

THE ENERGY EFFICIENCY DIRECTIVE, ECO-LABELLING AND MINIMUM PERFORMANCE STANDARDS FOR DATA CENTRES: UPDATE ON DEVELOPMENTS

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OUTLINE

- 1 EED Recap...and challenges for operators
- 2 Labelling Update... and challenges for operators
- 3 MPS Proposalsand challenges for operators

EED – REQUIREMENTS #1

Many provisions of EED targeted specifically at data centres

Annex I: Information to be Collected and Communicated

1 Information on the Data Centre

- Data centre name
- Owner and operator details
- Location (Local Administrative Unit Code)
- Type of data centre (enterprise, colocation, co-hosting)
- Year and month of entry into operation

2 Information on Domain Control by the Reporting Entity

- Control over physical building
- Control over mechanical & electrical plant
- Control over data floor
- Control over racks
- Control over IT equipment
- Control over operating system/virtualisation layer
- Control over software
- Control over business process
- Control over all domains

3 Information on the Operation of the Data Centre

- Electrical infrastructure redundancy level
- Cooling infrastructure redundancy level
- Total number of modular capacity steps or separately provisioned halls
- Total number of racks

Annex II: KPIs to be Monitored, Measured, and Communicated

1 Energy and Sustainability Indicators

- Installed IT power demand
- Data centre total floor area
- Data centre computer room floor area
- Total energy consumption
- Total consumption of IT equipment
- Electrical grid functions
- Average battery capacity & Battery time
- Total water input
- Total potable water input
- Waste heat reused
- Average waste heat temperature
- Rated cooling capacity
- Type of refrigerant used
- Cooling degree days
- Total renewable energy consumption
- Total renewable energy consumption from Guarantees of Origin
- Total renewable energy consumption from PPAs
- Total renewable energy consumption from on-site renewables

2 ICT Capacity Indicators

- ICT capacity for servers
- ICT capacity for storage equipment

3 Data Traffic Indicators

- Incoming traffic bandwidth
- Outgoing traffic bandwidth
- Incoming data traffic
- Outgoing data traffic

EED – REQUIREMENTS #2

Annex III: Data Centre Sustainability Indicators and Calculation Methodologies

- Power Usage Effectiveness (PUE)
- Water Usage Effectiveness (WUE)
- Energy Reuse Factor (ERF)
- Renewable Energy Factor (REF)

Annex IV: Publicly Available Information in the European Database

1 At Member State Level

- Number of reporting data centres
- Distribution of reporting data centres by size categories
- Average PUE, WUE, ERF, and REF for all reporting data centres, per type, and per size category

2 At Union Level

- Number of reporting data centres
- Distribution of reporting data centres by size categories
- Average PUE, WUE, ERF, and REF for all reporting data centres, per type, and per size category

EED RECAST – IMPLICATIONS

- 1 Hastily drafted, problematic elements and internal contradictions.
- 2 Core challenges:
 - Scope set incorrectly
 - Required information unavailable to operators
 - Metrics not appropriate
 - Patchy data (quality and coverage)
- 3 Shortcomings “baked in” to dependent measures

LABELLING SCHEME: WHAT'S GOOD?

- 1 Separation of sustainable sourcing (left) from operational performance metrics (centre) from other sustainability credentials (right)**
- 2 Separation of obligatory from optional**
- 3 Factual basis of information, which has not been subject to invisible algorithms, or tinkered with**
- 4 Close adherence to EED reporting requirements which reduces compliance burden**
- 5 Visually transparent and intuitive**

LABELLING SCHEME: EXAMPLE ISSUES

- 1** While the operational infrastructure metrics chosen (WUE and PUE) are correct, the ranges are wrong. WUE in particular will not distinguish efficient from inefficient dry cooling or efficient from inefficient wet cooling.
- 2** Location based carbon will polarise views between countries who need data centre investment to drive their energy transition and countries who already have a decarbonised grid.
- 3** Optional sustainability credentials should be open ended, not prescribed

MINIMUM PERFORMANCE STANDARD: MPS

Based on the reported data and considering the stakeholders' input, both obtained by 24. 04. 2025, we suggest considering the following MPS:

PUE

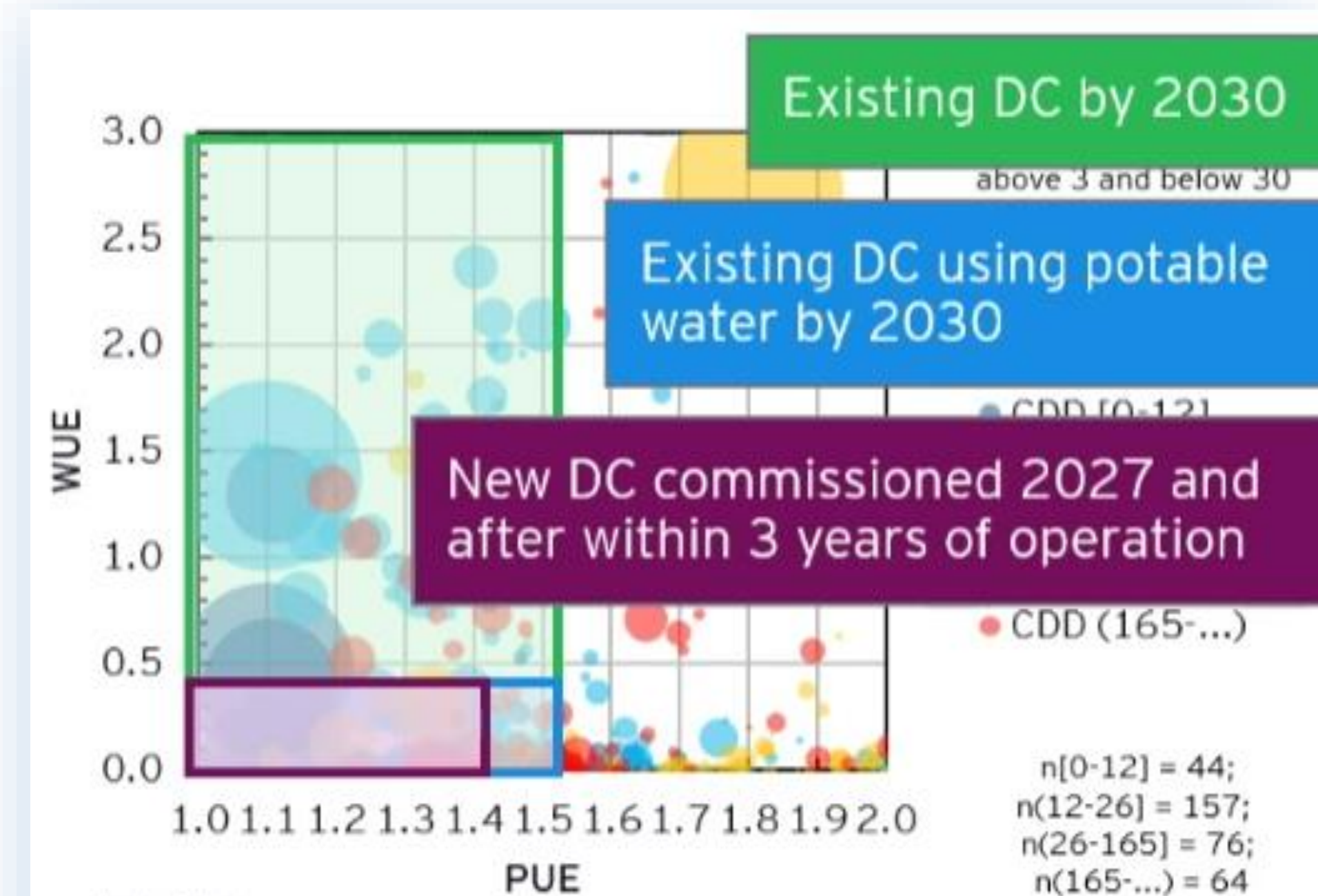
- Operational PUE < 1.5 for existing DC by 2030
- Design PUE < 1.3 for DC commissioned 2027 and later, operational PUE < 1.4 achieved within 3 years of operation

WUE

- WUE < 0.4 L/kWh (based on potable water) for all DC by 2030
- WUE < 0.4 L/kWh (regardless of origin) for DC commissioned 2027 and after
- Further focus on WUE regardless of water source

REF

- REF = 100% for all DC (regardless of origin) by 2030
- Further focus on the origin of renewable energy



ERF

We do not believe that mandating a EU-wide criterion is feasible - we propose for it to be assessed locally.

