

Data centres: UK organisations with the most servers are still unlikely to prioritise energy efficiency – research

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Companies with fewer ICT facilities or younger IT managers are up to twice as likely to prioritise energy efficiency, while less affluent vertical sectors seem unaware of the impact of energy efficiency on Total Cost of Ownership

February 7th 2023 – London, UK – Despite the consumption by data centres of around 1% of the world's electricity production, the dramatic rise in energy prices over the last 12 months and ever-more-frequent warnings from environment agencies, UK organisations with large numbers of servers are still unlikely to prioritise energy efficiency in the data centre.

Among UK organisations with 11 or more servers:

- 35% say energy efficiency should be a factor in their server purchasing decisions. Fewer – 34% – say that energy efficiency is a factor in such decisions.
- 33% agree that server-related energy costs should be a line-item in their IT budgets, while 36% disagree.
- 56% say that server-related energy costs are a line item in the IT budget, and 32% say they are not.
- 47% say their IT department has an energy-efficiency and sustainability policy
- 24% say energy efficiency is of less importance when purchasing servers than it was 12 months ago.

Data – compiled in a new report from server manufacturer ASUS (<https://servers.asus.com/>), Energy-efficiency in the data centre

(<https://www.asus.com/event/energy-efficiency-in-the-data-centre-survey-report/>) – indicates that organisations with fewer servers prioritise energy efficiency far more highly. For example, among organisations with 2-5 servers:

- 62% agree that energy efficiency should be a factor in their server purchasing decisions, compared with just 6% that disagree. More – 71% – say that energy efficiency is a factor in such decisions.
 - 62% agree that server-related energy costs should be a line-item in their IT budgets, while 8% disagree.
 - 89% say that server-related energy as a line item in the IT budget, and 9% say they are not.
- [1]Data Centres and Data Transmission Networks – Analysis - IEA
- 81% say their IT department has an energy-efficiency and sustainability policy.
 - 3% say energy efficiency is of less importance when purchasing servers than it was 12 months ago.

One explanation for the variation between the organisations with more/fewer servers may be expectations around energy prices: respondents from organisations with 10+ servers are twice as optimistic as respondents from organisations with 2-5 servers that energy prices will revert to long-term norms within two years.

The age of respondents heavily influences their prioritisation of ICT energy efficiency. For example:

- 57% of respondents aged 25-34 agreed that server-related energy costs should be a line item in their IT budgets, with 21% disagreeing. Among respondents aged 55 or over, just 19% agreed and almost half (46%) disagreed.

- 55% of respondents aged 25-34 say that energy efficiency should be a factor in server purchasing decisions. This fell to 51% for 35-44 year olds, 51% for 45-54 year olds, and 42% for respondents 55 or over.

Younger respondents are almost twice as likely to act on their prioritisation of energy efficiency. Asked “Is energy efficiency a priority in the server purchase process?”:

- 60% of respondents aged 25-34 and 61% of respondents aged 35-44 said Yes; just 15% of 25-34 year olds said No
- 31% of respondents aged 55 or over said Yes, while 46% of this cohort said No

Two vertical sectors that are generally regarded as being among the least affluent, Education and Arts/Culture, emerged as the least switched-on to the impact of energy efficiency on total cost of ownership. Examples:

- at 50%, Education organisations are the least likely to have server-related energy costs as a line item in their IT budgets; just 14% of Education sector respondents placed energy efficiency in their top three factors affecting server purchasing decisions
- almost a quarter of Arts/Culture organisations – a higher proportion than any other sector – said that energy efficiency is a less important factor in their server purchasing decisions than it was 12 months ago

Morten Mjels is ASUS’s UK & Ireland Country Product Manager for servers. He said: “In the survey, we also asked respondents to identify the top three factors in their server purchasing decisions, and it would have been perfectly possible for any respondent to say, well, ‘performance, energy efficiency, warranty and these are equally important’, or ‘price, energy efficiency, performance and these are equally important’. But they didn’t: the data seem to indicate that purchasers think there’s a trade-off between these attributes – forcing IT managers and procurement departments to choose based on which attribute is most important to their organisation.”

