DIGITALEUROPE

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DIGITALEUROPE response to EUDCEAR's second technical report and recommendations on revising the reporting scheme

Executive summary

DIGITALEUROPE welcomes the EUDCEAR second technical report[1] and provides additional feedback on the key performance indicators (KPIs) as work progresses on establishing a rating scheme for data centres. We also address initial indications on the revision of the first delegated act on the reporting scheme[2] under the Energy Efficiency Directive (EED).[3]

We support the development of an effective rating scheme that builds upon and enhances the existing reporting framework**.** The scheme must strike a careful balance between transparency and business confidentiality, whilst taking a holistic view of both infrastructure and IT performance metrics.

DIGITALEUROPE opposes the introduction of minimum performance standards (MPS) at this early stage. The lack of robust baseline data from multiple EED reporting cycles makes any attempt to set meaningful performance standards premature and potentially harmful, risking market distortions and hindering Europe's digital goals. Furthermore, the complex interdependencies between water usage, energy efficiency and heat reuse, require careful consideration. We support a phased, evidence-based approach aligned with market realities and broader EU policy objectives.

This paper addresses two key elements: (1) feedback on KPIs for the data centre rating scheme and (2) recommended amendments of the first delegated act on the EED's reporting scheme.

[1] European Commission, et el., *Assessment of next steps to promote the energy performance and sustainability of data centres in EU, including the establishment of an EU-wide rating scheme*, (October 2025), available at https://data.europa.eu/doi/10.2833/0828045

[2] Delegated Act (EU) 2024/1364

[3] Directive (EU) 2023/1791

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Key principles

Alignment with EED reporting scheme

The proposed rating scheme should be based on data submitted under the delegated regulation for the first phase of establishing a common EU rating scheme for data centres and used to calculate key sustainability indicators. These indicators offer a robust framework for evaluating data centre sustainability and align with the scheme's objective to support the EU's climate neutrality goals.

Multi-layered approach

The scheme should initially focus on self-improvement, allowing operators to understand and enhance their performance within their specific operational context, before transitioning to a comparative framework in May 2030. This approach would allow the framework to mature through an initial phase where operators optimise their performance against the new metrics, before the scheme transitions to serve as a formal comparative tool in 2030. During the initial phase, the label will not be used for regulatory purposes. This ensures a practical and achievable pathway to enhanced sustainability while allowing time for methodological refinement, particularly for complex metrics like IT efficiency where work through standardization will be required.

Confidentiality of business information

The rating system must protect the confidentiality of business information by avoiding reliance on KPIs and disclosure of data that could reveal sensitive business information. The Commission should ensure uniform data protection protocols across Member States and allow for aggregated or anonymised reporting whenever disclosing granular performance metrics might compromise critical intellectual property or competitiveness.

Integrated building infrastructure and IT metrics

Any comprehensive data centre rating should be anchored in a holistic evaluation that seamlessly covers both building infrastructure and, once mature metrics are available, on IT equipment performance. We would support the level of rating (e.g., inspired from energy efficiency label[4], EPBD[5]) to be only applied on the building infrastructure and eventually IT efficiency KPIs.

Definition of KPIs

A clear definition of the KPIs is essential to ensure a shared understanding of how they will be applied within the rating scheme for data centres. This includes explaining the rationale behind each KPI, its calculation methodology and its relevance to the overall objectives of the scheme.

[4] Regulation (EU) 2017/1369

[5] Directive (EU) 2014/1275

Alignment with the EU's simplification objectives

The rating scheme should support and be consistent with the EU's broader goal of regulatory simplification, rather than introducing new layers of complexity. The framework should reduce administrative burden and integrate smoothly with current EU policies and reporting requirements. This alignment is key to ensure practical implementation.

Outcome based applicability of KPIs

The proposed KPIs should recognise data centres' varying operational characteristics and improvement potentials. They should be flexible and inclusive enough to reflect varying business models, sizes and operational characteristics, rather than penalising or excluding certain operational practices.

Based on recognised standards

The proposed mandatory KPIs should be based on well-established technical standards. We also propose that any new IT metric should not be introduced on the label before 2030 when standards are expected to be in place.

Timing and publication process of rating scheme

Considering that the delegated act for the rating scheme for data centres is expected to enter into force after 15 May 2026, the first reporting cycle informing the label would be in May 2027, based on calendar year 2026 data. Consequently, the first data centre rating publication should not commence before May 2027. This approach ensures that operators have adequate time to collect, validate and report accurate data under the new framework before disclosure requirements take effect.

DIGITALEUROPE recommends a unified, automatically generated label system based on reported data from the EU database. This standardised approach would ensure consistency and comparability across all Member States, reduce administrative burden on operators, minimise discrepancies in label presentation and support the EU's broader simplification objectives. We strongly support this unified EU-wide approach, however, we recognise that certain Member States, such as Germany, may maintain national reporting databases. In such cases, national databases should be technically interoperable with the EU database to enable seamless data transfer and label generation. Regardless of the reporting channel, the rating format, content and disclosure requirements should remain identical to prevent fragmentation and ensure a level playing field across the EU.

Individual minimum performance standards (MPS)

DIGITALEUROPE maintains its opposition to the introduction of MPS at this premature stage. We believe it is essential to first establish robust baseline data through multiple EED reporting cycles before considering such measures. The final technical report suggests fundamental misunderstandings of MPS as a policy tool, attempting to use it as a driver of innovation rather than its intended purpose as a regulatory floor. Implementing MPS at this early stage would risk creating significant market distortions and could seriously undermine the EU's digital transformation goals and the target of tripling Europe's data centre capacity in the next 5-7 years.

