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COVER NOTE

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To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union
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Delegations will find attached document C(2022) 9267 final.

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EUROPEAN
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COMMISSION DELEGATED REGULATION (EU) 2022/...

of 15.12.2022

on revising the primary energy factor for electricity in application of Directive 2012/27/EU of the European Parliament and of the Council

EXPLANATORY MEMORANDUM

CONTEXT OF THE DELEGATED ACT

Grounds and objectives

The primary energy factor (PEF) for electricity was first established in Directive 2006/32/EC on energy end-use efficiency and energy services[1]. Directive 2012/27/EU on energy efficiency (EED)[2] which repealed Directive 2006/32/EU, did not revise the PEF methodology or its value ('coefficient'). Therefore, the value of 2,5 as defined in footnote 3 of Annex II[3] to Directive 2006/32/EC was maintained, and reflected in footnote 3 of Annex IV of the EED[4].

Under both Directives, the PEF was defined to calculate primary energy savings in kWh for electricity. As defined in footnote 3 of Annex IV to the EED, Member States were allowed to use the default coefficient of 2,5 or could apply a different coefficient, provided that they can justify it.

However, under Directive (EU) 2018/2002[5] (EED 2018) amending the EED, a study was carried out on the PEF value and its coverage. The methodology used to calculate the PEF value for electricity is defined in Recital 40 of the EED 2018[6], and requires the Commission to "reflect technological progress and the growing share of renewable energy sources in the electricity generation sector".

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1 Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC, OJ L 114, 27.4.2006, p. 64–85.

2 Directive 2012/ 27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, OJ L 315, 14.11.2012, p. 1.

3 'For savings in kWh electricity Member States may apply a default co-efficient of 2,5 reflecting the estimated 40 % average EU generation efficiency during the target period. Member States may apply a different co-efficient provided they can justify it'.

4 'Applicable when energy savings are calculated in primary energy terms using a bottom-up approach based on final energy consumption. **For savings in kWh electricity Member States may apply a default coefficient of 2,5. Member States may apply a different coefficient provided they can justify it'.**

5 Directive (EU) 2018/2002 of the European Parliament and of the Council of 11 December 2018 amending Directive 2012/27/EU on energy efficiency, OJ L328/210, 21.12.2018, p.210-230.

6 '…the **default coefficient for savings in kWh electricity should be reviewed in order to reflect changes in the primary energy factor (PEF) for electricity**. Calculations reflecting the energy mix of the PEF for electricity are based on annual average values. The '**physical energy content' accounting method** is used for nuclear electricity and heat generation and the 'technical conversion efficiency' method is used for electricity and heat generation from fossil fuels and biomass**. For non-combustible renewable energy**, the method is the direct equivalent based on the 'total primary energy' approach. To calculate the **primary energy share for electricity in cogeneration**, the method set out in Annex II to Directive 2012/27/EU is applied. An average rather than a marginal market position is used. Conversion efficiencies are assumed to be 100 % for non-combustible renewables, 10 % for geothermal power stations and 33 % for nuclear power stations. The **calculation of total efficiency for cogeneration** is based on the most recent data from Eurostat. As for system boundaries, the PEF is 1 for all energy sources. The PEF value refers to 2018 and is based on data interpolated from the most recent version of the PRIMES Reference Scenario for 2015 and 2020 and adjusted with Eurostat data until 2016. The analysis covers the Member States and Norway. The dataset for Norway is based on the European Network of Transmission System Operators for Electricity data'.

Based on the results of the study, the EED 2018 revised the default coefficient PEF for electricity to 2,1 and amended Annex IV, footnote 3 of the EED, as inserted by point (1) of the Annex to the EED 2018[7].

In accordance with the same point of the EED 2018, "the Commission shall revise the default coefficient by 25 December 2022 and every four years on the basis of observed data, and taking into account its effects on other Union law such as Directive 2009/125/EC and Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU". The empowerment of the Commission to adopt delegated acts in order to review this coefficient is provided in Article 22(2) of the EED.

In light of the above, the Commission commissioned a study in order to revise the default coefficient based on observed data. The revision of the default coefficient in this delegated act is based on the study, 'Support to Primary Energy Factor Review (PEF)'[8].

The Delegates Act replaces Annex IV, footnote 3 to the EED, as inserted by point (1) of the Annex to the EED 2018. The other provisions of Annex IV to the EED are unchanged, as they remain relevant to the objectives of the EED and consistent with the latest study to review the PEF.

Environmental aspects

The PEF is a crucial indicator for energy efficiency and energy savings. The revision of the default coefficient for the PEF for electricity in this delegated act is therefore aligned with EU energy policy and climate goals for 2030. Furthermore, the revision of the PEF for electricity reflects the technological progress, the growing share of renewable energy sources in the electricity generation sector and aligns with the requirements in order to deliver under the Fit for 55 package and the REPowerEU Plan.

2. CONSULTATIONS PRIOR TO THE ADOPTION OF THE ACT

Consultation of interested parties

Being of a technical nature, this delegated act did not require an impact assessment or an open public consultation to be carried out prior to the amendment of the Act, as is the case for major initiatives.

