

## 5G Will Increase Energy Consumption

The environmental footprint of 5G must be considered as technology moves forward. 5G requires hundreds of thousands of new so-called “small” cell towers and billions of new wireless devices, which will use massive amounts of energy in their production, operation, and disposal. 5G antennas are referred to as “[hungry, hungry hippos](#)” and “[a battery vampire](#).”

Numerous reports have documented the exponentially increased energy consumption of 5G, 4G densification and the billions of new wireless devices for the Internet of Things (IOT). While there may be improvements in energy efficiency for new devices individually, these gains are completely lost in the increases in total demand that will take place with the proliferation of games, videos, other streaming services, and the continued generation of highly addictive apps. [Streaming](#) with [wireless](#) results in higher greenhouse gas emissions compared to safer, faster, and more secure corded/wired fiber-optic connections.

The solution is two fold. Companies must actively manage and reduce their carbon emissions with more energy-efficient networks, device hardware/software changes, greener data centers and environmentally sustainable manufacturing processes. Most importantly, communities must prioritize wired connections in homes and buildings as well as design end user devices with easy to use plug and play *wired* capabilities.

## Reports and White Papers: 5G, Energy Consumption, and Climate

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German Environment Agency and German Federal Environment Ministry (2020) [“Fibre optic video transmission is nearly 50 times more efficient than UMTS”](#)

High Council for the Climate Report (2020) [“Controlling the carbon impact of 5G”](#)

Huawei (2020) [5G Power: Creating a green grid that slashes costs, emissions & energy use](#),

Mills, Mark P., National Mining Association / American Coalition for Clean Coal Electricity (2013), [“The Cloud Begins with Coal – Big Data, Big Networks, Big Infrastructure, and Big Power. An overview of the electricity used by the global digital ecosystem.”](#)

National Resources Defense Council, 2014 [“Data Center Efficiency Assessment”](#)

Shehabi et al., Berkeley Laboratory (2016) [“United States Data Center Energy Usage Report” PDF](#)

Timothy Schoechle, National Institute for Science, Law & Public Policy, Washington, DC (2018) [Re-Inventing Wires: The Future of Landlines and Networks](#)

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Shift Project (2019) "[LEAN ICT: TOWARDS DIGITAL SOBRIETY](#)": OUR NEW REPORT ON THE ENVIRONMENTAL IMPACT OF ICT", [PDF Summary](#)

Vertiv 5G (2019) [Telco Industry Hopes and Fears FROM ENERGY COSTS TO EDGE COMPUTING TRANSFORMATION](#)

Katie Singer, [Letters to Greta: Our Web of Inconvenient Truths](#)

## Scientific Publications on 5G, Energy Consumption, and Climate

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Morley, Janine, Widdicks, Kelly, Hazas, Mike. "[Digitalisation, energy and data demand: The impact of Internet traffic on overall and peak electricity consumption](#)" Energy Research & Social Science, Volume 38, 2018, Pages 128-137, ISSN 2214-6296

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