MPS can unintentionally lock operators into meeting narrow thresholds that favour certain technologies, even when newer or more efficient alternatives are emerging. Since key metrics such as water usage, energy efficiency and heat reuse are deeply interdependent, optimising for a single mandated value can push operators toward design choices that worsen other sustainability outcomes.

We emphasise that any future consideration of MPS must follow a phased, evidence-based approach that properly accounts for market realities and aligns with broader EU policy objectives.

Analysis of proposed KPIs for the rating scheme for data centres

DIGITALEUROPE's assessment of the proposed KPIs focuses on ensuring their practicality, effectiveness and alignment with industry realities. We have assessed each proposed metric based on its ability to drive meaningful sustainability improvements whilst maintaining operational flexibility and protecting business competitiveness.

Mandatory KPIs

Power usage efficiency (PUE)

PUE should form part of the key mandatory KPIs. PUE measures the ratio of total facility energy to IT equipment energy. Whilst inefficiencies in the facility's support systems (cooling, power distribution, etc.) are captured in an increased PUE value, we recognise that PUE has notable shortcomings, specifically the ability to hide inefficient IT equipment use. This limitation must be carefully considered in any scoring methodology. Weather normalisation using local cooling degree day (CDD) data is essential for ensuring fair evaluation of data centre performance across different climate zones.

Without climate normalisation, data centres in warmer regions may show higher PUE values compared to those in cooler climates, even when employing equivalent operational practices and efficiency measures. This normalisation method creates a level playing field by distinguishing between energy use driven by climate conditions versus energy use driven by operational choices, preventing unintended discrimination against facilities based on their geographic location.

Water usage efficiency (WUE)

WUE should form part of the mandatory KPI list. WUE measures the ratio of annual water usage to IT equipment energy, reflecting the trade-off between water and overhead power consumption depending on the respective cooling technology. In tandem with PUE, WUE enables operators to assess the correlation between water and energy for cooling, compare the results and determine opportunities for any energy efficiency and/or sustainability improvements.

Weather normalisation using local cooling degree day (CDD) data and water depletion considerations will be required to ensure a fair evaluation of data centre performance across different climate zones. WUE is specifically limited to water use in processes due to site operations.

Renewable energy factor (REF)

REF should form part of the mandatory KPI list. REF measures the amount of renewable energy used by the data centre. Although we recognise that REF is not strictly a building infrastructure KPI, it serves as a vital component in advancing renewable energy development and significantly contributing to efficiency improvements.

In line with the EED, REF should visually distinguish between power purchase agreements (PPAs), on-site generation and guarantees of origin (GOs) by segmenting the pie chart accordingly. Colour choices in the REF visual should support understanding rather than act as a *de facto* scoring system. Very strong colour hierarchies (e.g., a traffic light style gradient *green, yellow, red*) could oversimplify grid dynamics and avoided emissions and could unintentionally steer investment decisions towards particular grids rather than those where decarbonisation needs are highest. DIGITALEUROPE recommends using shades of green and grey for colour differentiation, whilst keeping the focus on the underlying procurement categories.

We also recommend expanding REF over time to include carbon-free energy sources beyond renewables, ensuring the framework remains relevant as the energy landscape evolves. In the interim, additional investments in carbon-free energy could be displayed as part of the voluntary KPI list

Energy sources

Total energy consumption

The proposal to disclose total energy consumption as a mandatory KPI fails to provide meaningful insights for comparing data centre efficiency or driving sustainability improvements. Raw consumption figures primarily reflect a facility's size rather than its operational efficiency. Two facilities achieving identical PUE values may show vastly different total energy consumption simply due to differences in IT scale, making absolute consumption an ineffective metric for energy efficiency assessment.

Furthermore, using total power consumption as a metric could lead to incorrect assumptions based on scale. A facility's total energy consumption naturally increases with its compute capacity, regardless of its operational efficiency. Publishing this metric could unfairly disadvantage larger facilities despite their potentially superior efficiency practices, whilst offering no genuine insight into sustainability performance. This could drive counterproductive outcomes, as operators might artificially limit their compute density or service availability to reduce headline consumption numbers, without achieving any real environmental benefits.

Additionally, total consumption figures can be misleading when considering geographic and climate factors. For instance, a facility operating with high IT scale in a warm climate might show higher absolute consumption than a less efficient facility in a cooler region operating with lower IT scale. This could incentivise suboptimal outcomes like running facilities with artificially constraining operations relocating to cooler climates regardless of broader sustainability considerations or the construction of more, smaller facilities (that are likely to be less efficient due to lost economies of scale).

Total energy consumption figures also constitute business-sensitive information, as they directly reveal a facility's operational scale and could allow competitors to deduce critical details about computing capacity and customer base. Given that energy consumption data is already reported through the European database under the delegated act with confidentiality protections, requesting additional public disclosure of these figures for the rating scheme would be both disproportionate and potentially harmful to business

competitiveness. The focus should remain on efficiency metrics like PUE that provide meaningful insights into facility performance while protecting sensitive business information.

Carbon free power mix (hourly matched)

The base KPI should be focused on clean energy sourcing methods (PPAs, on-site generation, unbundled GOs), across Europe as a whole, as opposed to spelling out specific procurement methods such as hourly matching. Additionally, introducing hourly matching requirements would deviate from the established REF framework and current EED reporting requirements. If companies want to optionally report hourly matching, they can do so as a bonus KPI.

The use of darker green colouring in the visualisation suggests greater environmental benefits, which may not fully represent the complexity of grid dynamics and avoided emissions. Moreover, this approach could potentially influence data centre operators' investment decisions, directing investments to the grids where companies operate, which may not necessarily be the most carbon-intensive in Europe.

