European Data Centre Association

EU Reporting Scheme for data centres
Explained

June 2024

Executive summary

The **Energy Efficiency Directive (EED)**[1] introduces a reporting obligation for data centre operators in the EU. The reporting scheme may be the first step towards the introduction of further measures to improve the sustainable development of the data centre industry, such as minimum performance standards or a labelling scheme.

The reporting scheme is laid out in detail in the **Delegated Act (DA)**[2] and its four annexes.

The EU reporting scheme requires data centre operators to report on an annual basis, on a series of KPIs and data points. The first two sets of data points – information on the data centre and **KPIs on energy and sustainability** – should not pose a problem for data centre operators, who possess all the information needed. The two other sets of data points however – **KPIs on ICT equipment and KPIs on data traffic** - are more problematic, as they require colocation operators to report on data which they do not have access to. This means that data centre operators will need to change their relationship with their customers to adapt to the new regulatory framework.

Finally, another important aspect of the EU reporting scheme is that it may evolve into a series of national reporting schemes, each with their own specificities. Indeed, when transposing the EED into their national legal framework, Member States may add additional data points to report on, create a national reporting platform, widen the scope of reporting entities, or also introduce minimum performance standards. In practice for data centre operators, this means that knowing the EU framework will not be enough, **knowledge of national reporting requirements is also necessary** to ensure full compliance.

Disclaimer: This document reflects the EUDCA's interpretation of the EU regulatory framework, based on legal documents, meetings with policy makers, and information communicated through our network of stakeholders and NTAs. It does not constitute legal advice on how to comply with the reporting obligations stemming from EU and national legislations.

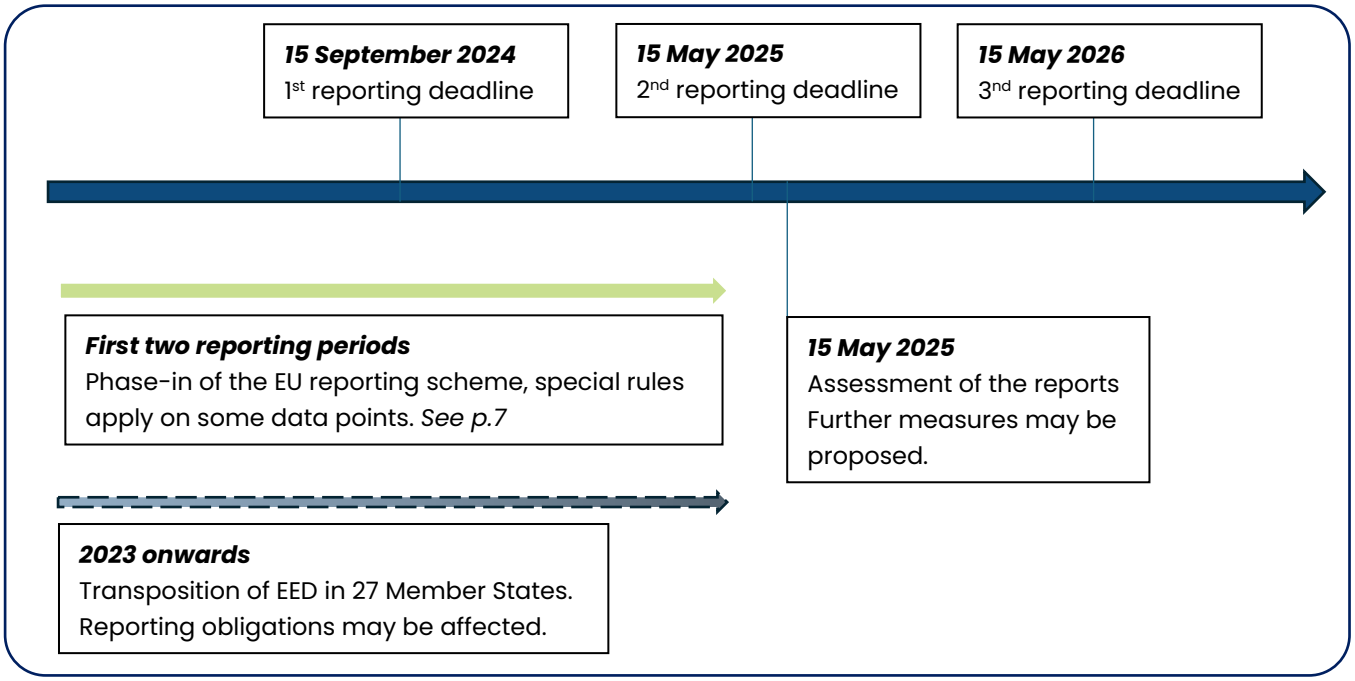
[1] *Directive (Eu) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast) (link)*