“Frankly: this is a misperception: all major manufacturers are focused on improving server energy efficiency, while performance world records are broken all the time (<https://servers.asus.com/news/ASUS-Announces-World-Leading-AI-Performance-Results>), by the same servers. It’s a story the industry needs to tell more: you can have both energy-efficiency and performance. As a sustainability leader, ASUS would like to see stronger consideration of energy efficiency in the purchase process, because we don’t want to see the worst predictions for energy consumption by ICT equipment (<https://www.enerdata.net/publications/executive-briefing/between-10-and-20-electricity-consumption-ict-sector-2030.html>) coming true,” he added.

ASUS (<https://servers.asus.com/>) last year committed to increasing the energy efficiency of its products – including servers – to a level that is on average 30% higher than the specifications of Energy Star, the strictest environmental standard.

While the UK is no longer part of the European Union, the issue of data centre energy consumption has attracted political attention in recent years. In February 2020, the European Commission declared (https://commission.europa.eu/publications/communication-shaping-europes-digital-future_en): “...the ICT sector also needs to undergo [a] green transformation. The environmental footprint of the sector is

significant, estimated at 5-9% of the world's total electricity use and more than 2% of all emissions. Data centres and telecommunications will need to become more energy efficient, reuse waste energy, and use more renewable energy sources. They can and should become climate neutral by 2030.”

Commentators (<https://www.siliconrepublic.com/enterprise/data-centres-energy-tech-trends-2023>) in some countries are predicting regulation of data centre energy usage in the near-term.

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NOTES TO EDITORS

Survey details

To obtain these data, ASUS Servers (UK) commissioned research company Censuswide to conduct an online survey of 500 respondents – 400 who described their role as IT and 100 who described their role as Procurement. Taken from a representative sample of UK organisations across all major vertical sectors, all respondents met the criteria of:

- their organisation operating a minimum of 2 servers (no maximum)
- the individual having a significant role in the purchase process of servers for their organisation; and/or having a significant role in the administration/operation/management of servers for their organisation

The number of servers in respondents' organisations broke down as follows:

- 2-5 servers: 247 respondents
- 6-10 servers: 147 respondents
- 11+ servers: 106 respondents

[2]Enerdata, 2018

[3]Communications: Shaping Europe's Digital Future, European Commission, February 2020

Full details of the methodology and demographics are contained in ASUS's report, Energy-efficiency in the data centre. Energy-efficiency in the data centre (<https://www.asus.com/event/energy-efficiency-in-the-data-centre-survey-report/>)

Supporting quotes

“The IT industry is rapidly transforming, with a key focus now on Sustainability and Energy efficiency in all aspects of operations. This is proving challenging to areas such as AI, ML or VR that require more computing power and generate significantly more heat. Traditional air-cooled Data centres are struggling to reduce the extra heat generated by these new demands, which is where the sustainability issue resides as more power, water and cooling are being consumed.

This is why it is great to see ASUS increase its focus on server energy efficiency and run these in new liquid cooling technologies addressing the challenge of performance and energy efficiency and setting measurable targets. The survey results presented are an essential step in creating a better understanding and increasing perception to end-users on the performance for efficiency”.

Jon Clark – Commercial Director Carbon-Z

“There should be no doubt – the IT industry is a force for good. Apart from saving us time and keeping us connected with loved ones, it helps increase global productivity, enabling us to do more with less, thus reducing our carbon footprint. However, there is a need for an industrywide conversation on, not only the use of clean energy, which dominates the sustainability narrative, but also energy efficiency. It is very encouraging to see ASUS increase its focus on server energy efficiency and set measurable targets. The survey results presented here are also an important step in tackling the misconception that end-users have to trade off performance for efficiency and vice versa.”

Vlad Galabov, Director of Cloud and Data Center Research at Omdia.

About ASUS

Taiwan-headquartered ASUS is a global technology leader, employing over 5,000 R&D professionals and with more than 1,000 service centres covering 98 countries.

With over 25 years of experience of building high-quality servers and workstations, ASUS aims to deliver the right mix of performance, green computing and management to meet customer needs. It offers a choice of versatile, resilient and scalable rack units, designed for data-centre environments of all sizes and for diverse purposes such as content creation, cloud gaming, AI and high-performance computing. Its server range includes rack, GPU and high-density servers, while its workstation range comprises 'performance', 'mainstream' and 'essentials' systems.

Its products are backed by the industry's only five-year warranty and an outstanding channel that make ASUS the most trusted partner in the data centre.

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