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COMMISSION DELEGATED REGULATION (EU) .../...

of 14.3.2024

on the first phase of the establishment of a common Union rating scheme for data centres

EXPLANATORY MEMORANDUM

CONTEXT OF THE DELEGATED ACT

The Communication on the European Green Deal¹ stresses the role that energy efficiency can play in achieving climate neutrality by 2050. Energy efficiency helps reduce overall energy consumption and is therefore central to achieving the EU's climate ambition, while enhancing present and future energy security and affordability. To ensure that the EU's 2030 target of reducing greenhouse gas emissions by at least 55% (compared to 1990) can be met, Directive (EU) 2023/1791 on energy efficiency (recast EED)² was adopted on 13 September 2023, and the revision of other energy and climate rules has been completed or is progressing.

The recast EED raises the EU energy efficiency target – also as a response to the need to decrease the EU's dependency on fossil fuels imports from Russia³ – and includes provisions with measures compatible with the increased ambition by 2030.

The Information and Communication Technology (ICT) sector is an important sector and increasingly a topic of focus regarding its sustainability and increasing energy footprint. In 2018 the energy consumption of data centres in the Union was 76,8 TWh. This is expected to rise to 98,5 TWh by 2030, a 28% increase. This increase in absolute terms in its energy footprint can also be seen in relative terms: within the Union, data centres accounted for 2,7% of electricity demand in 2018 and this will reach 3,21% by 2030 if development continues at the current trajectory. These projections are already expected to be revised upwards considering the strong growth of emerging services and technologies such as streaming, cloud gaming, blockchain, artificial intelligence, machine learning and virtual reality⁴. The Union's Digital Strategy⁵ already highlighted the need for highly energy-efficient and sustainable data centres and calls for transparency measures for telecommunication operators on their environmental footprint.

The recast EED introduces in Article 12 an obligation for Member States to require data centres to publish information on their energy performance and sustainability. Member States shall require data centres on their territory to make publicly available the information set out in Annex VII to the directive. Article 12 also tasks the Commission with establishing an EU-level database containing this information in an aggregated form. The annexes to this delegated act set out in more detail the information that must be communicated to the EU database by data centres.

In accordance with Article 12 and Annex VII, and pursuant to the delegated power included in Article 33(3) of the recast EED, the Commission is establishing a common Union scheme to rate the sustainability of data centres.

The aim of the rating scheme is to allow for comparisons between data centres and promote new designs or appropriate efficiency interventions in new or existing data centres that can result not only in a considerable reduction of energy and water consumption, but also in the

¹ https://ec.europa.eu/info/publications/communication-european-green-deal_en

² https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AJOL_2023_231_R_0001&qid=1695186598766

³ And in accordance with the REPowerEU plan: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en

⁴ <https://www.iea.org/energy-system/buildings/data-centres-and-data-transmission-networks>

⁵ https://commission.europa.eu/publications/european-commission-digital-strategy_en

promotion of the use of renewable energy, an increase in the efficiency of the grid, or in the reuse of waste heat in nearby facilities and heat networks.

Relevant stakeholders, including industry, consumers, Member States, and the Commission, need reliable information from data centres. This delegated regulation sets out what information should be reported by data centres, based on defined key performance indicators and the methodology to measure them. It also defines the first sustainability indicators that will be used for the rating of data centres.

In accordance with Article 33(3) of the recast EED, this delegated regulation is the first of a series of delegated regulations that the Commission may adopt to supplement the recast EED and serves as the first phase of the establishment of a common EU rating scheme for data centres and introduces the reporting scheme for the collection of information and key performance indicators that will be used for the EU rating scheme for data centres.

2. CONSULTATIONS PRIOR TO THE ADOPTION OF THE ACT

The decision to establish a common Union scheme to rate the sustainability of data centres and the respective reporting has been subject to a thorough consultation process. This process has been vital in identifying the necessary steps to prepare the common Union scheme, the details of the reporting scheme that will introduce it and the sustainability indicators that will lead from the latter to the former.

To prepare this delegated regulation, a technical study⁶ (November 2022 to December 2023) was launched, and extensive dedicated stakeholder consultations were held. Three stakeholder workshops (with more than 150 participants in average for each one) took place from December 2022 to June 2023. Moreover, stakeholders were systematically consulted in the different stages of the preparatory work. More than one hundred items (position papers, white papers, feedback, etc.) were received by the Commission. Many meetings with private and public stakeholders were held in the frame of this consultation. The three reports of the technical study that propose which information and key performance indicators the reporting scheme should cover; analyse existing labelling and minimum performance standards schemes for data centres; and proposes a structure for the European database for the reporting obligation of data centres have all been published^{7,8,9}.

