustainability.

In terms of these opportunities for action, the various actors in the telecoms value chain have different areas of focus:

Device OEMs could shift production towards repairable/modular systems, embracing the use of recyclable materials, as we have seen with Apple's latest generation of products.

Infrastructure OEMs have opportunities in creating a second life for legacy radio access networks (RAN) and core infrastructure, moving away from their current linear 'use-once and scrap' approach.

Operators can extend their current sustainability focus beyond the reductions of their direct emissions to building and shaping choices for customers that encourage more sustainable product use and reuse, specifically around handsets.

These shifts could allow **customers** to easily make purchasing and consumption decisions that are both better for the planet and economically optimal.



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The manufacture of each smartphone requires around **35kg of raw materials** and produces 55kg of carbon dioxide (CO₂)

3 The sector is responding – and the rulebook is changing rapidly

The good news is that a great deal of activity is already underway among government and the industry to catalyse this change.

One of the most promising initiatives is the development by the industry trade association GSMA and more than 50 of its member operators on a climate action roadmap.⁷ These operators – including Vodafone, Telefonica, TIM, Deutsche Telekom, Orange and Verizon – are now disclosing their climate impacts through the Carbon Disclosure Project.⁸ They also commit to a “decarbonisation roadmap” in line with the Science Based Targets initiative, and net-zero GHG emissions by 2050. One of the main outcomes here is that it will require mobile operators to include their indirect emissions (i.e. including those of mobile devices) within their targets for emissions reductions.

Meanwhile, policymakers are acting. The EU’s Circular Economy Action Plan was released by the European Commission in March. It includes policies designed to crack down on practices that enable planned obsolescence for consumer products. It will also introduce eco-design requirements for ICT products, and an EU-wide reward system to return or sell back old mobiles phones, extend their lifetime and improve their recycling, according to a draft of the roadmap.⁹

This pressure from industry and policymakers is forcing operators to seek additional strategies to reduce the footprint of an industry which over the past 10-15 years has manufactured almost 10 billion smartphones, with all the associated impacts in terms of ore extraction, mineral consumption and CO₂ emissions.



Operators commit to a “decarbonisation roadmap” in line with the Science Based Targets initiative, and **net-zero GHG emissions by 2050**

7. World’s Leading Mobile Operators to Disclose Climate Impacts as Part of New GSMA-Led Climate Action Roadmap, Gsma.com [Full article]

8. Carbon Disclosure Project: <https://www.cdp.net/en>

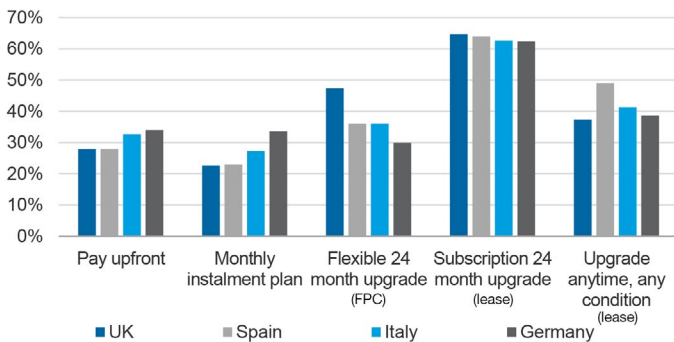
9. EU’s new circular economy plan aims to halve waste by 2030, Euractiv.com [Full article]

4 Mobile operators are uniquely placed to make a difference

Telecoms operators are well placed to positively influence customer behaviour, the real battleground for the environment. They hold a unique position that, through their relationships with clients, gives them the opportunity and the skills to drive customer choice:

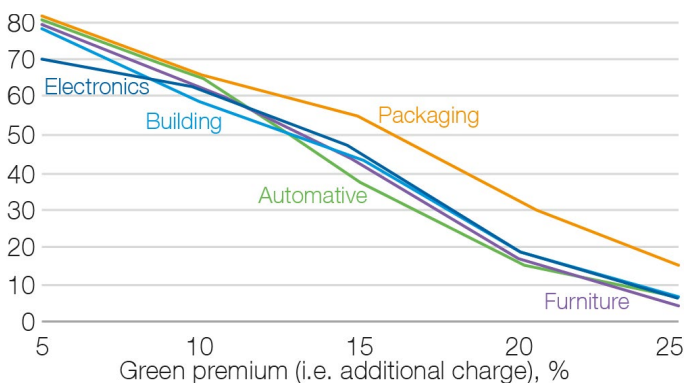
First, in an independent research commissioned by Macquarie in 2019, we saw that customers across a number of countries in Europe display a readiness to adopt the handset-return model (described as a ‘subscription’ service) as a preferred method of financing their electronic hardware. This trend is emerging across multiple industries as customers shift from an ‘ownership’ to a ‘usership’ mindset. Acknowledging this growing acceptance of circular business models provides telcos with an opportunity to help reduce their industry’s impact.