For all MPS, we encourage policy makers to introduce stricter regulations on national level where deemed necessary and feasible.

Reported data: We cannot understand how these figures were informed by the reported data since they would exclude more than 50% of the sector from the market

PUE: While PUE should be included in MPS the PUE values need to be on a sliding scale to reflect external factors such as average temperature. The Pact's PUE targets are carefully structured to allow a level playing field. This approach could drive activity to where the MPS can be achieved with least effort.

ERF: We agree that ERF is not appropriate for inclusion in MPS

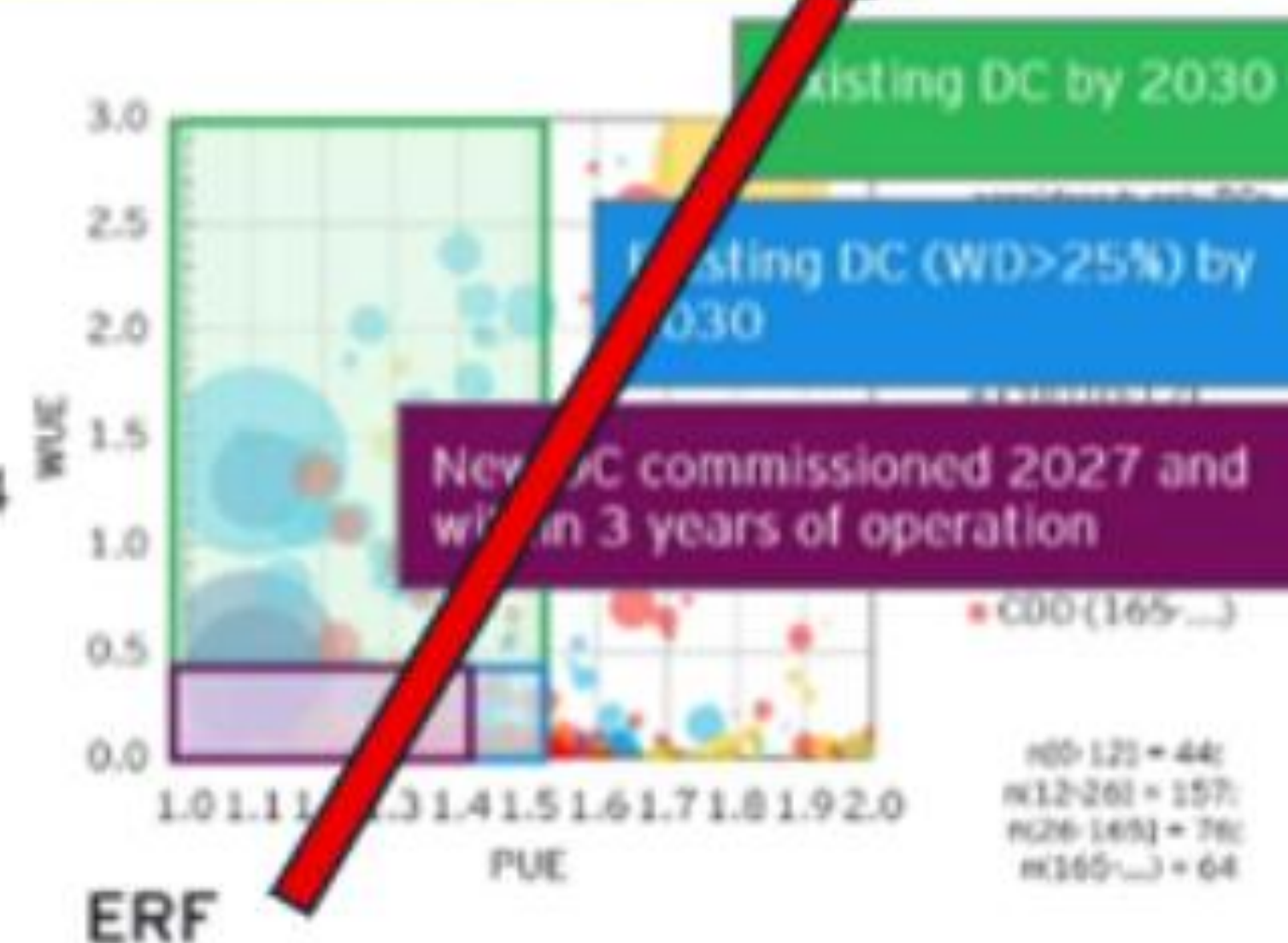
Based on the reported data and considering the stakeholders' input, both obtained by 24. 04. 2025, the following MPS were suggested:

PUE

- Operational PUE < 1.5 for existing DC by 2030
- Design PUE < 1.3 for DC commissioned 2027 and later, operational PUE < 1.4 achieved within 3 years of operation

WUE

- WUE < 0.4 m³/MWh for DCs in areas with water depletion > 25% by 2030
- WUE < 0.4 m³/MWh for DCs in areas with water depletion > 25% commissioned 2027 and after



WUE

- WUE < 0.4 m³/MWh for DCs in areas with water depletion > 25% by 2030
- WUE < 0.4 m³/MWh for DCs in areas with water depletion > 25% commissioned 2027 and after
- Further encourage using non-potable water and efficiency
- Only Category 2 reporting from 2030

REF

- REF = 100% for all DC (regardless of origin) by 2030
- Further focus on the origin of renewable energy (encourage hourly matching)



ERF

We do not believe that mandating a EU-wide criterion is feasible - we propose for it to be assessed locally.

For all MPS, we encourage policy makers to introduce stricter regulations on national level, where deemed necessary and feasible.

WUE: We agree that WUE should form part of MPS but proposals appear to be associating minimal or zero water use with optimal sustainability. This is not always the case and there is a risk of regulating out widely used technologies which could lead to perverse outcomes.

We do not understand the choice of Category 2 reporting from 2030

REF: We agree that REF should be included in MPS. However the MPS should accept GOOs, PPAs and onsite generation equally. Encouraging hourly matching should not be the target of MPS. Hourly matching could be a bonus voluntary criterion however.

Nation States should not be encouraged to introduce stricter regulations: firstly because this reduces harmonisation and secondly because this is not the task of MPS which are purely to remove facilities that are unfit for purpose from the market.

MPS: ISSUES IN SUMMARY

😊 Chosen *metrics* are sensible but not the numbers....

😞 PUE aspirational - no CDD allowances

😞 WUE irrespective of location or water scarcity

😞 Encouragement for MS to raise ambition

However....

😊 ERF not deemed relevant for EU wide policy

Core issue: Conflation of policy tools

....WHAT DO I MEAN BY CONFLATION OF POLICY TOOLS?

Policy tools are in place to correct market failure and deliver measurable outcomes.

- 1 EED: Data gathering to improve transparency and inform future policy
- 2 Rating scheme: to drive sustainability performance through competition for best in class
- 3 MPS: to remove the worst in class – those facilities that are unfit for purpose - from the market
- 4 **PQC: aspirational standards to ensure only best in class can bid to provide future large scale capacity**

USEFUL LINKS

CNDCP Ratings Working Group outputs

- **A Rating Scheme for Data Centres: Technical Discussion Paper:** <https://www.climateutraldatacentre.net/wp-content/uploads/2025/04/CNDCP-A-Rating-Scheme-for-Data-Centres.pdf>
- **CNDCP Ratings WG Feedback on proposed label:** <https://europainsightssprl.eu.teamwork.com/app/files/3911054>
- **CNDCP Ratings WG: Addendum to feedback on proposed label:** <https://europainsightssprl.eu.teamwork.com/app/files/3919713>
- **MPS for Data Centres: Observations from the Climate Neutral Data Centre Pact:** https://www.climateutraldatacentre.net/wp-content/uploads/2025/07/MPS-for-Data-Centres-Observations-from-the-Climate-Neutral-Data-Centre-Pact_website1.pdf

International Energy Agency: Energy and AI (see page 14 for the comparison to air conditioning)

<https://iea.blob.core.windows.net/assets/601eaec9-ba91-4623-819b-4ded331ec9e8/EnergyandAI.pdf>

CyrusOne Listening to Communities report: <https://www.cyrusone.com/commitments/listening-to-communities>

Referencing standards in legislation, see conversation piece here: <https://www.datacenterdynamics.com/en/opinions/data-center-cooling-does-standardization-threaten-innovation/>



THANK YOU