The rating scheme for data centres should maintain flexible in how operators demonstrate their renewable energy commitments, allowing for diverse approaches that can optimise overall system efficiency and emissions reductions. Hourly matched procurement represents one approach to advance grid decarbonisation, but it is only one of many valid strategies companies employ.

It is worth noting that the European Commission's communication on the Clean Industry Deal[6] indicates plans to simplify and harmonise carbon accounting methodologies and identify by Q4 2025 priority areas and possible avenues for simplification, harmonisation and robust verification. This ongoing work suggests that requiring a new hourly matching metric at this stage could lead to potential inconsistencies or require future revisions.

We suggest including hourly matching as a voluntary KPI, allowing data centres to showcase their advanced approaches whilst maintaining flexibility for diverse renewable energy procurement strategies.

Solar and wind power

Breakout of solar and wind power should not be included as a separate metric. The EED's reporting requirements are deliberately technology-agnostic regarding renewable energy sources and the rating scheme must maintain this alignment. The existing REF framework already recognises different procurement methods (PPAs, on-site generation, guarantees of origin) through visual distinction in pie chart segmentation and weighted performance bands. Creating additional breakouts based on specific renewable technology types would deviate from the EED's established approach without providing meaningful additional insight into sustainability performance. This approach maintains consistency with EED requirements whilst avoiding unnecessary administrative burden for data centre operators.

GHG Emissions

While DIGITALEUROPE recognises the importance of transparency around greenhouse gas emissions, we have significant concerns about including Scope 1 and Scope 2 emissions as mandatory KPIs in the rating scheme for data centres. These metrics present fundamental challenges and alignment with existing regulatory frameworks that must be addressed before consideration for inclusion.

[6] COM (2025) 85 final

Scope 1 (on-site)

Scope 1 emissions should not form part of the mandatory sustainability indicator list. Generator emissions are primarily driven by grid reliability in each member state rather than data centre operational decisions, creating an unfair basis for comparison as facilities in regions with less reliable grids would be penalised despite having no ability to influence this variable. Annual refrigerant leakage rates are largely determined by equipment age and design specifications, with fifteen-year operational lifespans offering limited year-over-year improvement opportunities for existing facilities. This inherently favours new builds while providing no meaningful pathway for existing facilities to improve performance. Furthermore, the Fluorinated Greenhouse Gases Regulation[7] already establishes comprehensive global warming potential limits for refrigerants, making additional requirements duplicative.

Scope 2 (market-based and location-based)

Scope 2 emission metrics are an important element of transparency that is appropriately captured through instruments such as REF and corporate sustainability reporting.

Location-based emissions should not form part of the mandatory sustainability indicator list. Location-based emissions are inherently tied to national grid mixes, which vary significantly across Member States and are largely outside operator control. Including this metric could inadvertently incentivise companies to concentrate investments in countries with cleaner national energy mixes rather than focusing on actual decarbonisation contributions through renewable energy procurement. This approach would not accurately reflect operators' sustainability efforts or their contribution to grid decarbonisation.

Market-based emissions present a different consideration. In terms of reflecting procurement choices, contractual arrangements and sourcing decisions towards reducing scope 2 emissions, they are sufficiently disclosed through REF. However, as these choices are often made at organisational or portfolio level and are not intrinsic to the technical design or operation of a specific facility, using market-based scope 2 emissions as mandatory KPIs would shift the rating scheme away from its core purpose of benchmarking facility-level performance.

Total water consumption

Total water consumption should not form part of the mandatory sustainability indicator list. Absolute consumption figures fail to provide meaningful insights into data centre efficiency or sustainability performance.

Absolute water consumption metrics do not enable fair comparisons between data centres. Two facilities achieving identical water cooling efficiency (as demonstrated by their WUE) may show vastly different total consumption figures simply due to differences in IT scale, reflecting facility size rather than operational efficiency. Total consumption figures cannot distinguish between variations caused by regional climate differences, geographic location, cooling technology choices or operational efficiency decisions, failing to identify whether high consumption reflects poor efficiency or challenging operating conditions.

Reporting both WUE and total water consumption per facility would effectively disclose IT load - a closely guarded trade secret representing core competitive information about compute capacity. Finally, it also creates a risk of revealing commercially sensitive data (IT equipment energy = total water consumption ÷

[7] Regulation (EU) 2024/573

WUE), revealing business-sensitive information about facility operations. Given that this data is already reported through the European database under the delegated regulation with appropriate confidentiality protections, additional public disclosure through the rating scheme would be both disproportionate and potentially harmful to business competitiveness.

Water type &categorisation & local water depletion per cent

As per DIGITALEUROPE's previous position paper, we have consistently recommended the inclusion of water source type and availability as part of the voluntary KPI list, aligning with the CNDCP approach.

However, the current proposal to include local water depletion percentage and water type categorisation as separate mandatory metrics does not provide the meaningful insights required for effective sustainability assessment. While water depletion and water type considerations play an important role in the broader assessment of water impact, the proposed implementation as standalone metrics fails to serve their intended purpose.

Local water depletion per centage

Presenting this metric in isolation lacks proper context and creates significant ambiguity. A fundamental issue with the current proposal is the ambiguity between evaluating water depletion based on data centre location versus water source location. For instance, a facility might be in a high-depletion region but drawing water from a low-depletion watershed and the metric fails to distinguish between these scenarios. Water depletion context should be integrated into the label by way of introducing depletion classes rather than a water depletion per centage. This information along with WUE performance bands provides a meaningful assessment of water impact rather than reported as a standalone metric.

