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**Position Paper by Deutsche Unternehmensinitiative Energieeffizienz e.V.
(DENEFF)**

on the Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on
energy efficiency (recast) (COM (2021) 558 final)
as of 14/07/2021

Energy Efficiency Directive (EED)

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Contact:

Deutsche Unternehmensinitiative
Energieeffizienz (DENEFF) e.V.
Kirchstraße 21
10557 Berlin

Dr. Tatjana Ruhl

Policypreneur – Head of decarbonisation of industry
Mobil: +49 (0)176 64 11 66 48
tatjana.ruhl@deneff.org

I. Summary

The EU Energy Efficiency Directive (EED) is the centrepiece of European energy efficiency policy. In order to completely decarbonise our economies by the middle of the century at the latest, the potentials of energy efficiency must be harnessed with vigour. The EED has initiated significant efforts to increase energy efficiency in the member states, including the National Energy Efficiency Action Plan in Germany. Nevertheless, the so far non-binding energy efficiency targets in Germany have been missed by half (excluding corona effects in 2020). As a result of unnecessarily high energy demand, the economic achievement of the energy and climate targets is becoming a distant prospect. The political framework also determines how and whether the energy efficiency sector, which now employs 600,000 people, can continue to develop its great domestic growth potential.

The existing EED lacks binding national savings targets. The rationalisation of these targets through measures such as the annual savings quota (previously Article 7) offers many loopholes, which member states have used extensively. Although large companies are obliged to conduct regular energy audits, there is a lack of actual implementation of the measures recommended by professionals. The exemplary role of the public sector also hardly takes place in practice: The renovation quotas for public buildings set by the European Union completely omit the federal states and municipalities, although they operate the majority of the public building stock. The involvement of energy service providers also repeatedly encounters regulatory hurdles, even though they are needed for the rapid and professional implementation of measures. Excess heat potentials remain unused, i. e. from a fast-growing stock of data centres.

Therefore, the planned revision is more than welcome. It shows how seriously the EU Commission takes the principle of Efficiency First. The present draft addresses many significant problems, but its level of ambition does not exhaust the economic potential by far and it does not always find appropriate solutions. The European institutions must therefore urgently ensure that the draft is further strengthened and must not be watered down. We have very little time left to set the right political course.

DENEFF urgently recommends the following changes in the negotiations between the Council of Ministers, the European Parliament and the Commission compared to the current legal situation and the further strengthening of the Commission's proposal:

1. Significantly higher and respectively binding European and national savings targets than today and as proposed by the Commission, i. e. -17% of final energy consumption or -18% of primary energy consumption compared to 2020 baseline (corresponds to -41% and -45% respectively according to the reference framework used so far) (Art. 4)
2. Extension of the renovation quota to all public buildings, as proposed by the Commission, as well as a clear requirement for checking implementation by energy service providers (Art. 5-7)
3. Increase of the annual savings quota for Member States and closing of loopholes, in particular regarding an overexaggerating of saving effects of price instruments (Art. 8 and Art. 10)

4. Amendment and extension of the audit obligation to energy management systems for companies with high absolute energy consumption as proposed by the COM; however, with lower consumption thresholds of 18 TJ and 3.6 TJ p.a., respectively (Art. 11)
5. Ensuring an energy services market without regulatory barriers (Art. 26 and 27)

II. Detailed Recommendations

1. **Significantly higher and respectively binding European and national savings targets than today and as proposed by the Commission, i. e. -17% of final energy consumption or -18% of primary energy consumption compared to 2020 baseline (corresponds to -41% and -45% respectively according to the reference framework used so far) (Art. 4)**

The European Commission (COM) proposed to raise the EU level target to 9% below reference scenario (REF) 2020, which equals 36% below the final energy consumption (FEC) REF 2007 and 39% below primary energy consumption (PEC) REF 2007 – which is a certain step compared to nowadays 32.5% target. The EU level target shall also become binding. The proposed mechanism which divides the European amount into national goals still gives too much opportunity to member states to escape appropriate participation in achieving the common objectives. National contributions are planned to be calculated on the basis of a formula including both objective and subjective criteria. In a second step, a correction factor is applied if national targets don't add up to the common EU target. Member states shall also be obliged to take additional measures if they fail to reach their declared targets.