During this time, Member States were consulted, both in the frame of the EED recast negotiations and in bilateral meetings.

An inter-service consultation¹⁰ took place between 26 October 2023 and 20 November 2023 and the text was amended to take into consideration certain comments made by the consulted DGs.

Two meetings of the Expert Group on the EED recast with Member States took place on 15 December 2023 and 17 January 2024. In parallel, a public consultation took place between 11 December 2023 and 15 January 2024. In both cases, the text was amended to take into consideration certain comments made by the Member States and stakeholders.

⁶ “Reporting requirements on the energy performance and sustainability of data centres for the Energy Efficiency Directive”

⁷ <https://op.europa.eu/s/y5vh>

⁸ <https://op.europa.eu/s/za50>

⁹ <https://op.europa.eu/s/za51>

¹⁰ Consultation ISC/2023/09850

A non-exhaustive list of existing initiatives and standards relevant to the common Union scheme that were consulted or used in the preparation of this delegated regulation includes the European Code of Conduct for energy efficiency in data centres¹¹, the EU Green Public Procurement criteria for data centres¹², the CEN/CENELEC 50600-4 framework¹³, the CLC/TS 50600-5-1 Maturity Model¹⁴ and the work of the European standardisation organisations in general¹⁵, the Data Centers (DE-UZ 228) scheme¹⁶, the French Decree n° 2019-771¹⁷, the proposal for a German Energy Efficiency Act¹⁸, the work of IEA-4E and EDNA¹⁹, the work of The Green Grid²⁰, and the Climate Neutral Data Centres Pact²¹.

3. LEGAL ELEMENTS OF THE DELEGATED ACT

In accordance with Article 33(3) of the recast EED, the Commission is empowered to adopt delegated acts to establish a common Union scheme for rating the sustainability of data centres located in its territory. This first delegated regulation is the first phase in establishing the common Union scheme and sets out the information and key performance indicators needed from data centres as well as the first sustainability indicators that can be used for the assessment of the sustainability of data centres.

This delegated regulation includes six articles. They cover subject matter and scope, definitions of terms, introduce the reporting mechanism for the sustainability of data centres, introduce the data centre sustainability indicators, and set out the specifications of the European database on data centres.

The regulation's four Annexes define the information to be communicated to the European database on data centres (Annex I); the key performance indicators to be monitored, gathered, and communicated to the European database on data centres and their measurement methodologies (Annex II); the data centre sustainability indicators and calculation methodologies (Annex III); and the information that will be publicly available, in an aggregated form, in the European database on data centres (Annex IV).

¹¹ https://joint-research-centre.ec.europa.eu/scientific-activities-z/energy-efficiency/energy-efficiency-products/code-conduct-ict/european-code-conduct-energy-efficiency-data-centres_en

¹² <https://publications.jrc.ec.europa.eu/repository/handle/JRC118558>

¹³ <https://ictfootprint.eu/en/en-50600-4-factsheet-0>

¹⁴ <https://www.cenelec.eu/news-and-events/news/2022/eninthespotlight/2022-05-30-a-new-standard-for-the-green-deal/>

¹⁵ https://www.cenelec.eu/media/CEN-CENELEC/AreasOfWork/CEN%20sectors/Digital%20Society/Green%20Data%20Centres/standardizationlandscapegc_edition8_2021.pdf

¹⁶ <https://www.blauer-engel.de/en/productworld/data-centers>

¹⁷ <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000038812251>

¹⁸ <https://www.bundesregierung.de/breg-en/federal-government/the-energy-efficiency-act-2184958>

¹⁹ <https://www.iea-4e.org/edna/>

²⁰ <https://www.thegreengrid.org/>

²¹ <https://www.climateutraldatacentre.net/>

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THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955²², in particular Article 33(3) thereof,

Whereas:

- (1) Directive (EU) 2023/1791 addresses energy efficiency by setting energy efficiency targets at Union level and establishing a common framework of measures to promote energy efficiency within the Union. Moreover Directive (EU) 2023/1791 aims to contribute towards achieving a modern, resource-efficient and competitive economy in the Union, including by the establishment of a common Union scheme for rating the sustainability of data centres.
- (2) The Information and Communication Technology (ICT) sector is increasingly important in terms of energy consumption. The electricity demand of data centres is expected to be at 3.2% of the EU total by 2030, a 28% increase since 2018²³. The Union's Digital Strategy²⁴ highlighted the need for highly energy-efficient and sustainable data centres and called for transparency measures for telecommunication operators on their environmental footprint.
- (3) Pursuant to Article 12 of Directive (EU) 2023/1791, Member States are to require owners and operators of data centres to make publicly available the information regarding their data centres set out in Annex VII to that Directive.
- (4) The common Union scheme should set out the key performance indicators and the methodology to measure them and should establish data centre sustainability indicators on the basis of these information and key performance indicators.
- (5) Existing legislation, initiatives and standards in the data centres sector should be taken into account when establishing the key performance indicators and the sustainability indicators.

