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Ecosystem Bytes  
**Sustainability  
in the Telecom  
Industry**

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JANUARY 2022



# Introduction

Telecom companies' spending on utilities (electricity, fuel, and water) amounted to an estimated 5.2% of OpEx (excluding depreciation and amortisation) in 2020, a bit up from the previous three years. There is modest evidence that 5G adoption is driving costs higher. Early adopters, such as China Mobile, Ooredoo, Swisscom, Telecom Italia, and all three of Korea's big telecom providers (SKT, KT, and LG Uplus) saw increases in utilities spend in 2020. Increases generally weren't big but serve as a good reminder that telecom providers will need to seek out energy efficient equipment, software, and network architectures as 5G penetration grows.

**Telecom providers also need to rise to the challenge of truly serving as enablers of sustainability. Rather than just viewing energy as a cost centre, they should work with customers and partners to move rapidly towards green energy and reductions in usage.**

Some providers are already on this path, but not nearly enough.



# Energy Costs Rising with 5G

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With the shift to 5G mobile access networks, there will be upwards pressure on the utilities/OpEx spend ratio. A typical 5G base station consumes up to twice or more the power of a 4G base station. The disparity can grow at higher frequencies, due to a need for more antennas and a denser layer of small cells.

Edge compute facilities needed to support local processing and new IoT services add to overall network power usage.

**The bottom line is that, in an increasingly 5G world, telecom providers could face significant growth in their energy bills. To address this issue, they will need to take actions at the organisational, architectural, and site levels.**

Vendors have an important role to play in this effort.



# Energy Costs a Function of Many Factors

Telecom spending on energy is a function of a wide variety of factors. Factors include the price of energy; the mix of energy types; the % loss (high in countries such as India); relative age of network equipment; need for high-cost diesel fuel in mobile base stations; whether a company owns its own data centres; how much energy is self-generated; and local green regulations.

The network is not the only issue; the workforce also matters. Energy consumption in office buildings and for customer and site visits, for instance, are also factors. 2020 saw widespread office closings and a shift to telecommuting amidst the spread of the virus. The network likely grew as a percentage of overall telecom energy consumption in 2020. However, as organisations pursue hybrid working models the impact of the workforce on energy costs are likely to grow.



# Cost is One Issue: Sustainability is Another

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The telecom CFO may be concerned mainly with the direct cost of energy consumption.

**The CEO needs to be concerned with the company's overall carbon footprint, and how it is working with customers and partners to address climate change.**

Most big telecom providers issue annual sustainability reports and a growing number is committing publicly to target dates for achieving carbon neutrality and/or net zero status. Some have already achieved carbon neutrality, including Swisscom and KPN.

It is also promising to see providers such as Swisscom **educate customers about CPE energy usage**, which is generally much more than the telecom's direct energy consumption in the network. Swisscom advertises energy efficiency features in its blue TV set-tops, home routers, and "climate-compensated" smartphones.



# Monetising Environmentalism

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The commitment to environmental targets that telecom companies are showing is laudable, especially when they address their role as an enabler of sustainability.

**What is even more appealing, though, is their growing efforts to monetise their environmentalism; that could make sustainability programs stick.**

Vodafone, for instance, detailed a few of its efforts last year – its **Smart Building product** helps customers optimise heat, light and cooling systems in their buildings; telematics products help fleet managers shorten routes, cut idling times and reduce fuel consumption through intelligent route planning; and a smart substation effort with UK Power Networks aims at integrating more renewable sources.



# Measuring Progress

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You can't talk about climate change and sustainability programs without addressing how to measure progress.

Measurement tools and standards are proliferating, thanks to organisations like the Science Based Targets initiative ([SBTi](#)), the European Green Digital Coalition ([EGDC](#)), and the International Standards Organization ([ISO](#)). There is still a lack of consistency in reporting, though, which affects the credibility of their claims. The green movement would really benefit from a set of widely accepted measurement principles, comparable to [IFRS](#). One promising development, in fact, comes from the IFRS: in concert with COP26, the accounting standards group announced an [International Sustainability Standards Board](#) (ISSB).

It is important for telecom providers to be transparent in their use of energy and adhere to credible, science-based standards and definitions in presenting their data publicly.



# Ecosystem Opinion



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At the COP26 there was a strong focus on collective action aimed at curtailing climate change trends. It is all the more important for private companies to take voluntary action. Unfortunately, they'll only do that if they get public credit for such actions, or if the changes turn out to save money.

Telecom providers have a role to play here. They have an intimate relationship with millions of customers, and an understanding of how their behaviour impacts energy usage. It's time for them to start monetising the insights, help their customers decrease consumption, save cash and position themselves as climate friendly. Recent offerings from European telecoms such as KPN, Swisscom and Vodafone point in the right direction.



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