Problem:

Non-binding national targets have the effect that Member states rate pursuing those targets only as „nice to have“, and don't put enough effort into reaching them. This is illustratively shown by Germany, who missed its 2020 primary energy targets by half (excluding corona effects in 2020). Same must be feared for an indicative-only or other half-hearted mechanism for the division of national efforts.

The new **saving targets proposed by the European Commission are considerably too low**. A recent study by Stefan Scheuer and Fraunhofer ISI suggests, that the Commission's proposal only tackles half of the economically viable energy efficiency potentials.

As a result of unnecessarily high energy demand, the economic achievement of the energy and climate targets is becoming a distant prospect.

Solution:

In order to tap the full economic potential, the saving targets must be increased to -17% of FEC and -18% of PEC (REF 2020) which corresponds to 41% below FEC REF 2007 and 45% below PEC REF 2007. This increase also reflects recent energy price increases and carbon price increases by Member States.

*“Member States shall collectively ensure a reduction of final energy consumption of at least **17 % and 18 % of primary energy consumption** in 2030 compared to the projections of the 2020 Reference Scenario so that the Union's final energy consumption*

amounts to no more than 718 Mtoe and the Union's 2030 primary energy consumption amounts to no more than 928 Mtoe in 2030."

We support that national contributions shall be based on a formula to ensure the required savings in sum. Nonetheless, this formula urgently needs to become binding to member states by deleting the word 'indicative' in Art. 1 (1) last sentence:

"It also provides for the establishment of ~~indicative~~ national energy efficiency targets and contributions for 2020 and 2030."

On both aspects and further elaboration see the recent study by Stefan Scheuer and Fraunhofer ISI¹, which we support emphatically.

2. Extension of the renovation quota to all public buildings, as proposed by the Commission, as well as a clear requirement for checking implementation by energy service providers (Art. 5-7, Art. 27)

- a) The current EED entails a renovation rate of 3 % for public buildings owned by central government (current Art. 5), which reflects the exemplary role of public bodies. New Art. 6 proposes to extend this duty to all publicly owned buildings (also on municipal and regional level), but omits the duty for publicly occupied, thus rented buildings.
- b) We welcome the extension of energy efficiency improvement obligation for public bodies and the obligatory renovation rate for all public buildings (also on municipal and regional level) without opt-out clauses. Furthermore, we welcome the mandatory heating and cooling planning for municipalities over 50k inhabitants in Article 23.

Problem:

- a) In Germany, as in other member states, **quite a number of publicly occupied buildings are not publicly owned**. The new EED proposal removes incentives to improve on this type of building stock. Public entities could bypass their renovation duties by renting buildings at a low energetic standard.
- b) Transforming big public buildings into nearly-zero energy buildings is an organizationally demanding task. This is especially true for smaller public entities, which are now rightfully included in the obligation. This can cause significant delays and sometimes even insurmountable burden.

Solution:

- a) The notion "and occupied" must be kept in the provision as it is now and must be extended to municipalities and regions along with the provision as a whole.

We recommend to add into Art. 6 (1) the fattened passages:

*"Without prejudice to Article 7 of Directive 2010/31/EU of the European Parliament and of the Council, each Member State shall ensure that at least 3 % of the total floor area of heated and/or cooled buildings owned **or occupied** by public bodies is renovated each*

¹ https://www.stefanscheuer.eu/wp-content/uploads/2021/10/SCHEUER_FraunhoferISI_Will-the-Fit-for-55-package-deliver-on-EE-targets.pdf

year to at least be transformed into nearly zero-energy buildings in accordance with Article 9 of Directive 2010/31/EU.”

- b) The specific requirement in Art. 27 should not be limited to examining the use of savings contracting in non-residential public buildings. We recommend the inclusion of public residential buildings (often with offers for financially weak users), the infrastructure of public facilities (e. g. street lighting), services and businesses with energy costs of at least 10,000 EUR. Furthermore, it should not only be possible to use energy savings contracting, but also mixed models of savings and supply contracting in which the CO2 and energy savings remain verifiable.