The abovementioned study was launched in May 2022 to review the PEF for electricity. Two workshops and one expert group meeting with stakeholders and Member States were organised online during the study on 30 June 2022, 20 October 2022 and 7 November 2022, respectively.

Summary of responses and how they have been taken into account

During the discussions held in the workshops and the expert group referred above, Member States and stakeholders made several comments and suggestions on the methodology of the study, namely that:

- The PEF for electricity is required and the methodology should be harmonised and consistent with the EUROSTAT energy balances.

[7] *'…For savings in kWh electricity, Member States may apply a default coefficient of 2,1 or use the discretion to define a different coefficient, provided that they can justify it. When doing so, Member States shall take into account the energy mix included in their integrated national energy and climate plans to be notified to the Commission in accordance with Regulation (EU) 2018/1999…'.*

[8] *"Support to Primary Energy Factors Review (PEF)", e7, Trinomics and Fraunhofer (2022).*

- The PEF should include upstream energy use, for example through a Life Cycle Assessment approach including distribution and transmission losses and the energy used for the production of assets.
- The methodology should not incentivize the use of fossil fuel technologies;
- The PEF should not be based on historical figures but should rather be forward looking, preferably taking into account the 2026 or 2030 values, to reflect the impact of energy efficiency in the future;
- Combine heat and power efficiency reference values for the allocation of fuel consumption should be revised; and
- Distribution losses for other energy carriers should be considered.

As a result of these suggestions:

- The calculation methodology is in line with the EUROSTAT energy balances and definitions, except for the allocation method of fuel input for heat and electricity in combined heat and power plants.
- For combined heat and power the efficiency of the reference system, needed for the allocation of fuel consumption, was aligned with EUROSTAT for 2015 and 2020.
- The conversion, transmission and distribution losses are taken into account. Distribution losses for other energy carriers than electricity were not considered in the calculations, due to the lack of reliable data and complexity of the calculation. For all energy carriers, except for heat and electricity, losses are below 1% of final energy consumption, with the largest value being gas, 0.87% in 2020 leading to a PEF of 1.087. In addition, losses for several energy carriers are not reported in the energy statistics.
- The selected coefficient for the PEF for electricity is the average of 2024 and 2025 values, since a forward looking PEF will provide a more appropriate indicator than an historical one. The revision of the PEF value is therefore 1,9.

3. LEGAL ELEMENTS OF THE DELEGATED ACT

Summary of the action

The delegated act revises the default coefficient, PEF for electricity, using the average PEF value for 2024 and 2025, and following the methodology and the requirements defined in the EED 2018.

Legal basis

The Commission is empowered to adopt this delegated act by Article 22(2) of the EED.

Proportionality principle

In accordance with the principle of proportionality, this measure does not go beyond what is necessary to achieve its objective. The form of the delegated measure is an amending Regulation, which is directly applicable in all Member States. This ensures national and EU administrations will not incur any costs for transposing the legislation into national legislation.

Choice of instrument

Delegated Act. In accordance with the empowerment to the Commission, this is the only appropriate instrument.

Budgetary implication

The delegated act has no implications for the EU budget.

COMMISSION DELEGATED REGULATION (EU) 2022/...

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on revising the primary energy factor for electricity in application of Directive 2012/27/EU of the European Parliament and of the Council

THE EUROPEAN COMMISSION,

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

Having regard to Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC[1], and in particular Article 22(2) thereof,

Whereas:

(1) Pursuant to the provision in footnote 3 in Annex IV to Directive 2012/27/EU, by 25 December 2022 and every four years thereafter, the Commission is to revise the default coefficient on the basis of observed data.

(2) The Comission has carried out a study on the review of the primary energy factor (PEF) in order to reflect the technological progress and the growing share of renewable energy sources in the electricity generation sector since 2018.

(3) The study supports the methodology set out in Recital 40 of Directive (EU) 2018/2002 of the European Parliament and of the Council[2] which uses the 'physical energy content' accounting method for nuclear electricity and heat generation, the 'technical conversion efficiency' method for electricity and heat generation from fossil fuels and biomass, and the direct equivalent method based on the 'total primary energy' approach for non-combustible renewable energy.

(4) The study acknowledges the need to use a forward looking PEF in order to reflect the impact of energy efficiency in the future. Therefore, the revision of the default coefficient follows the methodology set out in Recital 40 of Directive (EU) 2018/2002, and based on the observed data, selects as the default coefficient the average PEF value for 2024 and 2025.

(5) Annex IV to Directive 2012/27/EU should therefore be amended accordingly,

HAS ADOPTED THIS REGULATION:

Article 1

Annex IV to Directive 2012/27/EU is amended in accordance with the Annex to this Regulation.

[1] OJ L 315, 14.11.2012, p. 1.

[2] Directive (EU) 2018/2002 of the European Parliament and of the Council of 11 December 2018 amending Directive 2012/27/EU on energy efficiency OJ L 328, 21.12.2018, p. 210.

Article 2

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, 15.12.2022

For the Commission
The President
Ursula VON DER LEYEN