Water type categorisation

The proposed classification into potable water, non-potable water and reclaimed wastewater does not completely answer the fundamental sustainability question. Though water stress and water type can support the determination of sustainable water use, they do not always paint a complete picture on overall sustainability. Water type categorisation should be integrated with WUE performance bands and local depletion context to demonstrate actual sustainability impact rather than reported as simplistic standalone source classifications.

Path forward to 2030 and beyond

In the long term, there is a need for capturing the efforts of operators to enable sustainable water sources and replenish water in a watershed. We recommend working toward developing a sustainable water use factor through formal standardisation bodies like ISO or CEN that can complement the KPI list. This metric would function similarly to REF, recognising data centres' use of sustainable water sources, water replenishment projects and investments in local watershed protection. This would provide a more comprehensive assessment of water sustainability beyond current efficiency metrics, whilst ensuring standardised protocols and clear definitions across the industry.

Heat reuse ready, offering heat & heat reused in reference year ERF %

Energy reuse factor (ERF) should not form part of the mandatory KPI list, as operators do not necessarily have full operational control over this metric. Additionally, a significant limitation is that ERF does not

account for on-campus waste heat reuse. Therefore, ERF is better positioned as part of the voluntary KPI framework.

IT performance KPIs

As per DIGITALEUROPE existing position, we are in favour of including IT efficiency KPIs as base sustainability indicators, recognising their critical role in measuring overall efficiency and resource optimisation. These KPIs should complement building infrastructure metrics in the rating scheme for data centres to provide a holistic view of sustainability performance, aligning with EED. Integrating IT performance KPIs will enhance transparency, allow for innovation and ensure fair comparisons across different operational models. Normalisation of IT performance metrics over power consumption is required to enable comparisons between facilities. Raw aggregate figures of computing or storage capacity alone cannot provide meaningful insights into a facility's true efficiency, not more than floorspace or substation size can. The data centre industry stands ready to support the development of a future-proof methodology by 2030.

Measuring efficiency for AI accelerators presents unique complexities that require additional consideration, hence we believe the inclusion of this KPI is premature. Modern AI workloads operate in distinctively different phases, much like a hybrid vehicle switching between electric and combustion modes. During AI model processing, the same GPU hardware experiences intensive computational phases followed by memory-intensive phases with minimal computation. Traditional performance metrics like TFLOPS and TPP may fail to capture much of the work AI accelerators do potentially misrepresenting true efficiency. Furthermore, the field of accelerated computing, particularly for AI workloads, is rapidly evolving with new optimisations and algorithms emerging frequently.

We recommend a phased approach, starting with normalised compute and storage metrics whilst remaining committed to develop appropriate measurements for accelerated computing in collaboration with appropriate standardisation fora such as the SPEC corporation to develop workable, futureproof metrics that ensure industry-wide acceptance.

Total processing performance

As per existing DIGITALEUROPE position, it is premature to include an accelerated compute KPI at this stage in the rating scheme.

A robust, industry-validated methodology does not yet exist and introducing a metric before such groundwork is complete risks undermining the scheme's credibility and creating incentives counter to the EED's objectives. The proposed total processing performance (TPP) metric exemplifies these concerns: its structure and underlying assumptions make it unsuitable for assessing the efficiency of accelerated compute in data centres.

Just as with CPUs and GPUs, the actual arithmetic units - that TPP focuses on exclusively - are a small fraction of the chip, not the main bottleneck and are rarely fully utilised. Instead, the bottlenecks are often the I/O buses, storage and networking. Measuring only the theoretical number of arithmetic operations is not a useful benchmark as it correlates poorly with system-level performance and has very poor predictive power (for comparing and guiding designs).

Accelerated compute, used in AI/ML training and inference, presents distinct measurement challenges from traditional compute workloads in how performance and energy efficiency manifest. For traditional compute

tasks, the CPU is the main bottleneck, if you have a faster chip, you get faster results. Everything else in the system (memory, storage, networking) is usually fast enough to keep up. Hence, benchmarks that measure what the silicon does gives you a pretty accurate picture of real-world performance.

By contrast, GPUs and other accelerators are so incredibly fast at crunching numbers that the silicon itself is rarely what is holding things back. Instead, the bottleneck shifts to everything around the chip: How quickly can you feed data into the GPU from memory? How fast can multiple GPUs share information across a network? How efficiently does the software move data between system memory and GPU memory? The chip might be capable of trillions of calculations per second, but if data cannot arrive fast enough, that power just sits idle. Memory and interconnect bottlenecks, sparsity exploitation, model architecture and workload distribution all influence both energy use and performance far more than arithmetic capability alone.

TPP is equivalent to evaluating a vehicle's performance solely by its engine cylinder volume: technically neat but limited in real-world relevance. Whilst engine size is a factor, it tells you little about real-world horsepower and nothing about aerodynamics, transmission efficiency or how these systems work together in real-world driving conditions. Similarly, TPP only captures raw computational power, whilst ignoring how effectively a system manages data flow, memory access and network communication - all crucial elements that determine real-world AI performance. TPP also introduces bias by penalising highly optimised designs, that deliver superior energy efficiency. The result is a metric that penalises innovation in more efficient hardware and misrepresents the true environmental profile of accelerated compute systems.

Measurement and standardisation challenges further undermine TPP's viability. It relies on theoretical specifications without uniform verification protocols, making reporting inconsistent and non-auditable. The gap between theoretical peak performance and real-world utilisation - often only 35 to 45 per cent for GPUs in production environments - is substantial and widening as AI workloads grow in complexity. A metric that cannot account for performance, memory bandwidth, networking constraints or dataflow optimisations cannot meaningfully inform regulatory assessments or enable fair comparisons.