²² 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) (OJ L 231, 20.9.2023, p. 1, ELI: <http://data.europa.eu/eli/dir/2023/1791/oj>)

²³ Communication of 9 March 2021 entitled '2030 Digital Compass: the European way for the Digital Decade'

²⁴ Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 (OJ L 323, 19.12.2022, p. 4, ELI: <http://data.europa.eu/eli/dec/2022/2481/oj>)

- (6) This Regulation defines that the data centre operators are the reporting entities. A data centre operator should make public and communicate to the European database the required information and key performance indicators for a data centre regardless of whether this data centre consists of one structure or a group of structures. A data centre operator should make public and communicate to the European database a separate set of information and key performance indicators for every data centre that has a different physical location even if these data centres are located in the territory of the same Member State.
- (7) A data centre park or campus is understood as a facility that houses more than one data centre. In this case, the operator of each data centre should make public and communicate to the European database a separate set of information and key performance indicators for every data centre in the facility.
- (8) In order to establish the Union scheme for rating the sustainability of data centres, it is necessary to collect data on their sustainability. Therefore, a reporting mechanism for data centres should be established specifying what information and key performance indicators should be reported as well as the methodologies for monitoring and measuring that information and those indicators.
- (9) Pursuant to Annex VII, point (c), to Directive (EU) 2023/1791, the key performance indicators are to measure the energy consumption, power utilisation, temperature set points, waste heat utilisation, water usage and use of renewable energy of data centres.
- (10) To ensure uniform reporting, and the availability of the reported data to the public in an aggregated form, and to properly inform the subsequent analysis of the data, the Commission is to establish, a European database on data centres, in accordance with Article 12(3) of Directive (EU) 2023/1791. For data centres to communicate the information and key performance indicators to the European database, the latter should provide for a common user interface as well as a common application programming interface.
- (11) Reporting data centres should ensure that the information and key performance indicators set out in the annexes to this delegated regulation are inserted in the European database on data centres. The information and key performance indicators should be used to provide a basis for transparent and evidence-based planning and decision making by Member States and the Commission, and to assess certain key elements of a sustainable data centre, including 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 and the use of water. To this end, a first set of data centre sustainability indicators should set out, based on the reported information and key performance indicators.
- (12) Pursuant to Article 12(1) of Directive (EU) 2023/1791, the information of data centres subject to Union and national law protecting trade and business secrets and confidentiality must not be made publicly available. Article 12(3) also requires that the European database be publicly available on an aggregated level. Thus, it is necessary to ensure that the key performance indicators and other information reported to the European database are kept confidential.
- (13) The Commission carried out a study, particularly on the necessity of a reporting scheme on the energy performance and sustainability of data centres, in order to establish the common Union rating system, which identified the main elements that

should define the scope of reporting on the energy performance and sustainability of data centres.

- (14) The Commission has consulted relevant stakeholders and Member States representatives and gathered evidence, remarks and good practices on the scope, elements, information and key performance indicators that should be included in the common Union rating scheme.
- (15) The Commission has consulted the experts designated by each Member State in accordance with Article 34 of Directive (EU) 2023/1791, and gathered observations on the scope, elements, information and key performance indicators that should be included in the common Union rating scheme.

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

This Regulation sets out the information and key performance indicators to be communicated to the European database by the operators of data centres with an installed information technology power demand of at least 500 kW and are necessary for the establishment of a common Union scheme for rating the sustainability of data centres in the Union, as well as a common measurement and calculation methodology. It also defines the first data centre sustainability indicators that will be calculated based on the information and key performance indicators communicated to the European database on data centres.