We recommend to add into 4, Art. 27 the fattened passages:

*“Member States shall encourage public bodies to use energy performance contracting for renovations of large buildings. For renovations of large non-residential **and public residential** buildings with a useful floor area above 1000 m², **and infrastructure of public facilities** with an energy cost equivalent above 10,000 € /yr. Member States shall ensure that public bodies assess the feasibility of using energy performance contracting **and other performance based energy services.**”*

3. Increase of the annual savings quota for Member States and closing of loopholes, in particular regarding the steering effect of price instruments (Art. 8 and 10 and Annex V)

- a) The Commission proposes an increase of the savings obligation to 1.5% p.a., which is both significant and important. The Annex V, which comprises the methods and principles for calculating the impact of policy measures, shall be amended slightly by demanding more proof for the additionality of savings and calculation methods.
- b) Annex V (2) h also tries to prevent fossil lock-in effects by not counting energy savings as a result of policy measures regarding the use of direct fossil fuel combustion.

Problem:

- a) In the past, governments used the many loopholes of current Art. 7 EED extensively and creatively, most notably by counting in the contributions of each and every energy-related price component without substantial proof of their energy saving effect (e. g. lorry tolls and other measures) neither intended nor proved to have energy saving effects. Energy tax loopholes should be closed as proposed (10) but also those regarding **other regulated, energy-related price components** such as carbon pricing, grid and renewables surcharges etc. A robust evidence requirement of the materiality of the price effect is highly needed. E. g. carbon pricing in Sweden mainly had fuel switch effects, but no significant effects toward final energy savings if compared to other member states. Still, those countries claimed high savings for those savings under the current Art. 7.
- b) If the exclusion of eligibility “policy measure regarding the use of direct fossil fuel combustion” should be interpreted to narrowly, important measures such as building insulation or hydraulic balancing would be excluded, even though they continue to be

effective after a later fuel switch to renewables and further renovation measures. The notion is misunderstandable.

Solutions:

- a) Art. 7 must be narrowed down to measures which really have an both intended and proven savings effect. This includes a very critical evaluation of all energy related price components as described above. Furthermore, member states should have to take into account to what extent rebates and exceptions limit the impact and what the actual price elasticities are, especially in the case of split-incentives (user-investor dilemma). In any case, a linear application, especially of unspecific price elasticities, should be ruled out, but national and segment-specific elasticities should be applied (e. g. electricity in households, heating in the rental housing sector, differentiation according to energy intensity of sectors, etc.). Furthermore, the intention of the measures taken into account is important. The German law on renewable energy promotion (EEG), for example, does not pursue any savings targets in the law or any steering effects connected, with the exception of the requirement of energy management systems (EMS) for invoking exemptions from levies – which does not necessarily lead to savings.

We advise at the very least to amend Annex V (4) in the following way and give the whole section (respective Articles and Annex) a deep legal check to avoid further loopholes:

*“In determining the energy saving from taxation **and parafiscal levies** related policy measures introduced under Article 10, the following principles shall apply”*

- b) Annex V (2) h should allow measures which improve the efficiency of a building even in cases where it is still heated by fossil fuels.

4. Amendment and extension of the audit obligation to energy management systems for companies with increased energy consumption as proposed by the COM; however, with lower consumption thresholds of 18 TJ and 3.6 TJ p.a., respectively (Art. 11)

The current EED obliges all non-SME companies to undergo an energy audit every four years, independent of their actual energy consumption. This led to a situation where bigger energy consumers were demanded too little (audits only where energy management systems (EMS) are cost-effective) and for some smaller energy consumers, especially small affiliated companies, the audit was not economical and a lot of confusion was caused among affiliated companies and heterogenous implementation measures across different member states. Thus, the Commission proposed to change addressees from non-SMEs to companies above a certain level of energy consumption. Companies above a threshold of 100 TJ p. a. (about 28 GWh) shall implement an energy management system, while companies above 10 TJ p. a. (about 2.8 GWh) shall perform an energy audit every four years.

It has to be added that the State Aid Guidelines for Climate, Energy and Environment (CEEAG) will refer to the energy efficiency directive (EED) with regard to aid in the form of reductions from electricity levies for energy-intensive users. Companies obliged by EED to perform either audit or EMS will have to prove adequate implementation of savings measures, if they want to

profit from the aid scheme – others won't. This also calls for ambitious thresholds, also for not watering down the EMS and implementation obligations in German law like BECV.

We welcome the idea to shift the obligation to the absolute annual energy consumption of the company. It is especially wise to demand more than an energy audit from bigger energy consumers. They need a more regular feedback on their consumption, which can be provided accurately by a certified energy management system. We also welcome the exemption for enterprises that implement an energy performance contract.