Path forward

Before any accelerated compute metric can be included in the rating scheme for data centres, the industry must develop a comprehensive methodology through formal standardisation bodies (i.e., SPEC Corporation). Any future metric must account for the multiple factors that contribute to real world AI/ML efficiency beyond simple computational throughput, including memory bandwidth, networking capabilities, architectural optimisations and actual utilisation patterns. This development process should involve extensive industry consultation, pilot testing across different types of facilities and workloads and alignment with evolving technological trends in AI computing. Only through such a thorough approach can we ensure that any future metric provides meaningful insights into actual data centre performance whilst supporting innovation in energy-efficient computing.

Voluntary KPIs

Grid function

Including grid function as a voluntary KPI may be premature. The proposed ten per cent threshold conflates distinct concepts and lacks alignment with the EED, whilst 'grid flexibility' remains undefined in EU law. Moreover, it overlooks data centres' primary function - maintaining continuous, uninterrupted operations for

critical digital infrastructure, bound by strict reliability requirements and service level agreements.

Whilst we acknowledge the increasing importance of grid flexibility for a stable, resilient electricity grid, any participation in demand-side flexibility must be voluntary and market-driven, not mandated through rigid requirements. Moving forward, we propose a collaborative approach with TSOs and key stakeholders, focusing on:

- Defining parameters that balance grid needs with data centre operational realities.
- Exploring flexibility solutions that leverage data centre capabilities without compromising service integrity.
- Establishing open communication channels to align evolving grid needs with data centre capacities.

Even though voluntary indicators for flexibility services are a goal, they require a clear understanding from all parties on grid needs and data centres' capabilities. These services should be procured via market mechanisms, not sector-specific rules, to ensure cost-effective, cross-sector investment and an affordable energy transition.

We recommend a technology-neutral and non-discriminatory procurement of flexibility services. This approach must avoid overburdening critical sectors, as it could deter investment and harm Europe's competitiveness. Market-based solutions should support grid flexibility without compromising data centre reliability. In conclusion, we recommend deferring the inclusion of any grid functions KPI until these collaborative efforts mature.

Other heat reused actions (excluded in ERF)

Whilst we support the proposal to include broader heat recovery implementations (e.g., onsite heat recovery applications) that are currently excluded from ERF, we recommend careful consideration of implementation specifics.

BS EN 50600 does not currently permit the inclusion of internal heat reuse within the data centre plot boundary in ERF calculations. Rather than creating a separate metric that could introduce unnecessary complexity, we suggest addressing internal heat reuse through amendments to the existing ERF methodology. If implemented, clear guidelines should be established regarding operational responsibilities and measurement boundaries to ensure consistent application across the industry.

Hardware circularity/e-waste program

Whilst we support the inclusion of hardware circularity and e-waste management as a voluntary KPI, we recommend several refinements to the current definition to better reflect industry best practices and to encourage transparency.

Instead of setting a 75 per cent threshold and a required audit trail, we recommend a more flexible disclosure approach that captures the full scope of circular economy practices.

Before proposing a specific metric, the EU must first provide additional clarity on the scope and definitions of reuse, refurbishment and recycling practices, helping to ensure consistent reporting whilst recognising that operators may have different yet equally effective approaches to circular economy practices. Aligning

with the level of administrative rigor required for other KPIs under the rating scheme for data centres is essential for practical implementation.

The sector stays committed to advancing hardware circularity and e-waste management practices and stays open to work with the European Commission to refine these requirements.

As per DIGITALEUROPE position paper, the use, repair and recycling of servers, electrical equipment and other related components is a priority for data centre operators. Bonus points could be earned for certain percentages of total server materials repaired, reused or efficiently recycled.

Refrigerant with low GWP

We are not inclined to support including refrigerants with low global warming potential (GWP) in the sustainability indicator list.

KPIs included in the rating scheme should directly measure and incentivise operational energy efficiency in a way that is comparable, verifiable and performance based. The use of low GWP refrigerants does not meet these criteria, because refrigerant GWP reflects potential climate impact from leakage rather than actual energy consumption or efficiency and it does not reliably correlate with lower energy use. It is also already comprehensively regulated under the Fluorinated Greenhouse Gases Regulation, so including it as a KPI would duplicate existing legal requirements rather than drive additional energy savings. Moreover, such a KPI would be technology-biased and largely binary, limiting comparability across different cooling designs and offering little scope for continuous, operational improvement, which runs counter to the core objectives of the Directive.

If nonetheless included, we recommend for alignment with EED reporting requirements, focusing on data hall GWP only, with scoring aligned to green public procurement criteria.[8]

Liquid cooling >75%

Liquid cooling percentage should not form part of the rating scheme. A KPI based on the percentage of liquid cooling technology deployed is problematic because it measures technology adoption rather than energy performance outcomes. Liquid cooling does not inherently guarantee higher energy efficiency. Its impact depends on workload type, inlet temperatures, heat reuse opportunities, auxiliary pumping energy and system integration. As a result, a data centre could increase its liquid cooling percentage whilst achieving little or no reduction in total energy consumption.

It is important to recognise that liquid cooling has complex implications for data centre efficiency. Both raise and lower a data centre's PUE since elements of liquid cooling appear in both the numerator and denominator of the PUE calculation. However, whilst liquid cooling can reduce facility cooling energy (improving PUE), it may also add power consumption for pumps and heat exchangers (worsening PUE). The rack power density is a key technical parameter to consider in respect to liquid cooling technology deployment.