Article 2

Definitions

For the purposes of this Regulation, the following definitions apply:

- (1) ‘enterprise data centre’ means a data centre that is operated by an enterprise, and of which the sole purpose is to deliver and manage the information technology needs of the enterprise;
- (2) ‘colocation data centre’ means a data centre in which one or more customers install and manage their own network or networks, servers and storage equipment and services;
- (3) ‘co-hosting data centre’ means a data centre in which one or more customers are provided with access to network or networks, servers, and storage equipment on which they operate their own services and applications and where both the information technology equipment and the support infrastructure of the building are provided as a service by the data centre operator;
- (4) ‘enterprise data centre operator’ means a physical or legal person who manages the entire enterprise data centre, including the building and the use of the information technology services delivered;
- (5) ‘colocation data centre operator’ means a physical or legal person who manages and sells space, security, network access, power and cooling capacity in the entire colocation data centre to one or more customers who install and manage their own network or networks, servers and storage equipment and services;

- (6) ‘co-hosting data centre operator’ means a physical or legal person who manages the co-hosting data centre space, security, network access, power, cooling, network or networks, servers, and storage equipment, and part of the necessary software to deliver information technology services to one or more customers, including information technology outsourcing;
- (7) ‘data centre operator’ means enterprise data centre operator, colocation data centre operator or co-hosting data centre operator;
- (8) ‘colocation customer’ means a physical or legal person who owns and manages one or more networks, servers and storage equipment located in a colocation data centre in which they purchase managed space, power, and cooling capacity;
- (9) ‘co-hosting customer’ means a physical or legal person who obtains access to a network or networks, servers, and storage equipment in a co-hosting data centre on which they operate their own services and applications;
- (10) ‘information technology outsourcing’ is the use of external service providers to deliver information technology-enabled business processes, application services and infrastructure solutions for business outcomes;
- (11) ‘data centre total floor area’ means the total floor area of all floors of the structure or group of structures that constitute the data centre;
- (12) ‘data centre computer room floor area’ means the total floor area within the data centre that accommodates the data processing, data storage and telecommunication equipment that provide the information technology services of the data centre;
- (13) ‘data centre redundancy’ means the duplication of certain sets of components or functions of a data centre in such a way that if one set fails or needs to be taken down for maintenance, the other set or sets can take over;
- (14) ‘installed information technology power demand’ means the sum of the nominal power demand, in kW, of the network or networks, servers and storage equipment installed in the data centre computer room floor area;
- (15) ‘rated information technology load’ means the maximum load of the network or networks, servers, and storage equipment, installed in the data centre computer room floor area, that the data centre infrastructure for power distribution and environmental control is capable of handling while providing the desired service availability.

Article 3

Reporting mechanism for the sustainability of data centres

1. By 15 September 2024, then by 15 May 2025, and every year thereafter, reporting data centre operators shall communicate to the European database the information and key performance indicators set out in Annex I and Annex II regarding the data centre they operate. The communication to the European database of this information and key performance indicators shall take place via a national reporting scheme if the Member State where the reporting data centre is located has established such a scheme. Otherwise, the datacentre operators shall communicate this information and key performance indicators directly to the European database.

The information and key performance indicators shall cover the calendar year immediately preceding the reporting year. Where a reporting data centre has been in operation for less than

a year, the data centre operator shall report only for the period the data centre has been in operation, indicating as well that period.

2. 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.

3. 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.

Colocation data centre operators may gather the key performance indicators set out in Annex II, from their colocation customers, if necessary, by setting up an anonymous internal reporting mechanism.

4. If a reporting data centre includes both co-hosting and colocation customers, paragraphs 2 and 3 of this Article apply accordingly.

Article 4

Data centre sustainability indicators

1. The data centre sustainability indicators and the methodology to calculate them are set out in Annex III.

Article 5

European database on data centres

1. The European database shall apply a common user interface as well as a common application programming interface ensuring that all reporting data centres are able to communicate, in the same way, the information and key performance indicators referred to in Annexes I and II.

2. The information, and key performance indicators, communicated to the European database, and the data centre sustainability indicators, in accordance with Annex III, shall be made public in an aggregated manner, at Member State and Union level, in accordance with Annex IV.

3. Member States shall have access to all information and key performance indicators communicated to the European database by data centres in their territory pursuant to Article 3.

4. The Commission shall have access to all information and key performance indicators communicated to the European database pursuant to Article 3.

5. The Commission and Member States concerned shall keep confidential all information and key performance indicators for individual data centres that are communicated to the database pursuant to Article 3. Such information shall be considered confidential information affecting the commercial interests of operators and owners of data centres in accordance with Article 4(2) of Regulation (EC) 1049/2001 regarding public access to European Parliament, Council and Commission documents and Article 4(2)(d) of Directive 2003/4/EC on public access to environmental information.

6. The aggregated data collected under this Regulation can be reused for European statistics in line with the principles defined in the Regulation (EC) 223/2009.

Article 6

Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 14.3.2024

For the Commission

The President

Ursula VON DER LEYEN