Problem:

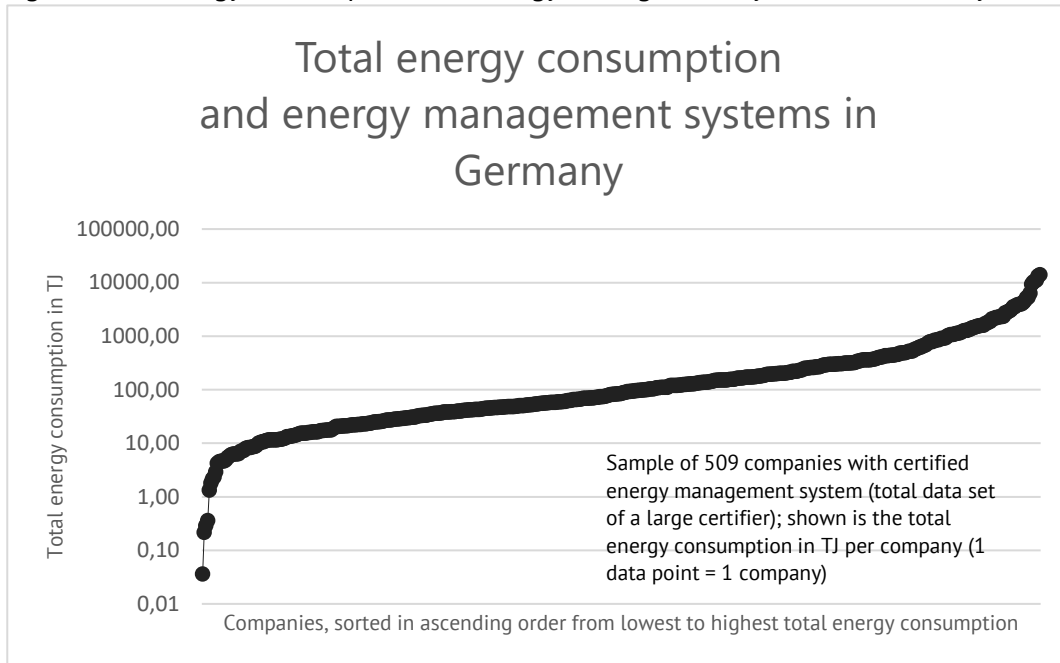
- a) To establish the right triggers for the uptake of energy efficiency measures, the consumption thresholds for the different obligations must be in line with expected financial savings. If the thresholds are too high and thus, too few companies perform audits and implement energy management systems, a high amount of potential savings is lost both for the companies themselves as well as for the whole project of climate neutrality. The **thresholds proposed by the Commission are considerably too high**. Real-life case studies of energy auditors show for example the very high profitability of an EMS in the food industry at already 62 TJ in one case and at 79 TJ in another and even at 31 TJ for a cold store operator (see Tab. 1).

Tab. 1: Profitability of EMS

Sector	Year	Total energy consumption (GWh)	Energy cost (€)	EMS cost (€)					Savings realised (€)
				Internal	Measuring equipment	Software	Certification	Total EMS	
Food	2020	17,2	1.060.000,00	30.000,00	1.000,00	4.200,00	5.000,00	40.200,00	79.142,00
Meat processing	2020	123,8	8.057.219,39	50.000,00	?	12.000,00	7.140,00	69.140,00	162.659,63
Food	2020	21,8	3.674.515,59	10.000,00	-	3.480,00	3.000,00	16.480,00	20.157,19
cooling	2020	8,8	1.087.155,19	16.000,00	-	2.640,00	2.500,00	21.140,00	86.850,91

Overview data by a big German certifier (Fig. 1) clearly show: Well over half of the companies with certified EMS in Germany have a lower total energy consumption than proposed by the COM (i. e. < 28 GWh). About 40 % of the companies with certified EMS in Germany have a maximum of half of the total energy consumption proposed by the COM as a limit value (i. e. < 14 GWh). In fact, data clearly show that **companies with a total energy consumption of 3-5 GWh or more (equals roughly 11-18 TJ) belong to the standard group of energy management system users.**

Fig. 1: Total energy consumption and energy management systems in Germany



- b) Stand-alone energy audits, like ISO 16247:1 audits, often do not produce the necessary investment in efficiency measures. By now, alternatives for companies below the ISO 50001 threshold are not considered thoroughly in the draft directive. We also have sincere concerns using simple payback periods.

