



Brussels, XXX
[...] (2022) XXX draft

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

of XXX

**supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council
by establishing a Union methodology setting out detailed rules for the production of
renewable liquid and gaseous transport fuels of non-biological origin**

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE DELEGATED ACT

Renewable liquid and gaseous transport fuels of non-biological origin are important for increasing the share of renewable energy in sectors that are expected to rely on liquid fuels in the long term. The recast Renewable Energy Directive¹ (“the “Directive”) introduces new provisions to promote the use of renewable liquid and gaseous transport fuels of non-biological origin. The Commission is requested to develop a reliable Union methodology to ensure that the electricity used to produce of renewable liquid and gaseous transport fuels of non-biological origin is of renewable origin including rules for (i) the temporal and geographical correlation between the electricity production unit and the fuel production, and (ii) ensuring that the fuel producer is adding to the renewable deployment or to the financing of renewable energy.

2. CONSULTATIONS PRIOR TO THE ADOPTION OF THE ACT

As this is a technical proposal, it did not need to be supported by an impact assessment or an open public consultation, which are usually only required for major initiatives.

The proposal draws on the results of several consultation exercises carried out by the Commission implementing of Article 27(3) of the Directive, including *inter alia*, three meetings of the expert group on renewable fuels and two stakeholder workshops.

The draft proposal was published for public feedback on the Better Regulation Portal from 20 May to 17 June 2020. Subsequently, several provisions of the proposal were adjusted following the feedback provided by the respondents to facilitate the ramp-up of the production of renewable liquid and gaseous transport fuels of non-biological origin taking into account the nascent state of the hydrogen industry.

3. LEGAL ELEMENTS OF THE DELEGATED ACT

The proposal is made pursuant to the seventh subparagraph of Article 27(3) of the Directive, which empowers the Commission to adopt a delegated act establishing a Union methodology, setting out detailed rules by which economic operators are to comply with the requirements laid down in the fifth and sixth subparagraphs of Article 27(3) of the Directive.

¹ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) (OJ L 328, 21.12.2018, p. 82).

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THE EUROPEAN COMMISSION,

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

Having regard to Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources², and in particular Article 27(3), seventh subparagraph thereof,

Whereas:

- (1) Renewable liquid and gaseous transport fuels of non-biological origin are important for increasing the share of renewable energy in sectors that are expected to rely on gaseous and liquid fuels in the long term, such as maritime and aviation. It is necessary to establish a Union methodology setting out detailed rules on electricity used for liquid and gaseous transport fuels of non-biological origin to be considered fully renewable. To this end and considering the overall environmental objectives in Directive (EU) 2018/2001 it is necessary to lay down clear rules, based on objective and non-discriminatory criteria. As a principle, liquid and gaseous fuels of non-biological origin which are produced from electricity are considered renewable only when the electricity is renewable. This renewable electricity may be supplied by an installation that is directly connected to the installation (typically an electrolyser) that produces renewable liquid and gaseous transport fuels of non-biological origin, or may come directly from the grid.
- (2) The energy content of nearly all renewable liquid and gaseous transport fuels of non-biological origin is based on renewable hydrogen produced via electrolysis. The emission intensity of hydrogen produced from fossil-based electricity is substantially higher than the emission intensity of hydrogen produced from natural gas in conventional processes. It is therefore important to ensure that the electricity demand for the production of renewable liquid and gaseous transport fuels of non-biological origin is met by renewable electricity. Following Russia's invasion of Ukraine, the need of the Union for a rapid clean energy transition and the reduction of its dependency on fossil fuel imports has become even clearer and stronger. The Commission outlined in the RepowerEU Communication³ its strategy to become independent from Russian fossil fuels well before the end of the decade. Renewable liquid and gaseous transport fuels of non-biological origin play an important role in this endeavour as well as reducing reliance on fossil fuel imports in general. Therefore the criteria to be laid down are also important to prevent that electricity demand to produce hydrogen necessary for renewable transport fuels of non-biological origin

² OJ L 328, 21.12.2018, p. 82.

³ COM(2022) 108 final

would lead to increased fossil fuel imports from Russia for the production of the required electricity.

