

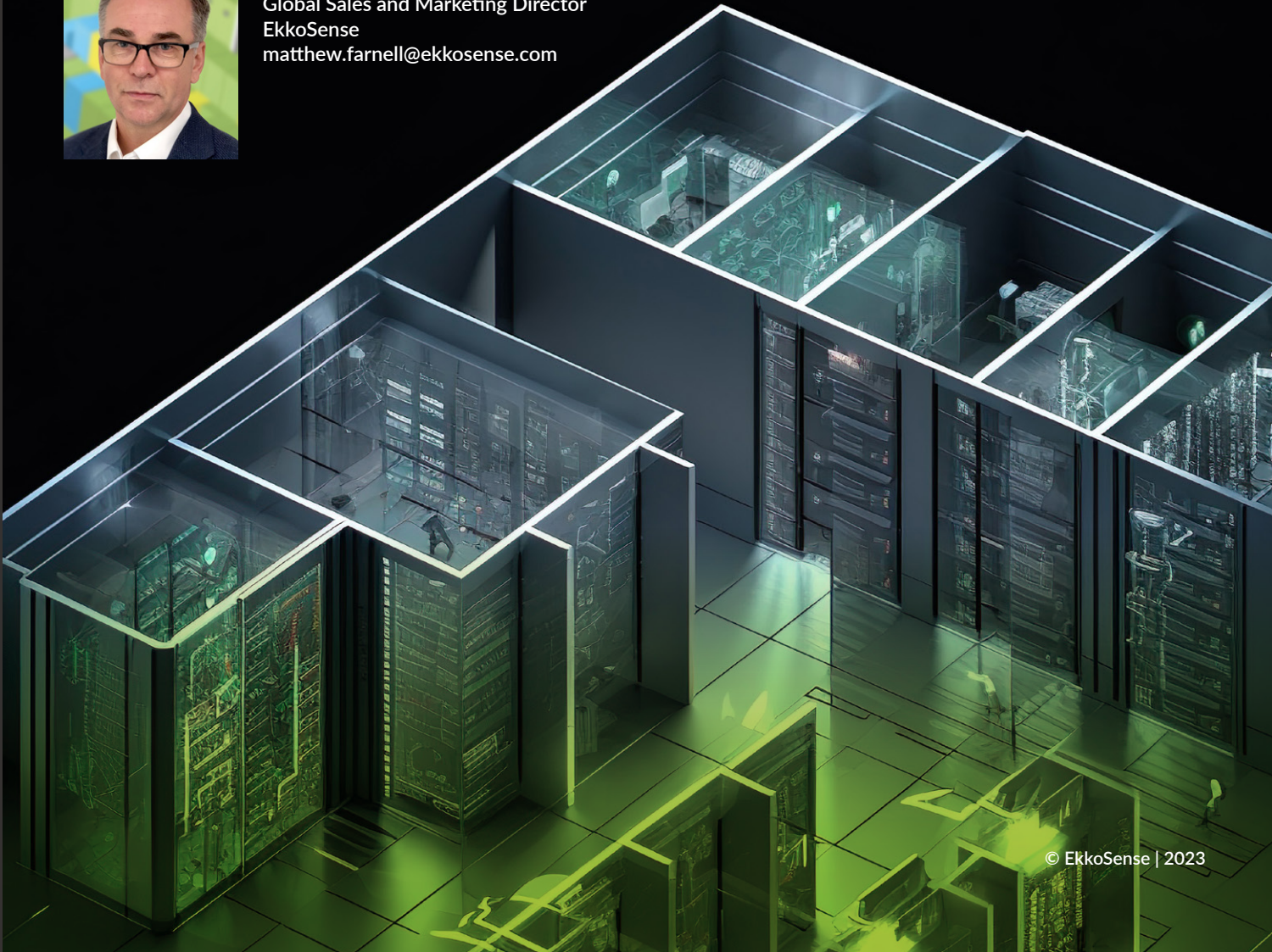


Corporate Sustainability Reporting for data centres - are you ready?

ESG set to evolve from being a largely Corporate & Social Responsibility issue to become a core compliance challenge for data centre operators.



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ESG is evolving fast!

