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COMMISSION IMPLEMENTING REGULATION (EU) .../...

of XXX

laying down rules for the application of Regulation (EU) 2024/1735 of the European Parliament and of the Council as regards minimum environmental sustainability requirements for public procurement procedures involving certain net-zero technologies

(Text with EEA relevance)

This draft has not been adopted or endorsed by the European Commission. Any views expressed are the preliminary views of the Commission services and may not in any circumstances be regarded as stating an official position of the Commission.

COMMISSION IMPLEMENTING REGULATION (EU) .../...

of **XXX**

laying down rules for the application of Regulation (EU) 2024/1735 of the European Parliament and of the Council as regards minimum environmental sustainability requirements for public procurement procedures involving certain net-zero technologies

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

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

Having regard to Regulation (EU) 2024/1735 of the European Parliament and of the Council on establishing a framework of measures for strengthening Europe's net-zero technology manufacturing ecosystem and amending Regulation (EU) 2018/1724¹, and in particular Article 25(5) thereof,

Whereas:

- (1) Regulation (EU) 2024/1735 lays down measures to enhance the Union's manufacturing capacity for net-zero technologies and their key components, including stimulation of the demand for environmentally sustainable and resilient net-zero technologies via public procurement.
- (2) Regulation (EU) 2024/1735 requires the Commission to specify minimum mandatory requirements regarding environmental sustainability for public procurement procedures falling within the scope of Directive 2014/23/EU², Directive 2014/24/EU³ or Directive 2014/25/EU⁴, where contracts have the net-zero technologies listed in Article 4(1), points (a) to (k), of Regulation (EU) 2024/1735 as part of their subject matter and for works contracts and works concessions including those net-zero technologies.
- (3) Regulation (EU) 2024/1735 requires the Commission to specify these minimum mandatory requirements by means of an implementing act to be adopted by 30 March 2025. Due to the scope of the public procurement provisions of Regulation (EU) 2024/1735, both in terms of net-zero technologies covered and potential minimum

¹ Regulation (EU) 2024/1735 of the European Parliament and of the Council of 13 June 2024 on establishing a framework of measures for strengthening Europe's net-zero technology manufacturing ecosystem and amending Regulation (EU) 2018/1724 (OJ L, 2024/1735, 28.6.2024, ELI: <http://data.europa.eu/eli/reg/2024/1735/oj>).

² Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of concession contracts (OJ L 94, 28.3.2014, p. 1, ELI: <http://data.europa.eu/eli/dir/2014/23/oj>).

³ Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC (OJ L 94, 28.3.2014, p. 65, ELI: <http://data.europa.eu/eli/dir/2014/24/oj>).

⁴ Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC (OJ L 94, 28.3.2014, p. 243, ELI: <http://data.europa.eu/eli/dir/2014/25/oj>).

requirements on environmental sustainability to be considered, extensive mapping and analysis were required, and therefore the deadline could not be met.

- (4) This Regulation should cover the minimum environmental sustainability requirements related to certain net-zero technologies, namely solar technologies and onshore wind and offshore renewable technologies.
- (5) For the sake of simplicity and ease of implementation, those minimum requirements should rely on Union or Union-recognised methodologies and measurement methods that are applicable to the net-zero technologies and cover relevant environmental dimensions. At present, such methodologies and measurement methods do not exist for a significant number of the net-zero technologies. Several methodologies are under preparation and could be used in this context at a later stage. This limits the scope of the net-zero technologies for which this Regulation should set out minimum environmental sustainability requirements.
- (6) Moreover, as environmental sustainability requirements for public procurement of heat pumps are already laid down in Article 7(1) of Directive (EU) 2023/1791 of the European Parliament and the Council⁵, Commission Delegated Regulation (EU) No 811/2013⁶ and Article 7(2) of Regulation (EU) 2017/1369 of the European Parliament and of the Council⁷, this Regulation should not cover heat pumps.
- (7) Similarly, award criteria related to environmental sustainability for public procurement of batteries or products containing batteries will be laid down in accordance with Article 85(3) of Regulation (EU) 2023/1542 of the European Parliament and of the Council⁸. Hence, this Regulation should not cover batteries.
- (8) With regard to the solar technologies to be covered by this Regulation, the following data should be taken into consideration. Based on stakeholder input, it is estimated that the public procurement through contracting authorities in 2023 covered about 3% of the solar deployment in the Union, meaning more than 1,8 GW. The extent of solar technology deployment through contracting entities is unknown.
- (9) The deployment of solar photovoltaic technologies in diverse and often harsh open-air environments requires stringent durability standards. Exposure to extreme temperatures, humidity, and other climatic conditions can accelerate panel degradation, leading to premature failures. Such failures not only compromise energy production efficiency but also result in increased maintenance costs and the need for early replacements, which elevates the levelized cost of electricity generated from