- (3) The rules set out in this Regulation should apply regardless of whether the liquid and gaseous transport fuel of non-biological origin is produced inside or outside the territory of the Union. Where reference is made to bidding zone and imbalance settlement period, concepts that exist in the Union but not in all other countries, it is appropriate to allow fuel producers in third countries to rely on equivalent concepts provided the objective of this Regulation is maintained and the provision is implemented based on the most similar concept existing in the third country concerned. In case of biddings zones such concept could be similar market regulations, the physical characteristics of the electricity grid, notably the level of interconnection or as a last resort the country.
- (4) The nascent nature of the hydrogen industry, its value chain and the market means that planning and construction of installations generating renewable electricity as well as installations producing renewable liquid and gaseous transport fuel of non-biological origin are often subject to significant delays in the permitting processes and other unexpected hurdles, despite being scheduled to enter into operation at the same time as the installation producing renewable liquid and gaseous transport fuel of non-biological origin. It is therefore appropriate for the reason of practical feasibility to consider a time period of up to 36 months when determining if an installation generating renewable electricity has come into operation after, or at the same time as, the installation producing renewable liquid and gaseous transport fuel of non-biological origin. Sourcing renewable electricity for the production renewable liquid and gaseous transport fuels of non-biological origin via a direct connection from installation producing renewable electricity that is not connected to the grid demonstrates that the electricity is produced in this installation. However, if the installation producing renewable electricity and the installation producing hydrogen are not only directly connected but are also connected to the grid, evidence should be provided that the electricity used to produce hydrogen is supplied through the direct connection. The installation supplying electricity for hydrogen production through a direct connection should always supply renewable electricity. If it supplies non-renewable electricity, the resulting hydrogen should not be considered renewable.
- (5) In bidding zones where renewable electricity already represents the dominant share, electricity taken from the grid should be considered as fully renewable provided that the number of full load hours of renewable liquid and gaseous transport fuel of non-biological origin production is limited to the share of renewable electricity in the bidding zone and any production exceeding this share is considered non-renewable. Adding further installations producing renewable electricity is not necessary given that it can be reasonably assumed that producing renewable hydrogen in a bidding zone where the share of renewable energy exceeds 90% allows meeting the 70% greenhouse gas saving criterion set out in Article 25(2) of Directive (EU) 2018/2001 and it may create challenges for the operation of electricity system. It is further appropriate to consider electricity taken from the grid as fully renewable at times where the production of renewable liquid and gaseous transport fuel of non-biological origin supports the integration of renewable power generation into the electricity system and reduces the need for redispatching of renewable electricity generation. In all other cases, the production of renewable hydrogen should incentivise the deployment of new renewable electricity generation capacity and take place at times and in places where renewable electricity is available (temporal and geographic

correlation) to avoid incentives for more fossil-based electricity generation. Given that planning and construction of installations generating renewable electricity are often subject to significant delays in the permitting processes, it is appropriate to consider an installation generating renewable electricity as new if it has come into operation not earlier than 36 months before the installation producing renewable liquid and gaseous transport fuel of non-biological origin.

- (6) Power purchase agreements are a suitable tool to incentivise the deployment of new renewable electricity generation capacity provided the new renewable electricity generation capacity does not receive financial support since the renewable hydrogen is already being supported by being eligible to count towards the obligation on fuel suppliers set out in Article 25 of Directive (EU) 2018/2001. The cancellation of the power purchase agreement should not be detrimental to the possibility for the installation producing renewable electricity to be still considered as a new installation when covered by a new power purchase agreement. Furthermore, any extension of the installation producing renewable hydrogen that increases its production capacity may be considered to come into operation at the same time as the original installation. This would avoid the potential need to conclude power purchase agreements with different installations every time there is an extension, thus reducing administrative burden. Financial support that is repaid or financial support for land or grid connections for the renewable power generation facility should not be considered as operating aid or investment aid.
- (7) Due to the fluctuating nature of some sources of renewable energy including wind power and solar power as well as congestion of the electricity grid, renewable electricity may not be constantly available for the production of renewable hydrogen. It is therefore appropriate to set out rules that ensure that renewable hydrogen is produced at times and in places where renewable electricity is available.
- (8) In order to demonstrate that renewable hydrogen is produced when renewable electricity is available, hydrogen producers should show that production of renewable hydrogen takes place in the same quarter of the year as the production of the renewable electricity, that the electrolyser uses stored renewable electricity, or that the electrolyser uses electricity at times when electricity prices are so low that fossil-based electricity generation is not economically viable and, therefore, additional demand for electricity triggers more renewable electricity production and does not trigger an increase in fossil electricity generation. The criterion for synchronisation should become stricter when markets, infrastructures and technologies allowing for a quick adjustment of hydrogen production and the synchronisation of electricity generation and hydrogen production become available.
- (9) Bidding zones are designed to avoid grid congestion within the zone. To ensure that there is no electricity grid congestion between the electrolyser producing renewable hydrogen and the installation generating renewable electricity it is therefore appropriate to require that, both installations should be located in the same bidding zone. Where they are located in interconnected bidding zones, the electricity price in the bidding zone where the installation generating renewable electricity is located should be equal or higher than in the bidding zone where the renewable liquid and gaseous transport fuel of non-biological origin is produced so that it contributes to reducing congestion; or the installation generating renewable electricity under the power purchase agreement should be located in an offshore bidding zone adjacent to the bidding zone where the electrolyser is located.