[2] *Commission* Delegated Regulation (EU) 2024/1364 of 14 March 2024 on the first phase of the establishment of a common Union rating scheme for data centres (link)

Main takeaways

- The reporting **scheme applies EU-wide, but national transpositions may vary**. Operators should research their (upcoming) national framework to ensure full compliance.
- **Regardless of the transposition status of the EED, the reporting obligation applies** to data centre operators with an installed IT power demand of at least 500 kW.
- Operators shall submit their **first report by 15 September 2024** on the EU platform. Subsequent reports shall be submitted by 15 May 2025, and every year thereafter. These **deadlines may change in some countries.**
- Reports shall be submitted to the upcoming **European database**, or to a **national platform** if so decided by a Member State.
- The facility-level information that will be made publicly available will depend upon the transposition choices made by Member States.
- According to the Delegated Regulation, only some data points should be made public, and most data points should not. Moreover, only aggregated information sould be published, at several levels of aggregation.
- According to the directive on the other hand, facility-level informationcould be made public.
- Operators must report on **four types of data**: information on the data centre, KPIs on energy and sustainability, KPIs on ICT equipment and KPIs on data traffic.
- Reporting on ICT equipment is only mandatory for equipment installed in the data centre after entry into force of the delegated regulation (6 June 2024).
- **Four sustainability indicators** are calculated on the basis on the information reported: PUE, WUE, ERF, REF.
- The reporting scheme may be the first step towards the introduction of EU-wide performance standards or a labelling scheme.

Timeline



Scope

Reporting data centres

Reporting entities are operators whose data centre is located in the EU, with an installed IT power demand of at least 500 kW (**ART. 12.1 EED** & **ART. 1 DA**).

When transposing the EED, Member States may opt for a wider scope, mandating more data centre operators to report. For example, in Germany the threshold is defined differently, using the net connected power of a data centre as reference, and not the installed IT power demand.

Exemptions

ART. 12.1 EED provides that *"information subject to Union and national law protecting trade and business secrets and confidentiality"* is not within the scope of the reporting. Upon transposing the EED, Member States may expand upon what is considered trade and business secrets according to national laws and exclude such information from the reporting obligation.

Moreover, **ART. 12.2 EED** exempts *"data centres used for, or providing their services exclusively with the final aim of, defence and civil protection"* from the reporting scheme. These data centres are exempted from the reporting obligation entirely, provided that this represents their exclusive function.

European database

Submitting a report

The delegated regulation provides two ways for reporting entities to communicate their annual report to the European database (**ART. 3.1 DA**):

- Via a national reporting scheme
- Directly to the European database

It is up to Member States to decide whether they will set up their own national reporting scheme and require operators to report on their national platform. Should they opt for the national scheme, the communication of reports to the European database may be indirect, via the national scheme.

Publicly available information: facility-level

The facility-level information that will be made publicly available depends on the transposition choices in each Member State.

EU rules provide two possibilities: on the one hand **ANNEX VII EED** mandates Member States to ensure data centre operators make publicly available a series of data, such as owner, operator, municipality, traffic information data and the KPIs.

On the other hand, the delegated regulation provides that individual information reported by data centre operators shall not be made public. Furthermore, the Commission and Member States shall consider this information to be *"confidential information affecting the commercial interests of operators and owners of data centres"* (**ART. 5.5 DA**), and therefore protected from requests to public access to documents.

These conflicting approaches are hard to reconcile. It is up for the Member States to decide which approach their transposition will follow.

Publication of aggregated data

ANNEX IV DA provides that 9 data points will be made public, at two different levels of aggregation: EU level and Member State level. Furthermore, the 4 sustainability indicators of **ANNEX III DA** – PUE, WUE, ERF and REF – will also be available per size category and per type of reporting data centre.

These different levels of aggregations will provide some granularity to the publicly available data on the EU database for data centres. However, **ANNEX IV (a) DA** provides that should a category aggregate less than 3 reporting data centres, then no information shall be presented.