Businesses increasingly operate in an ESG world, with organisations facing intense pressure to cut energy and carbon consumption as part of their broader sustainability commitments. However, major changes in regulation and compliance over the next six months – initially in Europe, but increasingly around the world – are set to see ESG evolve from being a largely Corporate & Social Responsibility issue to become a core compliance challenge. **So what's changed, and how will it impact already under-resourced data centre operations teams?**

Environment

Climate change	Natural resources	Pollution & waste	Environment opportunity
Carbon emissions	Water stress	Toxic emissions & waste	Opportunities in clean tech
Product carbon footprint	Biodiversity & land use	Packaging material & waste	Opportunities in green building
Financing environmental impact	Raw material sourcing	Electronic waste	Opportunities in renewable energy
Climate change vulnerability			

Social

Human capital	Product liability	Stakeholder opposition	Social opportunity
Labour management	Product safety & quality	Controversial sourcing	Access to communication
Health & Safety	Chemical safety		Access to finance
Human capital development	Financial product safety		Access to healthcare
Supply chain labour standards	Privacy & data security		Opportunities in nutrition & health
	Responsible investment		
	Health & demographic risk		

Governance

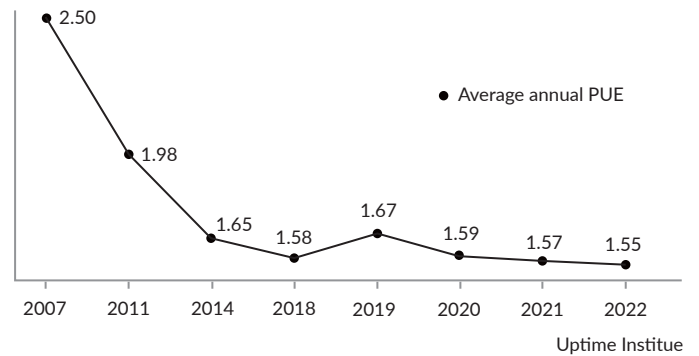
Corporate governance	Corporate behaviour
Board diversity	Business ethics
Executive pay	Anti-competitive practices
Ownership	Corruption & instability
Accounting	Financial system instability
	Tax transparency

Establishing new standards for data centre sustainability reporting

Originally established in 2007, the Power Usage Effectiveness (PUE) metric has long been considered a standard for monitoring power efficiency in data centres. Over the first half of PUE's lifecycle, measurements continued to fall as data centres became more efficient in powering its IT equipment. Over the last five years, however, the rate of improvement has slowed, perhaps suggesting that PUE is just one of many ways of tracking a data centre's performance.