Solution:

- a) Energy auditors report to us that a certified EMS is already cost-effective at a consumption of 5 GWh/year (18 TJ). At 1 GWh/year a non-certified EMS is cost effective (3,6 TJ). Thus, the thresholds should be adjusted respectively in the new Art. 11 (1-2) EED.

We thus advise the following wording of Art. 11:

*“1. Member States shall ensure that enterprises with an average annual consumption higher than ~~100TJ~~ **18 TJ** of energy over the previous three years and taking all energy carriers together, implement an energy management system. The energy management system shall be certified by an independent body according to the relevant European or International Standards.*

*2. Member States shall ensure that enterprises with an average annual consumption higher than ~~10TJ~~ **3.6 TJ** of energy over the previous three years and taking all energy carriers together that do not implement an energy management system are subject to an energy audit.”*

Furthermore, differentiated threshold for electricity and fuels reflecting different price levels in-between should be considered.

- b) The new ISO 50005 norm offers a modular ISO 50001 approach, which induces more sustainable energy practices and structural changes without high administrative burden. This is very attractive for smaller energy consumers. Thus, alternatives to ISO 16247-1 and ISO 50001 are available. The German BECV, for example, deems a stage III ISO 50005 system a good precondition. It must be ensured, that ISO 50005 can be used as national implementation of Annex VI criteria. This generally seems to be the case in the draft, but we would advise to include ISO 50005 in the wording of recital 24:

*“Energy audits should take into account relevant European or International Standards, such as EN ISO 50001 (Energy Management Systems), **EN ISO 50005**, or EN 16247-1 (Energy Audits), or, if including an energy audit, EN ISO 14000 (Environmental Management Systems) and thus be also in line with the provisions of Annex VI to this Directive as such provisions do not go beyond the requirements of these relevant standards.”*

Annex VI lit. e should be rewritten as follows:

„build on life-cycle cost analysis (LCCA) – such as the net present value method as laid down in EN 17463 – and therefore not on payback periods in order to take account of long-term savings, residual values of long-term investments and discount rates”

5. Ensuring an energy services market without regulatory barriers (Art. 26 and 27)

The involvement of energy service providers repeatedly encounters regulatory hurdles, even though they are needed for the rapid and professional implementation of measures.

The abovementioned articles should contain a **clear anti-discrimination rule**, which should also address disadvantages of energy services in national regulation (e. g. in exemptions from surcharges, feed-in tariffs) and funding schemes.

- a) Art. 27 requires Member States (MS) to remove all legal, political and economic barriers that hinder the introduction and use of energy efficiency service models. Furthermore, Art. 27 regulates that MS shall use energy performance contracting in the renovation of public buildings. For the renovation of non-residential buildings in the public sector with more than 1,000 m² floor space, the use of energy performance contracting shall be mandatory. We welcome the clear and strong positioning of energy services in 6b, Art. 27 which urge Member States to remove all barriers for the uptake of energy services.
- b) Art. 26 requires MS to guarantee energy advisors and energy service providers in sufficient number and qualification for the now upcoming efforts in decarbonization of industry and buildings. Accordingly, MS must provide a suitable framework for appropriate qualification and certification schemes for providers of energy services, energy audits, energy managers, independent experts and installers of building elements to create and implement decarbonization roadmaps. MS have to evaluate and, if necessary, re-adjust the development of those on a four-year cycle starting December 31, 2024. We welcome

the objectives of Art. 26 as they help to create and develop the necessary advisory and implementation capacities. The requirements should create the necessary conditions to ensure the necessary qualifications and capacities for energy consulting and services that are necessary for the development of decarbonization projects.

Problem:

- a) The proposed specific requirements are limited only to public non-residential buildings and only to energy savings contracting and thus may be limited when it comes to campuses of healthcare, educational and other publicly owned building clusters and campuses – in this context, energy savings contracting may not be the only option to provide combined approaches of efficiency measures in public buildings and the implementation or renovation of existing heating, cooling and power grids.
- b) In principle, the certification system is likely to benefit energy service companies as qualified providers of decarbonization solutions. However, the requirements for certification should not overcompensate the expectable benefits. The market for the provision of energy services is still developing. Thus, excess entry barriers could have an adverse effect. Stricter regulation can still be applied later on in a more mature market.