Timeline

Deadline at EU level

ART. 3.1 DA provides that reports shall cover the preceding calendar year and be communicated annually to the database.

For the first reporting period, covering the calendar year 2023, reports shall be communicated to the database by 15 September 2024. For the following years, the deadline shall be 15 May.

When a new data centre starts its operations, it is also mandated to report on its first incomplete year, mentioning the duration in question.

Deadlines at national levels

The deadline at EU level contained in **ART. 3.1 DA** represents the date by which reports shall be communicated to the European database. However, it is possible that Member States require the operators to report on the national reporting platform earlier than the EU deadline.

In Germany for instance, reports have to be made to the national authorities by the 31st March of each year, well before the EU deadline of 15 May.

Data points and KPIs

Information on the data centre and its operations

ANNEX I DA provides the 7 data points which must be communicated regarding the data centre and its operation. The information required here is quite straightforward.

Some terms – such as the three types of data centres for instance – are defined in **ART. 2 DA**.

KPIS on energy and sustainability

ANNEX II – 1. DA lists 18 data points to be reported, and the measurement methodologies, sometimes accompanied by figures. These measurement methodologies may refer to EN 50600 standard or equivalent. Some data points are also defined in **ART. 2 DA**.

As a transition measure, and for the first reporting period only, data centre operators may not report some of the data points for technical reasons. This exemption is laid out in **ART. 3.2 DA** and circumscribed to 11 data points (*see p.7*).

KPIs on ICT capacity

Data centre operators shall report on the ICT capacity of their servers and storage equipment. **ANNEX II – 2. DA** details the rules applicable to these 2 data points.

Reporting on ICT capacity will represent a challenge for colocation operators, who do not own nor have access to their clients' IT equipment. This obligation is gradually phased in over the first two reporting periods, to allow colocation operators to adapt to the new regulatory framework and introduce ways to monitor new equipment entering their data centre (*see p.7*).

Although operators may report on all ICT equipment, as a minimum they have to report only on the equipment installed after the entry into force of the delegated regulation. The Delegated Regulation entered into force on 6 June 2024, while the first report covers the calendar year 2023. Therefore, data centres may not report on ICT capacity during the first reporting exercise, as the equipment within the scope of the obligation did not exist.

Moreover, for the first two reporting periods, if a colocation operator cannot gather sufficient data, it shall estimate and indicate the percentage of the data centre computer room floor area that the information communicated to the European database covers (**ART. 3.3 DA**).

Finally, for all reporting periods, colocation operators may not report on all of the IT equipment installed after 2024. Instead, they may extrapolate

the value that corresponds to at least 90% of the installed IT power demand of all new equipment installed after 2024.

KPIs on data traffic

The relevance of this reporting requirement can be questioned, as it has little to do with the sustainability of data centres' operations. However, it was included in **ANNEX VII (b) EED**, as a minimum requirement for the upcoming reporting scheme. **ANNEX II – 3. DA** details the 4 data points related to data traffic. It includes a general statement on how operators can monitor data traffic, basing the measurements *"on any adequately reliable sources or combination of sources of data available"*, indicating that precise information will be hard to report for some entities. This is especially the case for colocation operators who do not possess such information.

Internal reporting

Given the difficulty for colocation data centres to report on some data points, **ART. 3.3 DA** offers some guidance. Operators are encouraged to set up an "*anonymous internal reporting mechanism*" to gather the necessary data from their clients.

This system, however, does not have strong provisions to ensure it will succeed. Firstly, it is merely an option for colocation operators – not an obligation. Moreover, even if operators set up such a mechanism, no provision is included to ensure third parties cooperate, and effectively communicate the data needed.

National transpositions could address this gap by strengthening this mechanism or providing alternative solutions.

Sustainability indicators

Based on the data reported, 4 sustainability indicators shall be calculated: PUE, WUE, ERF and REF (**ANNEX III DA**). These indicators will not be reported by operators, but rather calculated automatically based on the data reported.

These sustainability indicators could be particularly important, as they will be made publicly available on the European database at a more granular level than the other data points. Moreover, on top of the increased transparency, their category name suggests that they could be relevant in the next steps of the EU reporting scheme, should the EU introduce minimum performance standards or a labelling scheme.