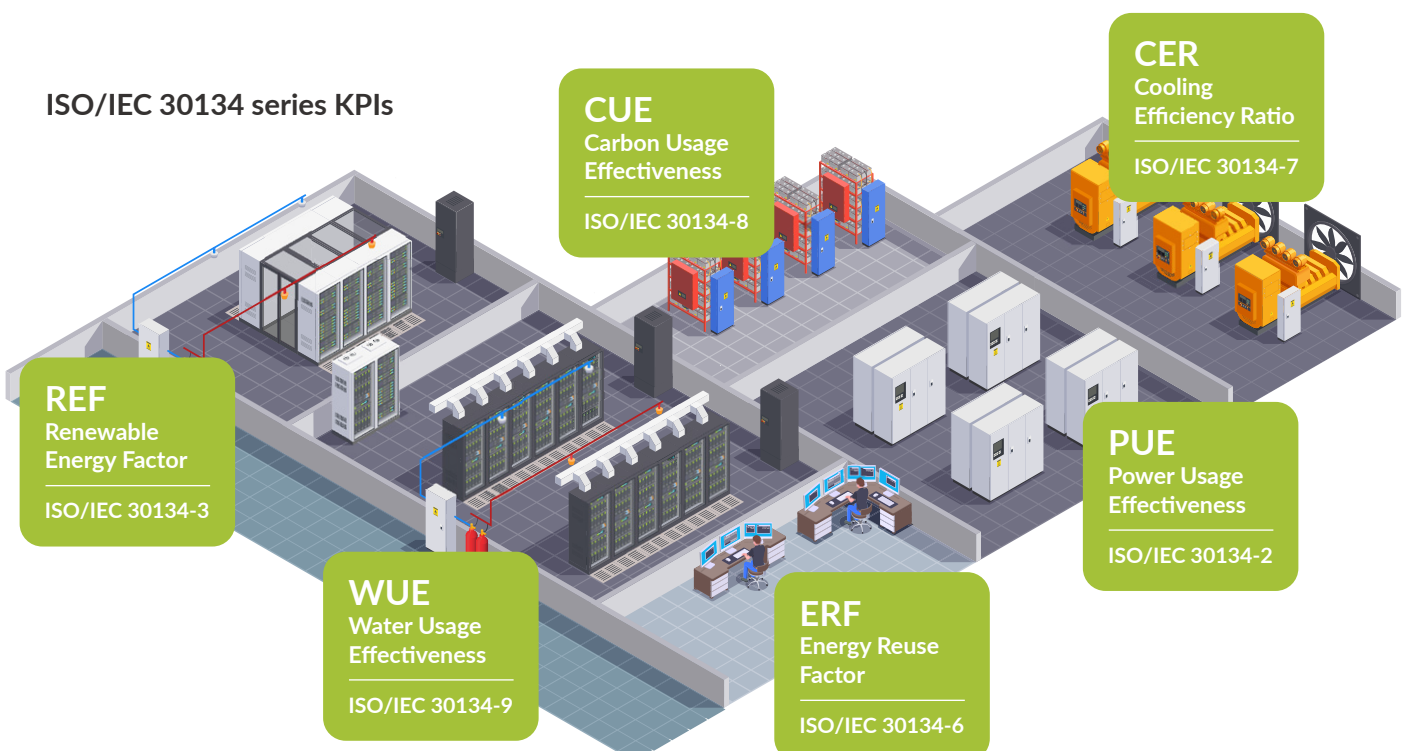
PUE progress has stalled

What is the average annual PUE for your largest data centre?



PUE still has an important role to play, but it's one of a series of metrics that are needed to help present a more rounded view of a data centre's sustainable performance. Indeed it is now one of a series of globally-standardised Key Performance Indicators that have now been defined and published by ISO – the International Standards Organisation. This ISO/IEC 30134 series of standardised data centre resource efficiency KPIs that are aimed at encouraging improvements in data centre operation. In addition to PUE, the ISO/IEC 30134 series includes a Cooling Efficiency Ratio (CER), a Carbon Usage Effectiveness measure (CUE), and a Water Usage Effectiveness metric (WUE). Other relevant elements include an Energy Reuse Factor (ERF) and a Renewable Energy Factor (REF). Together these ISO/IEC 30134 measurements can provide a useful starting point for organisations needing to measure their ESG Scope 2 performance.

ISO/IEC 30134 series KPIs



The Corporate Sustainability Reporting Directive (CSRD)

At the same time the European Union's research centre for energy efficiency has been working to transition its original European Code of Conduct for Data Centres into an Assessment Framework for Data Centres. This will then create a framework for mandatory data centre energy efficiency reporting under the EU's forthcoming Corporate Sustainability Reporting Directive (CSRD).

This has been designed to ensure that investors and other stakeholders have access to the information they need to assess the impact a company has on people and the environment. Companies subject to the CSRD will have to report according to European Sustainability Reporting Standards (ESRS). A key driver behind the CSRD's creation according to the EU is the need for 'a robust and affordable reporting framework that is backed by effective auditing practices to ensure the reliability of data and avoid greenwashing and double-counting'.

The Corporate Sustainability Reporting Directive (CSRD) is the new EU legislation that requires large companies and listed SMEs to produce regular reports on their environmental and social impact activities.

The CSRD takes effect for large businesses and listed SMEs from 1st January 2025, and the start for data collection was January 1st, 2024. Additionally, under the European Commission's Energy Efficiency Directive (EED), data centres operating in the EU that use more than 2,780 MWh of energy each year will be required to report publicly on their data centre's energy performance.

Under the EED and CSRD mandatory ESG disclosures will have to be made within company reports, while 'double-materiality' reporting will mean that reporting needs to consider both 'inside-out' and 'outside-in' from a sustainability perspective. This will mean tracking incoming and outgoing data traffic, temperature set points, power, water, and carbon usage effectiveness, as well as the criteria set out under the ISO/IEC 30134 standard. UK companies will also need to ensure that their ESG reporting is in line with CSRD guidelines.