Customer preferences



Second, we are seeing a growing readiness of customers to pay more for a sustainable product. Research by McKinsey found that, among a sample of 1,000 customers across Europe, between 60 and 70 per cent of customers (depending on the product) were prepared to pay an extra 10 per cent for a product that is demonstrably sustainable.¹⁰

Share of consumers picking green, %



Third, thanks to their experience gained in bundling service components together, telcos have mastered the skills to create composite value offerings.

- They have become adept at combining services to improve customer convenience and build loyalty: offering TV, content, mobile, fixed and broadband services into digestible quad-play bundles.
- They can use these same skills to build a **green bundle** that goes beyond carbon offsetting and recycled protective cases to one which addresses various environmental aspects of the handset lifecycle. This bundle would include a variety of elements that change customer behaviour by extending the life of the phone, thus reducing resource extraction and cutting overall energy usage throughout the operator’s value chain.
- Market research shows that customers are ready to choose green products, but they do not want to have to make numerous, repeated green choices: they prefer their choices to be bundled together and simplified.

These three elements create an opportunity for telcos to offer a service that is more environmentally responsible, offers higher margins and which promises to build customer loyalty – a compelling triple win.



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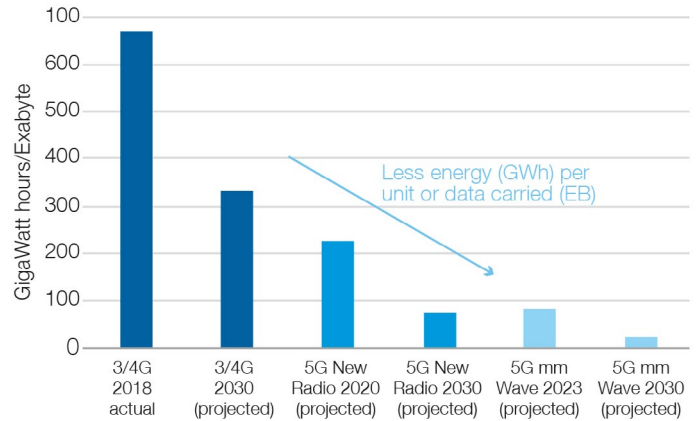
10. How much will consumers pay to go green? McKinsey.com, Oct 2012 [Full article]

5 5G technology can play its part

In this evolving marketplace, the launch of 5G networks presents both challenge and opportunity. Certainly, 5G availability will contribute to dramatic increases in overall data usage – with Ericsson estimating average smartphone data usage growing from 5.6GB a month in 2018 to 21GB in 2024.¹¹ However, some commentators see an opportunity for operators to mitigate climate change by accelerating 5G roll-out. Thanks to its more efficient usage of energy, and its faster through-put speeds, significant benefits have been identified by pushing 5G build as fast as possible.

Research by the consulting firm STL Partners¹² suggests that the improved energy performance of 5G networks over the period 2020-30 could reduce the cumulative footprint of mobile networks by **0.5 billion tonnes of CO₂** (equivalent to the output of 10 coal-fired power stations during the same period).¹³

STL projected global mobile access network energy performance



The improved energy performance of 5G networks over the period 2020-30 could reduce the cumulative footprint of mobile networks by **0.5 billion tonnes of CO₂**

11. 5G consumer potential: Busting the myths around the value of 5G for customers, Ericsson.com [\[Full article\]](#)

12. Accelerating 5G Roll-out Could Cut Global Mobile Network Carbon Emissions by Half a Billion Tonnes by 2030, Prnewswire.com [\[Full article\]](#) Nov 16, 2019

13. Accelerating 5G Roll-out Could Cut Global Mobile Network Carbon Emissions by Half a Billion Tonnes by 2030, Prnewswire.com [\[Full article\]](#) Nov 16, 2019

6 In conclusion

Telecoms operators have a great opportunity to act through this period of change and there is significant potential for first movers in the space to make a play for the climate-concerned consumer.

The good news is that the industry has the power to make a difference; through their relationships with customers, through the acceleration of the roll-out of 5G, and through the tools that they have, create bundled sustainable propositions for handsets.

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