National transpositions

Delegated Regulation

Only the directive needs to be transposed by Member States. The delegated regulation is directly applicable in all Member States. The delegated regulation entered into force on 6 June 2024, 20 days after its publication in the Official Journal of the EU (17 May 2024) (**ART. 6 DA**)

This distinction has several consequences. Firstly, the EU reporting scheme is law without the need for transposition at Member State level. This is especially important as **ART. 3.1 DA** directly mandates data centre operators to report. Therefore, the obligation to report applies upon entry into force of the delegated regulation, regardless of the transposition status of the EED in the Member States. While this is true from a strictly legal standpoint, one must keep in mind that the penalties for non-compliance with the reporting obligation are left for the Member States to decide (**ART. 32 EED**). This means that in all likelihood, if a Member State has not transposed the EED, there are no penalties for non-compliance with the reporting obligation in that Member State.

Secondly, all the KPIs and measurement methods apply. Information communicated to the European database must comply with the requirements set out in the delegated regulation and its annexes. This means that while Member States may add additional data points to be reported or may widen the scope of reporting entities by lowering the threshold, they may not restrict the information required by the EU reporting scheme.

Energy Efficiency Directive

When transposing the EED, Member States may set up a national reporting scheme to capture additional data points which are not required at EU level. Moreover, they may also introduce an additional set of measures, such as minimum performance standards as is the case in Germany.

The German case also exemplifies other parameters which can differ at national level, with a wider scope of reporting entities (lower reporting threshold), or an earlier deadline for submitting the reports to the national platform.

Most importantly, rather than adding a national flavour to the EU reporting scheme, Member States may also fill in the gaps left by EU legislation. First, they may give additional details on information subject to national law protecting business and trade secrets (**ART. 12.1 EED**). Second, they may address the colocation-specific issues arising from the data points on ICT equipment and data traffic. Another way to address this would be to shield colocation operators from liability when setting the penalties for non-compliance, which must be defined at national level anyway (**ART. 32 EED**).

In terms of timeline, **ART. 36 EED** provides that Member States shall transpose the article relating to the reporting obligation (**ART. 12 §1 EED**) by 15 May 2024. However, given that the first reporting deadline has been pushed to 15 September 2024 in the delegated act, it is possible that the transposition process will continue until and beyond this deadline.

Additionally, Member States shall also encourage their larger data centres (>1 MW) to take into account the best practices of the European Code of Conduct.[3] This specific provision (**ART. 12 §4 EED**) shall be transposed by 11 October 2025.

Next steps

Assessment of the reports

The EED requires the Commission to assess the reports by 15 May 2025, that is to say by the second reporting deadline (**ART. 12.5 EED**). This timeline should lead to an incomplete assessment of the reporting scheme. Indeed, the second wave of reports will not be finished by the time the Commission is required to analyse the reports. Moreover, the gradual phase in of the reporting scheme means that the first wave of reports will be incomplete for some data points.

Introduction of further measures

Based on its assessment of the reports, the Commission may propose further measures to improve the sustainability of the data centre industry. The EED makes explicit reference to minimum performance standards, and a labelling scheme, while leaving the door open for other measures (**ART. 12.5 EED**).

It is therefore possible that preparatory studies and stakeholders' consultations on further measures could be undertaken in 2024.

[3] *Joint Research Centre, Data Centres Code of Conduct (link)*

Phase-in of the EU reporting scheme

For the first two reporting periods, the delegated regulation affords data centres some leeway regarding the data points they need to report on. In practice, this means that as a minimum, data centres may not report on some data points, or may not provide precise information. This is especially true for the first year, although the second year also includes some special provisions.

The tables below give an overview of the data points that are subject to exemptions or special provisions for the first and second reporting periods.