Solution:

- a) Art. 27: The specific requirement should not be limited to examining the use of savings contracting in non-residential public buildings. We recommend the inclusion of public residential buildings (often with offers for financially weak users), the infrastructure of public facilities (e. g. street lighting), services and businesses with energy costs of at least 10,000 EUR. Furthermore, it should not only be possible to use energy savings contracting, but also mixed models of savings and supply contracting in which the CO₂ and energy savings remain verifiable.

We recommend to add into Art. 27 (4) the fattened passages:

*“4. Member States shall encourage public bodies to use energy performance contracting for renovations of large buildings. For renovations of large non-residential **and public residential** buildings with a useful floor area above 1000 m², **and infrastructure of public facilities** with an energy cost equivalent above 10,000 € p. a. Member States shall ensure that public bodies assess the feasibility of using energy performance contracting **and other performance based energy services.**”*

- b) Art. 26: We recommend that the requirement for certification systems and qualification requirements, in particular, be designed in a practical and solution-oriented manner and, in addition to proof of qualification, give special consideration to successfully implemented references of the energy service providers and energy consultants. With regard to the growing demand of decarbonization roadmaps in buildings and industry, capacity building programs should include a curriculum which reflects this need.

We recommend to add into Art. 26 (2) the fattened passages:

*“2. Member States shall ensure that national certification, or equivalent qualification schemes, including, where necessary, training programmes, take into account existing European or international standards. **The qualification requirements should be designed with regard to the decarbonization targets of Member States and should consider the development and implementation of decarbonization roadmaps in buildings and industry.**”*

6. Further comments

With respect to data centres, we recommend the following:

Art. 24 and Annex 10: We recommend the deletion of the obligatory cost-benefit analysis for the use of waste heat in data centres, because it creates unnecessary new market obstacles. It seems more important that the Member States remove existing obstacles in order to improve the economic efficiency of waste heat utilisation in data centres. Instead, we recommend an obligation to data centre operators to reuse waste heat. This should be independent of the energy demand of the respective data centre. After all, an efficient heat network should always use existing local climate friendly energy resources, especially if this would otherwise be released into the environment as exhaust air. Member States need to be encouraged to support the uptake of waste heat into heating networks and obligated to remove regulative barriers.

To manifest this, we recommend to add into Art 24 (4) the fattened passages and delete the crossed out passages:

*“In order to ~~assess the economic feasibility of increasing~~ **increase the** energy efficiency of heat and cooling supply, Member States shall ensure ~~that an installation level cost-benefit analysis in accordance with Annex X is carried out~~ **that regulative barriers for the utilisation of waste heat are removed, sufficient support for the uptake of waste heat into heat and cooling supply networks is provided and an obligation to use waste heat is introduced,** where the following installations are newly planned or ~~substantially~~ refurbished:”*

We also recommend adjusting Art 24 (4 d) as following:

*“**all data centres, independent of the total rated energy input,** ~~with a total rated energy input exceeding 1 MW level, to assess the cost and benefits of utilising~~ **shall utilise their waste heat to satisfy economically justified demand, and of the connection of that installation to a district heating network or an efficient/RES-based district cooling system.** ~~The analysis shall consider cooling system solutions that allow removing or capturing the waste heat at useful temperature level with minimal ancillary energy inputs.~~”*

Art. 31: Regarding Art. 31 (3) in connection with Recital 66 we recommend a mandatory collection of energy-related data on all data centres, regardless of their location or CO₂ footprint in the EED. In this context, the Data Centre Sustainability Indicators should be made mandatory. We recommend that the Data Centre Sustainability Indicators are defined uniformly for all member states. Both should be explicitly mentioned in Art. 31 (3).

To manifest this, we recommend to add into Art 31 (3) the fattened passages:

“3. The Commission is empowered to adopt delegated acts in accordance with Article 32 to supplement this Directive by establishing, after having consulted the relevant

*stakeholders, a common Union scheme for rating the sustainability of data centres located in its territory. The scheme shall establish the definition of data centre sustainability indicators, and, pursuant to paragraph 9 of Article 10 of this Directive, define the minimum thresholds for significant energy consumption and set out the key indicators and the methodology to measure them. **The data centre sustainability indicators shall be defined uniformly for all member states. The adoption of the data centre sustainability indicators shall be mandatory for all member states. Member states are required to collect energy-related data on all data centres, regardless of their location or CO₂ footprint. Where necessary, member states shall provide support to enable data centres to collect the data.***

- ENDS -