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Data centre industry players leading the charge for tougher environmental impact measures

Power usage does not provide the full picture of a data centre's environmental impact; a Trinity of measurement including water usage and carbon emissions should be the new standard, according to a recent report by Cushman & Wakefield

ASIA PACIFIC, September 14, 2022 – AS DEMAND FOR data centres increases so too does their impact on the environment, but some industry leaders are calling for a more stringent 'trinity' of reporting guidelines to help minimise the environmental footprint of the growing asset class.

A new Cushman & Wakefield report, *Energy, Water, Carbon: A New Trinity for Measuring Data Centre Sustainability*, is calling for water consumption and carbon emissions to be measured in addition to power usage to provide a more holistic picture of data centres' true environmental impact.

Power usage efficiency (PUE) – the traditional measure of data centre sustainability – is calculated by dividing the facility's total power by the energy used by IT equipment. Carbon usage effectiveness (CUE)¹, measures the carbon emissions from a data centre while water usage efficiency (WUE)² tracks how much water is used for cooling and other operational needs.

The industry has made significant improvements to PUE over recent years; the industry average has dropped from around 2.5 in 2007 to 1.5 today.

But the limitations of measuring power alone have become increasingly clear as the industry evolves, said webinar moderator and **Managing Director, Data Centres & New Initiatives India at Cushman & Wakefield, Vivek Dahiya**.

¹ Carbon usage effectiveness is calculated by dividing the carbon emissions caused by total data centre energy by the energy consumption of the IT equipment

² Water usage effectiveness is calculated by dividing the annual site water usage in litres (L) by the IT equipment energy usage in kilowatt hours (Kwh).

MEDIA CONTACT:

Amy Kelly
+65 8725 0663
amy.kelly@cushwake.com



“Achieving a lower PUE is very dependent on the geography and climate of a data centre’s location. It is easy to achieve in the upper parts of the northern hemisphere but very difficult close to the equator where more power is required for cooling.”

Mr Dahiya said that data centre operators were gradually adapting to accommodate the increasingly stringent environmental standards of both investors and occupiers.

“Data centre investors, operators and occupiers each have their own ESG ambitions. The challenge for the industry now is to continually improve the baseline standard to ensure that all requirements can be accommodated under one roof. A colocation data centre is only as sustainable as its least sustainable client.”

Cushman & Wakefield Co-head of Sustainability Services, Greater China Alton Wong said that while some operators were aware of the CUE and WUE measures few had adopted them.

“For as long as we see increasing digitisation of everything from banking to manufacturing to communications and media the demand for data centres will only grow. The only way to future-proof the sector is to ensure regulatory standards keep pace. The trinity is a step in the right direction.”

Mr Wong said companies that had set ambitious ESG targets were now looking for practical ways to hit them.

“The first step to reducing carbon emissions is to measure them. The Trinity of measuring carbon, water and power can provide a much more informed baseline from which improvements can be made.

“At the end of the day, sustainability is not just about one metric, it is about improving the impact that data centres have on the environment overall.”

Notes

The report, *Energy, Water, Carbon: A New Trinity for Measuring Data Centre Sustainability* was created following the Cushman & Wakefield webinar *Data Centres: Driving the Sustainability Agenda*. [A replay of the webinar is available here.](#)

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+65 8725 0663
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MEDIA CONTACT:

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