Year 1 – 2024 reports covering the year 2023

Data Point	Exemption
ANNEX II.1. DA KPIs on energy and sustainability	
(d) Total energy consumption ("EDC", in kWh)	**ART. 3.2 DA:** *For the first reporting period, if a data centre operator cannot monitor and gather one or more of the key performance indicators set out in Annex II, points 1(d), 1(e), 1(h)-(l), and 1(o)-(r), for technical reasons, the data centre operator may omit this information explaining the reasons for this omission.*
(e) Total energy consumption of information technology equipment ("EIT", in kWh)	
(h) Total water input ("WIN", in cubic meters)	
(i) Total potable water input ("WIN-POT", in cubic meters)	
(j) Waste heat reused ("EREUSE", in kWh)	
(k) Average waste heat temperature ("TWH", in degree Celsius)	
(l) Average setpoint information technology equipment intake air temperature ("TIN", in degree Celsius)	
(o) Total renewable energy consumption ("ERES-TOT", in kWh)	
(p) Total renewable energy consumption from Guarantees of Origin ("ERES-GOO", in kWh)	
(q) Total renewable energy consumption from Power Purchasing Agreements ("ERES-PPA", in kWh)	
(r) Total renewable energy consumption from on-site renewables ("ERES-OS", in kWh)	
ANNEX II.2. DA KPIs on ICT capacity equipment	
(a) ICT capacity for servers ("CSERV")	**§2:** *ICT capacity for servers/storage equipment shall be reported, as a minimum, for all new services/devices installed in the reporting data centre after the entry into force of this Delegated Regulation.*
(b) ICT capacity for storage equipment ("CSTOR", in petabytes)	

Year 2 – 2025 reports covering the year 2024

Data Point	Exemption
ANNEX II.2. DA KPIs on ICT capacity equipment	
(a) ICT capacity for servers ("CSERV")	**§2:** Similarly, as the first year, only equipment installed after the entry into force of the delegated regulation (Q2 2024, tbc) must be reported. Therefore, only the second half of the year 2024 is covered. **ART. 3.2 DA:** For the first two reporting periods, if a colocation data centre operator cannot monitor and gather the necessary data to sufficiently calculate the key performance indicators referred to in points 2(a) and 2(b) of Annex II, it shall estimate and indicate the percentage of the data centre computer room floor area that the information communicated to the European database covers.
(b) ICT capacity for storage equipment ("CSTOR", in petabytes)	

Overview of the data points

The tables below give an overview of the data points to be reported as part of the EU reporting scheme for data centres. The precise definitions and calculation methods for each data point can be found in the corresponding articles of the annexes to the delegated regulation.

Annex I – Information to be communicated	
1. Information on the reporting data centre	
(a) Data centre name	(d) Type of data centre - enterprise data centre - colocation data centre - co-hosting data centre - + structure or group of structures
(b) Owner and operator of the data centre	
(c) Location of the data centre	(e) Year and month of entry into operation
2. Information on the operation of the reporting data centre	
(a) electrical infrastructure redundancy level at high voltage level / at low voltage level (line-up) / at rack level;	(b) cooling infrastructure redundancy level at room level / at rack level.

Annex II – Key Performance Indicators	
1. Energy and sustainability	
(a) Installed information technology power demand ("PDIT", in kW)	(j) Waste heat reused ("EREUSE", in kWh)
(b) Data centre total floor area ("SDC", in square meters)	(k) Average waste heat temperature ("TWH", in degree Celsius)
(c) Data centre computer room floor area ("SCR", in square meters)	(l) Average setpoint information technology equipment intake air temperature ("TIN", in degree Celsius)
(d) Total energy consumption ("EDC", in kWh)	(m) Types of refrigerants
(e) Total energy consumption of information technology equipment ("EIT", in kWh)	(n) Cooling degree days ("CDD", in degree-days)
(f) Electrical grid functions	(o) Total renewable energy consumption ("ERES-TOT", in kWh)
(g) Average battery capacity ("CBtG", in kW)	(p) Total renewable energy consumption from Guarantees of Origin ("ERES-GOO", in kWh)
(h) Total water input ("WIN", in cubic meters)	(q) Total renewable energy consumption from Power Purchasing Agreements ("ERES-PPA", in kWh)
(i) Total potable water input ("WIN-POT", in cubic meters)	(r) Total renewable energy consumption from on-site renewables ("ERES-OS", in kWh)
2. ICT capacity indicators	
(a) ICT capacity for servers ("CSERV")	(b) ICT capacity for storage equipment ("CSTOR", in petabytes)
3. Data traffic indicators	
(a) Incoming traffic bandwidth ("BIN", in gigabytes per second)	(c) Incoming data traffic ("TIN", in exabytes)
(b) Outgoing traffic bandwidth ("BOUT", in gigabytes per second)	(d) Outgoing data traffic ("TOUT", in exabytes)