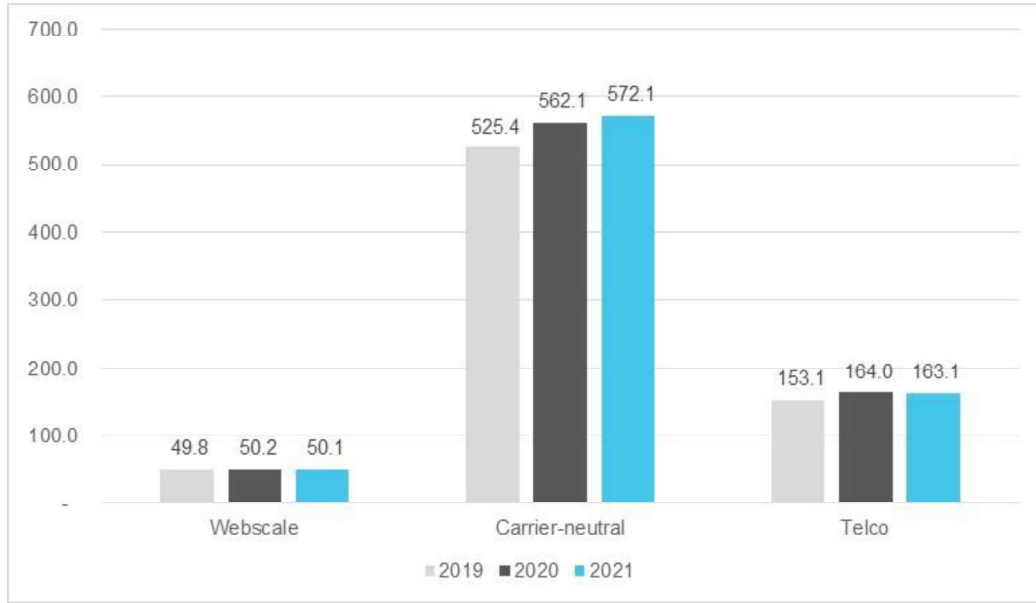


The three segments have a very different level of reliance on power as an input into their operations. One useful metric for this is power intensity: megawatt hours (MWh) of electricity consumed per \$1 million in revenue (MWh/\$M). On this metric, the CNNO sector is by far the most power intensive, followed by telco and then webscale; see Figure 2, below.

Figure 2: Power intensity by operator type (MWh consumed per US\$1M in revenue)



Source: MTN Consulting

Note that companies often report an “energy intensity” metric, which considers total energy consumption. For this report, we are only including only electricity in this “power intensity” metric, and excluding other types of energy such as diesel generators, heating oil, propane, etc.

Three segments vary by infrastructure mix and power intensity

Across the three segments, business models and network infrastructure mix vary widely, as does their relative power (and overall energy) intensity.

Webscalers tend to have the simplest networks, revolving around large data centers. These consume enormous amounts of power, and webscalers spend lots of time optimizing the design of these facilities, the equipment that goes into them, and search and sometimes invest directly in economical sources of power. Availability of low-cost renewable power is a key criterion used by webscalers in deciding where to locate new facilities.

Figure 3 shows power intensity for the webscalers in our database. Yandex is a bit of an outlier, but otherwise the most power intensive webscalers are those that operate large networks of data centers, with all but Facebook providing cloud services.