energy consumed per $1M in revenues has risen each year since 2020, from a base of from 84.6 MWh in 2020 to 95.7 MWh/$M in 2023.

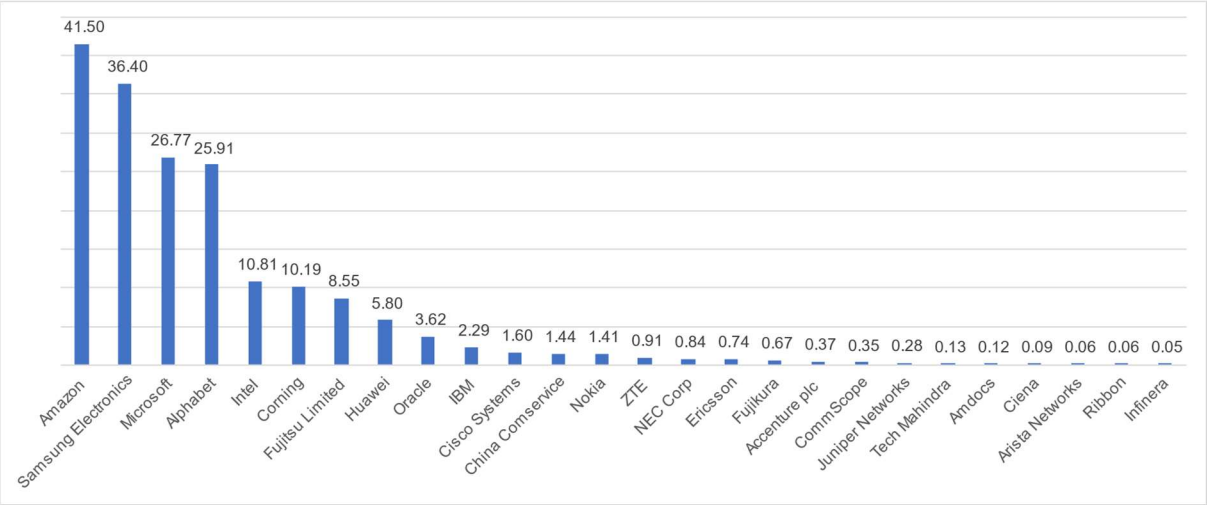
Energy consumption

Over half of the vendor group's energy consumed came from three specific companies in 2023: Alphabet, Amazon, and Microsoft. These are not typical vendors, as we also track them as webscale network operators. They all have enormous data center networks of their own and some other communications assets, including terrestrial and subsea fiber and LEO satellites. These three webscalers are 'vendors' in that they all sell into the telco market through their cloud divisions. Collectively their sales to telcos totaled over $8 billion for the 12 months ended September 2024.

In addition to the three webscalers, Samsung is also significant as its 2023 energy consumption was just over 20% of the group of 26's total. Other big energy users in the sample set include Intel (10.8 TWh), Corning (10.2 TWh), Fujitsu (8.5 TWh), and Huawei (5.8 TWh).

Figure 1 shows the 26 vendors ranked by 2023 energy consumption, in terawatt hours (TWh).

Figure 1: Total energy consumption in 2023, TWh



Source: company sustainability reports; MTN Consulting analysis

Energy intensity

The figure above illustrates absolute consumption, irrespective of size. To understand how much companies rely on energy as an input, the preferred metric is energy intensity: energy consumption divided by revenues. By this metric, the rankings look very different, as shown in Figure 2, below. Corning, Fujitsu, Intel, Samsung and Fujikura are highest, as they all make primarily chips and other hardware. Corning is an outlier, consuming 810 MWh/$M, over double that of second-ranked Fujitsu. That's not just because of its optical fiber plants; it's more due to the high-temperature manufacturing process used in producing specialty glass and ceramic products (e.g. Gorilla glass). The three cloud providers are next due to large data center networks.