The CSRD also requires evidence-based reporting, ensuring that company operations teams can prove any ESG disclosures that they may have made. This will require precise measurement of greenhouse gases (GHG) data as well as specific detailing of Scope 1, 2 and 3 ESG emissions.

It's not just national and international governments that are increasing their focus on sustainability reporting. For example, according to Amazon's 2022 Sustainability Report, the company is updating its supply chain standards to require its suppliers to report their carbon emissions data and set clear emissions reductions goals. Amazon reports that Scope 3 emissions (that occur in Amazon's value chain but that are not under its direct control) now account for over 75% of its overall emissions. As part of this initiative, Amazon also said that in selecting partners for business opportunities it would make a point of seeking suppliers that can help achieve its carbon reduction goals.



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Is the data centre industry prepared?

Some data centre operators are, but many aren't. Compliance with EED is scheduled for May 2024, requiring EU data centres to have been tracking their energy use since May 2023 - so many will already be behind. While for CSRD compliance data collection needed to start from January 2024.

That's a big deal for energy-intensive parts of a business such as data centre operations, and the one sure thing is that this process is going to be complex, take a lot of time, and require significant levels of financial and resourcing support.

The new regulatory requirements mandate detailed energy reporting from the start of next year, and that's an issue with many organisations already struggling to meet their operational resource requirements. EkkoSense Research suggests that only 5% of M&E teams currently monitor and report on their power and equipment temperatures on a rack-by-rack basis, so getting this kind information together on an ongoing basis is going to prove challenging.

Many companies with their own data centre operations currently keep track of their critical infrastructure using traditional spreadsheets that can prove time-consuming and often inaccurate. This presents a problem given that ESG reporting will require a standards-based approach that is auditable. Any deviation from the correct data collection and reporting methods is likely to be uncovered by an audit, so a far greater degree of accuracy is required than in the past.

Not surprisingly this level of ESG reporting consumes considerable operational support and time and will impose a significant resource burden - particularly as many legacy DCIM and BMS tools don't provide reporting easily as standard. This becomes more complex depending on the number of rooms and sites being operated across an estate - making it very hard to access the kind of evidence-based real-world data that reporting regimes such as CSRD and the revised EED will demand. Without access to granular level sustainability reporting data, it's going to be very difficult to answer questions about rack density, power usage, PUE measurements, and inevitable changes.

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That's where EkkoSense can help

There's lots of great work being done here - particularly in the data centre sector. At EkkoSense, for example, our disruptive AI-powered optimisation software is helping companies such as Virgin Media, Telehouse and Three to run their data centres much leaner - minimising cooling energy waste and delivering quantifiable carbon savings.

Projects like these have already helped EkkoSense to win the ESG Technology of the Year category at the 2023 National Technology Awards, while our SaaS offering continues to attract attention from data centre operators globally.

With our EkkoSoft Critical AI-powered optimisation software and low-cost Internet of Things sensing we bring an entirely new class of accuracy and granularity to data centre operations. It's a highly visual solution that not only allows you to thermally-optimize your data centre performance, but also provides a highly effective real-time reporting solution that offers exactly the kind of data that CSRD and EED require. Because our ESG reporting is embedded as a standard function within our platform, there's no requirement for expensive customisation or custom engineering and the solution is particularly easy-to-use - a key requirement given current data centre resourcing issues.

Starting with the PUE metric, we're adding CER, CUE and WUE in the run-up to the CSRD deadline. Integration is also particularly easy with our platform - we have open APIs and can monitor any power device through SNMP, BACnet and Modbus. If you've already got a network of temperature and power sensors in place, then they can also be integrated into our solution. We're working quickly to make this powerful reporting solution available to global colocation service providers, who will inevitably be tasked with delivering regular sustainability reports to their thousands of customers demanding regular ESG Scope 3 reporting.

So, if you're concerned about data centre sustainability reporting and how regulations such as CSRD and EED will impact your operations, do get in touch. There's every chance that EkkoSense can help. Because our optimisation solution also helps you unlock significant cooling energy savings, it's quite possible that we can even provide a reporting solution that pays for itself.

PLATFORM
GLOBAL
ENERGY
INNOVATOR
OF THE YEAR
2023

WINNER
NTA
2023
ESG Technology
of the Year



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