⁵ 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>).

⁶ Commission Delegated Regulation (EU) No 811/2013 of 18 February 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device (OJ L 239, 6.9.2013, p. 1, ELI: http://data.europa.eu/eli/reg_del/2013/811/oj).

⁷ 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 (OJ L 198, 28.7.2017, p. 1, ELI: <http://data.europa.eu/eli/reg/2017/1369/oj>).

⁸ Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC (OJ L 191, 28.7.2023, p. 1, ELI: <http://data.europa.eu/eli/reg/2023/1542/oj>).

solar energy. Moreover, the premature disposal of malfunctioning panels contributes to the accumulation of electronic waste. Therefore, it is imperative that this Regulation lays down provisions requiring the production and deployment of solar panels capable of withstanding prolonged exposure to open-air climates, to ensure both economic efficiency and environmental sustainability, as well as requirements on the design for reliability for solar modules and inverters, to ensure that the photovoltaic systems to be procured are capable of withstanding prolonged exposure to open-air climates.

- (10) For the purposes of compliance and verification of compliance with the requirements on solar technologies, measurements and calculations should be made using harmonised standards. Where there are no relevant standards published in the *Official Journal of the European Union*, other reliable, accurate and reproducible testing methods, which take into account the generally recognised state-of-the-art should be used. For instance, EN IEC 6125:2021 series could be used regarding the ability of the module to withstand prolonged exposure in open-air climates. Similarly, EN IEC 62093:2022 could be used regarding the ability of the inverter to withstand prolonged exposure in open-air climates.
- (11) With regard to the wind technologies to be covered by this Regulation, the following data should be taken into consideration. While only little wind technology deployment is formally done through public procurement, contracting entities will in some markets publicly procure wind turbines in accordance with Directive 2014/25/EU.
- (12) Although 80 to 95% of the total mass of a wind turbine can be recycled as it is composed mostly of steel and iron, some components pose challenges. This is the case for blades, that represent about 15% of the mass of a wind turbine. They usually contain complex composite materials – a combination of reinforced fibres and a polymer matrix. Hence, blades are the component of a wind turbine with the biggest challenges to increase recyclability⁹. It is estimated that composite waste from decommissioned wind blades will reach about 400 000 tonnes by 2040¹⁰.
- (13) At the same time, companies and research institutions are developing recycling techniques and looking at the composition of materials and the processes to decommission turbines in order to enhance the recyclability of wind turbine blades. To support the full circularity of wind turbines, it is appropriate to include a minimum requirement on the recyclability of blades, which will contribute to a circular economy for wind turbines. Considering the current stages of technological development, setting an ambitious yet realistic minimum of [70%] seems appropriate.
- (14) In terms of methodologies, the European standard EN 45555:2019 treats the assessment of the recyclability of energy-related products and should therefore apply to assess the recyclability rate of wind blades.
- (15) Since the application of this Regulation will require contracting authorities and contracting entities to implement significant changes in their procedures, to give the

⁹ European Commission, Science for Policy Brief, Wind energy circularity challenges, retrieved via https://setis.ec.europa.eu/document/download/6dfe5811-a603-42da-8298-2cc636ae1579_en?filename=JRC131723_wind_energy_circularity_challenges_v7.pdf&prefLang=pt in its version of 1 July 2025

¹⁰ WindEurope: Accelerating Wind Turbine Blade Circularity, retrieved via <https://windeurope.org/wp-content/uploads/files/about-wind/reports/WindEurope-Accelerating-wind-turbine-blade-circularity.pdf> in its version of 1 July 2025

contracting authorities and the contracting entities time to implement those changes, the application of this Regulation should be deferred.