We recognise that direct liquid cooling technologies will enhance energy efficiency whilst optimising energy recovery and distribution, leading to notable energy savings. Direct liquid cooling minimises energy loss by

[8] Green public procurement criteria: 0-10 GWP full score, 11-150 GWP 60 per cent, 150-750 GWP 20 per cent, 750+ no score. More information available at https://data.europa.eu/doi/10.2760/964841

reducing the distance for energy and cooling fluid transport and maximises the temperature differential at the inlet and outlet, promoting the capture of excess heat. However, a liquid-cooling-share KPI would be technology-prescriptive and non-neutral, disadvantaging efficient air-cooled or hybrid designs and reducing comparability across facilities with different climates, scales and IT profiles. Such a metric is also weakly verifiable and does not align with the EED's requirement that rating schemes focus on measurable, outcome-based energy efficiency improvements rather than on the presence of specific technologies.

The rating scheme should focus on direct energy and IT performance metrics like PUE, WUE and IT capacity, which reflect cooling efficiency. If cooling metrics are included, we recommend using the broader term 'advanced cooling' to ensure technological neutrality, accommodate innovation and allow flexibility based on each data centre's context and full life cycle impact.

Water stewardship program

We support including water stewardship as a voluntary KPI but find the requirement to join a recognised initiative too prescriptive. Instead, the focus should be on measurable outcomes, with programs accredited or third-party verified.

As per our previous position paper, data centre operators should earn points for demonstrating verifiable water stewardship commitments through public goals and validated progress tracking. These programs strengthen local watersheds and ecosystem health, whilst helping offset the environmental impact of cooling-related water consumption through broader conservation initiatives.

Individual minimum performance standards (MPS)

DIGITALEUROPE opposes the introduction of MPS for data centres at this stage. The timing is premature and risks creating significant market distortions that could undermine both the European data centre sector and the EU's broader digital transformation goals.

The first round of EED reporting has revealed significant data quality issues, with incomplete and inconsistent information across Member States. At least two full cycles are needed to establish a reliable baseline before implementing any MPS framework.

The proposed standards misinterpret MPS, rather than serving their intended purpose to eliminate clearly underperforming facilities, the proposed standards are being incorrectly positioned as drivers of innovation and continuous improvement - roles better suited to rating scheme and public disclosure mechanisms. This conflation with rating tools risks counterproductive outcomes.

The proposal overlooks proper climate normalisation for PUE and WUE, risking penalising facilities based on their geographic location. Without adjusting for local cooling degree days, facilities in warmer climates show higher PUE values compared to those in cooler climates, despite potentially having similar operational efficiency.

Regarding renewable energy requirements, whilst we support the notion of incentivising ambition in renewable energy procurement, we wish to highlight that including hourly matching requirements in any MPS framework does not account for the diverse operational needs that translate into diverse renewable procurement efforts across the sector. Companies have different operational needs, local grid conditions

and investment capabilities, making a one-size-fits-all approach inappropriate. Hourly matching is one of many valid strategies companies employ to advance decarbonisation and flexibility in how operators demonstrate their renewable energy commitments is essential to optimise overall emission reductions.

DIGITALEUROPE recommends a phased, evidence-based approach which:

- Allows time for the collection and validation of robust performance data through multiple EED reporting cycles.
- Develops appropriate climate normalisation methodologies.
- Ensures alignment with other EU policy objective.
- Maintains technological neutrality to avoid inadvertently excluding efficient cooling solutions.
- Consider ERF as part of a bonus framework rather than mandatory standards.

Only with these foundations in place, meaningful and effective performance standards would serve their intended purpose of eliminating underperforming facilities whilst supporting the EU's sustainability and digital transformation goals.

The sector's complexity demands careful consideration of interdependencies between different metrics and local conditions, rather than the current one-size-fits-all approach that risks creating unintended consequences and market distortions.

Amendments on the first delegated act on reporting scheme under EED

DIGITALEUROPE invites the European Commission to clarify the interpretation of Art. 12(1) EED to avoid divergent national approaches and unnecessary administrative burdens for data centre operators. It is crucial that the European Commission confirms the confidential nature of facility-level data reported under the delegated regulation on reporting scheme[9], as originally intended by Art. 5(5). This clarification is particularly timely given the upcoming delegated regulation on the rating scheme for data centres, which will introduce standardised labels providing public transparency at data centre facility level.

Legal framework and intent

Art. 12(1) requires certain data centre operators to make Annex VII information public, except where confidentiality rules apply. Art. 12(3) and the reporting scheme establishes a European database that collects information, outlined in Annex I and II of the delegated regulation and publishes it only in aggregated form. Art. 5(5) of the delegated regulation explicitly requires the Commission and Member States to protect the confidentiality of all submitted information. This structure demonstrates a clear policy intent. Detailed, site-level data should under no circumstances be publicly disclosed and be published only in aggregated form through the EU database.

[9] Delegated Act (EU) 2024/1364

Current Implementation Challenges

Several Member States, including France, Spain, and Italy, are interpreting Art. 12(1) to require data centre operators to publish detailed, site-specific information as outlined in Annex I and II of the delegated regulation directly on their websites. Whilst these laws acknowledge commercial secrecy protections, they burden operators with justifying, requesting and repeatedly defending confidentiality exemptions. This approach creates significant implementation issues, conflicting with Art. 5(5) of the delegated regulation's confidentiality requirements and causing fragmentation across Member States. It disadvantages operators in jurisdictions with expansive disclosure requirements and generates unnecessary bureaucratic processes for exemptions that should be standard under EU legislation.

In contrast, other Member States have adopted an interpretation that aligns with both the EED and the delegated regulation, treating submission to the European database as sufficient to meet Art. 12(1) obligations. This approach ensures transparency through aggregated publication whilst preserving confidentiality.

Administrative impact

The requirement for case-by-case confidentiality justification at the national level creates substantial administrative burden without enhancing transparency or advancing the directive's objectives. This is particularly true given that the forthcoming rating scheme will already address public transparency needs through standardised labels. Operators face duplicative filings across Member States, legal uncertainty about publication scope and timing, delays from national reviews, inconsistent interpretations of commercially sensitive information and increased competitive risks from jurisdictional disclosure differences. These challenges divert resources from the EED's core goal of improving energy efficiency and create unnecessary parallel disclosure requirements.

Recommended solution

DIGITALEUROPE requests the Commission to confirm that Member States may fulfil Art. 12(1) through the European database and clarify that information required under Annex I and II of the delegated regulation should be treated as confidential by default. This would eliminate the need for repeated case-by-case confidentiality requests at national level. We recommend issuing this clarification through a Commission recommendation or FAQ document, considering the advanced stage of national implementation.

Centralised EU reporting database

We strongly recommend that all reporting across the EU be consolidated within a single European database, eliminating the option for Member States to establish national databases. This approach will enable better data consolidation and analysis at the EU level, mitigate the risk of unintentional disclosure of confidential data at the national level whilst addressing concerns about withholding sensitive information due to insufficient safeguards in national databases and allow operators to report comprehensive datasets to the EU portal. A centralised approach prevents market fragmentation and ensures consistent application of confidentiality protections across all Member States.

Additionally, we recommend that the European Commission clarify and standardise the tooling and methodology for data sharing between lessors and lessees. Specifically, we propose the creation of a

secure, Commission-driven confidential data sharing platform with robust data sensitivity and security permissions that enables bidirectional sharing of highly confidential datasets, mitigating competition and business risks. A possible implementation could leverage the unique reference ID assigned to each report in the ReportENER platform, allowing lessors to enter required data without exposing sensitive information to lessees and vice versa.

Proposed amendments to the delegated regulation (EU) 2024/1364: Implementation timeline and key recommendations

The first reporting cycle under the EED has revealed several critical areas requiring clarification and refinement. As the European Commission develops the delegated regulation on the rating scheme for data centres, which will amend the first delegated regulation on reporting scheme, it is essential to address these challenges whilst ensuring operators have adequate time to implement changes. To enable proper implementation and system adaptation, we propose that any amendments to the delegated regulation should only take effect from May 2027 onwards. This timeline would preserve the integrity of the 2026 reporting cycle while giving operators sufficient time to modify their data collection and reporting processes.

To ensure accurate, secure and non-distortive reporting under the EU data centre framework, the Commission should clarify and standardise the tools and methodologies used for data sharing between lessors and lessees. A Commission-operated confidential data-sharing platform, with robust sensitivity tiers and security permissions, would enable bidirectional exchange of highly confidential datasets whilst safeguarding competition-sensitive information. One practical model would be to leverage the unique reference ID already assigned to each report in the ReortENER platform, allowing lessors to enter required inputs without revealing proprietary information to lessees, and vice versa. In parallel, the Commission should issue clear guidance on ICT traffic, capacity and storage disclosures for lessees, particularly how these will be reflected in the rating scheme and consider allowing lessors to nominate designated operators for data entry under appropriate safeguards.

Once the secure data sharing platform is available, we recommend a transition period of at least one full calendar year to allow both lessor and lessee companies sufficient time to adapt their data collection processes and ensure compliance with the new requirements. Additionally, we recommend that a data centre be brought under the scope of reporting 12 months after its operational start date or ready for service date for leased data centres. This ensures sufficient time for full operationalisation and telemetry deployment and excludes pre-operational energy and water consumption from reported metrics, thereby improving the accuracy and comparability of efficiency KPIs across data centres.

Data traffic metrics (BIN/BOUT/TIN/TOUT)

Challenge: Networking in a data centre refers to the complex infrastructure that connects all the compute and storage equipment together to enable communication and data flow. This makes networking an integral part of compute and storage operations and reporting on it in isolation presents fundamental limitations in measuring and improving data centre energy efficiency. The current delegated regulation requires reporting on raw traffic volumes (BIN/BOUT/TIN/TOUT) which fails to provide meaningful insights into energy performance for several reasons:

- First, traffic volume does not correlate with energy efficiency. A single video streaming server might generate significantly more traffic than an entire data centre running critical business applications,

whilst consuming far less energy. Traffic patterns vary dramatically across different business models, services and customer types, making them unreliable indicators of energy performance or sustainability.

- Second, modern data centres may employ sophisticated optimisation techniques like data compression, caching and intelligent routing that can substantially reduce energy consumption without corresponding changes in traffic volume. These improvements in efficiency would not be captured by simple traffic metrics. Additionally, changes in network architecture might dramatically change traffic volumes ingressing or egressing the data centre without a significant change in power usage or overall efficiency (e.g., moving a cache from one data centre to another).
- Thirdly, the networking equipment handling inter data centre traffic typically comprises a tiny proportion of the data centre's power draw, making it less significant (in isolation) because, as noted above, it does not correlate with efficiency of other data centre equipment. Furthermore, networking equipment power usage, especially for high-speed optical links as they are most common, is largely insensitive to network traffic levels.
- Finally, the industry lacks standardised measurement methodologies, making any collected data unreliable for comparative analysis or policy making.