- (16) The measures provided for in this Regulation are in accordance with the opinion of the Advisory Committee on Public Procurement,

HAS ADOPTED THIS REGULATION:

Article 1 **Definitions**

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

- (1) 'photovoltaic module' means a complete and environmentally protected assembly of interconnected photovoltaic cells, consisting of the following:
 - (a) strings of photovoltaic cells based on crystalline technology or semiconductor layers based on thin film technology;
 - (b) a substrate, encapsulation and cover materials forming the external surface;
 - (c) the interconnections of the cells;
 - (d) the junction box and associated cabling;
 - (e) where present, the framing material.
- (2) 'photovoltaic inverter' means an electrical energy converter that changes direct electrical current to single phase or polyphase alternating currents;
- (3) 'micro-inverter' means a photovoltaic inverter designed to interface with one single photovoltaic module.

Article 2 **Solar technologies**

1. For solar technologies procured by public procurement, the requirements laid down in paragraphs 2 to 5 shall apply.
2. Photovoltaic modules shall be able to withstand prolonged exposure in open-air climates, including in the following circumstances:
 - (a) exposure to outdoor conditions;
 - (b) hot-spot heating effects;
 - (c) thermal mismatch, fatigue and other stresses caused by repeated changes of temperature;
 - (d) the effects of high temperature and humidity followed by sub-zero temperature;
 - (e) the effects of long-term penetration of humidity;
 - (f) a minimum static load;
 - (g) the impact of hail.
3. The design of photovoltaic modules shall also ensure the following:
 - (a) adequate insulation, including under wet operating conditions;

- (b) robustness of termination;
 - (c) adequacy of the thermal design and long-term reliability of the bypass diodes.
- 4. Photovoltaic inverters shall be capable of withstanding prolonged exposure to outdoor conditions, including exposure to the following:
 - (a) mechanical impacts;
 - (b) the penetration of dust, water and foreign bodies;
 - (c) vibrations during shipping;
 - (d) shocks from handling;
 - (e) ultraviolet radiation;
 - (f) thermal mismatch, fatigue and other stresses caused by repeated changes of temperature;
 - (g) the effects of high temperature and humidity followed by sub-zero temperature;
 - (h) the effects of long-term penetration of humidity;
 - (i) conditions of high humidity when combined with cyclic temperature changes.

The design of photovoltaic inverters shall ensure adequate insulation and robustness of terminals.

This paragraph shall not apply to micro-inverters.

- 5. The requirements laid down in paragraphs 2, 3 and 4 shall take the form of technical specifications.
- 6. Bidders shall demonstrate compliance with the requirements of paragraphs 2, 3 and 4 and verification of such compliance shall be made by way of measurements and calculations using harmonised standards the references of which have been published in the *Official Journal of the European Union*.

Where there are no relevant harmonised standards published in the *Official Journal of the European Union*, other reliable, accurate and reproducible testing methods, which take into account the generally recognised state-of-the-art and comply with the requirements of paragraphs 2 to 5, shall be used.

- 7. This Article shall be implemented in an objective, non-discriminatory and transparent manner and in compliance with the Union's international commitments.

Article 3

Onshore wind and offshore wind renewable technologies

- 1. The wind turbine blades of onshore wind and offshore wind renewable technologies procured by way of public procurement shall have a recyclability rate of at least [70%].
- 2. The recyclability rate shall be calculated by weight in accordance with DS/EN 45555:2019.

3. The requirement laid down in paragraph 1 shall take the form of a technical specification. Bidders shall demonstrate the recyclability rate of the wind turbine blades.
4. This Article shall be implemented in an objective, non-discriminatory and transparent manner and in compliance with the Union's international commitments.

Article 4
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*.

It shall apply from [30 December 2025].

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

Done at Brussels,

For the Commission
The President
Ursula von der Leyen