Proposed Solution: We recommend removing these traffic metrics from the reporting requirements. Instead of treating networking as a standalone metric, it should be considered as an integral part of compute and storage operations, as networking fundamentally serves as a support function for both components. The power demand and efficiency of networking should be proportionally incorporated into compute and storage metrics based on their respective allocations. Any future standardisation work should take this integrated approach, developing comprehensive IT metrics that reflect the interconnected nature of compute, storage and networking functions in modern data centre operations.

Installed information technology power demand (PDIT)

Challenge: The EED's delegated regulation currently offers data centres flexibility in reporting power demand of information technology (PDIT) values, though this flexibility presents challenges for standardisation. There are currently two (four when there is change in the year, weighted average) PDIT reporting options as follows: 'installed IT PD' (Art. 2 (14)) and 'rated IT load' (data centre designed capacity, Art. 2 (15)). Some member states (e.g., Germany) are requiring reporting the rated information technology load as defined by the maximum load of the designed UPS. This reporting flexibility, whilst accommodating diverse operational scenarios, creates ambiguity for reporting comparable data across different operators, where comparability is a fundamental requirement for the rating schemes. The optionality in reporting methodologies undermines the ability to benchmark performance and establish meaningful industry standards.

Proposed solution: To address this and to ensure consistency across the sector, we recommend defining a single PDIT methodology to support standardisation, consistency and comparability. We recommend the 'rated information technology load' as per Art. 2 (15), as of 31 December in the reporting year. This aligns with the reporting definition for ICT capacity indicators and will additionally mitigate further deviations in definitions at the Member State level.

Total water input

Challenge: In alignment with EED Recital 87[10], the EED reporting and rating scheme should explicitly confirm that non-freshwater (brackish water and seawater) does not form its scope. Furthermore, many operators face limitations in accessing granular metering data for water consumption metrics, with ongoing efforts to transition to telemetry-based reporting for greater alignment with standards.

Proposed solution: Total water input should be clarified as total freshwater input and freshwater should be defined per ISO 14046. This would ensure that the rating scheme remains aligned with the primary law, maintains regulatory emphasis on freshwater use and does not disincentivise the use of seawater as a sustainable cooling solution. Additionally, a three-year transition period should be established (until 2028) for each data centre to implement the necessary metering infrastructure and retrofits, recognising that these require significant time and resources. During this transition period, operators may report best available theoretical values where direct metering is not yet available, with the submission form including a dedicated field for explanatory notes when they are unable to align fully with the requested methodology. This approach enhances transparency and allows for context-specific disclosures whilst operators implement comprehensive metering systems.

Renewable energy consumption reporting

Challenge: There is ongoing uncertainty regarding the consistency of REF reporting, particularly regarding the calculation of total renewable energy consumption (Eres-Tot) under EED when considering backup generators. Whilst energy supplied by backup generators is correctly included in total data centre energy consumption (EDC) in line with EN 50600-4-2, such energy cannot normally contribute to total renewable energy consumption (ERES-TOT) as defined exhaustively in Annex II via EN 50600-4-3. It is noted that REF may not always equal 1.0 whenever backup generators are used, as backup generator consumption is included in total energy consumption but typically cannot be counted as renewable energy. This creates a technical challenge for operators seeking to achieve high REF scores whilst maintaining operational reliability through backup power systems.

Proposed solution: We invite the European Commission to confirm that the inclusion of backup generator energy in EDC is intended solely for measurement completeness and transparency and that non-routine emergency or test operation of backup generators should not be interpreted as non-compliance with REF expectations or future performance benchmarks and should therefore be excluded from the REF calculation. Such clarification would ensure consistent application of REF across Member States, preserve incentives for high renewable electricity sourcing and avoid unintended disincentives for maintaining essential resilience and reliability infrastructure. We note that this technical reality would make any future REF minimum performance standard of 100 per cent technically unattainable for the sector.

Waste heat reuse (ERF)

Challenge: Operators do not have full operational control over ERF since it is fundamentally limited by geographic location, infrastructure type and availability of off takers for waste heat. Additionally, current ISO standards do not permit inclusion of internal heat reuse within the data centre plot boundary.

[10]Directive (EU) 2023/955, Recital 87: *The collected data should be used to measure at least some basic dimensions of a sustainable data centre, namely how efficiently it uses energy, how much of that energy comes from renewable energy sources, the reuse of any waste heat that it produces, the effectiveness of cooling, the effectiveness of carbon usage and the usage of freshwater.*

Proposed solution: ERF should remain a reporting requirement and be strengthened by expanding its scope to include internal heat reuse. This can be achieved through amendments to the existing ERF methodology in collaboration with ISO standardisation bodies, rather than creating separate metrics.

Cooling degree days (CDD)

Challenge: The current requirement specifies a base temperature of 21°C which does not reflect modern data centre operations, where facilities typically operate at much higher temperatures (28°C and above).

Proposed solution: Upon confirmation that the European Commission will automate this metric through centralised calculation using standardised meteorological data, remove the reporting requirement from operators. If operator reporting is maintained, the base temperature should be updated to reflect modern data centre operating temperatures, to ensure consistent reporting across the industry.

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About DIGITALEUROPE

DIGITALEUROPE is the leading trade association representing digitally transforming industries in Europe. We stand for a regulatory and investment environment that enables European businesses across multiple sectors, as well as citizens, to prosper through digital technologies. We wish Europe to grow, attract and sustain the world's best digital talent, investment and technology companies. Together with our members, we shape industry positions on all relevant policy matters and contribute to their development and implementation. Our membership represents over 45,000 businesses who operate and invest in Europe. It includes corporations and scaleups which are global leaders in their fields, as well as national trade associations from more than 30 European countries.

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