- (10) In order to address national specificities of their bidding zones and to support the integrated planning of electricity and hydrogen networks, Member States should be allowed to set out additional criteria concerning the location of electrolyzers within bidding zones.
- (11) Fuel producers could combine different options for counting electricity that is used for the production of renewable liquid and gaseous transport fuels of non-biological origin in a flexible way provided only one option is applied for each unit of electricity input. In order to verify whether the rules have been followed correctly it is therefore appropriate to request fuels suppliers to thoroughly document which options were applied to source renewable electricity that is used for the production of renewable liquid and gaseous transport fuels of non-biological origin. Voluntary schemes and national schemes are expected to play an important role in the implementation and certification of the rules in third countries.
- (12) Articles 7 and 19 of Directive (EU) 2018/2001 provide sufficient assurances that the renewable properties of electricity used for the production of renewable hydrogen are claimed only once and only in one end-use sector. Article 7 of that Directive ensures that, when calculating the overall share of renewables in gross final energy consumption, renewable liquid and gaseous transport fuels of non-biological origin are not accounted because the renewable electricity used to produce them has already been accounted. Article 19 of that Directive should avoid that both the producer of the renewable electricity and the producer of the renewable liquid and gaseous transport fuels of non-biological origin produced from that electricity can receive guarantees of origin by ensuring that the guarantees of origin issued to the producer of renewable electricity are cancelled.
- (13) Implementation of temporal correlation is hampered in the short term by technological barriers to measure hourly matching, the challenging implications for electrolyser designs, as well as the lack of hydrogen infrastructure enabling storage and transportation of renewable hydrogen to end users in need of constant hydrogen supply. In order to enable the ramp-up of the production of renewable liquid and gaseous transport fuels of non-biological origin, the criteria on temporal correlation should therefore be more flexible until 31 March 2028, allowing market players to put in place the necessary technological solutions.
- (14) Due to the time needed for the planning and construction of installations generating renewable electricity and the lack of new installations generating renewable electricity' that do not receive support, the requirements set out in Article 5, points (a) and (b) of this Regulation should apply only at a later stage.
- (15) The reliance on fossil fuels for electricity generation should decline over time with the implementation of the European Green Deal and the share of energy from renewable sources should increase. The Commission should monitor this development closely and reassess the requirements set out in this Regulation when the target for the overall share of renewable energy set out in Directive (EU) 2018/2001 is achieved,

HAS ADOPTED THIS REGULATION:

Article 1

Subject-matter

This Regulation lays down detailed rules for determining when electricity used for the production of renewable liquid and gaseous transport fuels of non-biological origin can be

considered fully renewable. These rules shall apply to the production of renewable liquid and gaseous transport fuels of non-biological origin via electrolysis and analogously for less common production pathways.

They shall apply regardless of whether the liquid and gaseous transport fuel of non-biological origin is produced inside or outside the territory of the Union.

Article 2

Definitions

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

- (1) ‘bidding zone’ means bidding zone as defined in Article 2, point (65), of Regulation (EU) 2019/943 of the European Parliament and of the Council⁴ for Member States, or an equivalent concept for third countries;
- (2) ‘direct line’ means direct line as defined in Article 2, point (41), of Directive 2019/944 of the European Parliament and of the Council⁵;
- (3) ‘installation generating renewable electricity’ means individual units, or groups of units, producing electricity in one or several locations from the same or from different renewable sources, as defined in Article 2, point (1) of Directive (EU) 2018/2001, excluding units producing electricity from biomass and storage units;
- (4) ‘fuel producer’ means an economic operator that produces renewable liquid and gaseous transport fuel of non-biological origin;
- (5) ‘come into operation’ means starting production of renewable liquid and gaseous transport fuels of non-biological origin or renewable electricity for the first time or following a repowering as defined under Article 2, point (10) of Directive (EU) 2018/2001 requiring investments exceeding 30% of the investment that would be needed to build a similar new installation;
- (6) ‘smart metering system’ means smart metering system as defined in Article 2, point (23) of Directive 2019/944;
- (7) ‘imbalance settlement period’ means imbalance settlement period as defined in Article 2, point (15) of Regulation (EU) 2019/943 within the Union, or an equivalent concept for third countries.

Article 3

Rules for counting electricity obtained from direct connection to an installation generating renewable electricity as fully renewable

For the purpose of demonstrating compliance with the criteria set out in Article 27(3), fifth subparagraph of Directive (EU) 2018/2001 for counting electricity obtained from direct connection to an installation generating renewable electricity as fully renewable, the fuel producer shall provide evidence on the following:

⁴ Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (OJ L 158, 14.6.2019, p. 54).

⁵ Directive 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (OJ L 158, 14.6.2019, p. 125).

- (a) the installations generating renewable electricity are connected to the installation producing renewable liquid and gaseous transport fuel of non-biological origin via a direct line, or the renewable electricity production and production of renewable liquid and gaseous transport fuel of non-biological origin take place within the same installation;
- (b) the installations generating renewable electricity came into operation not earlier than 36 months before the installation producing renewable liquid and gaseous transport fuel of non-biological origin; where additional production capacity is added to an existing installation producing renewable liquid and gaseous transport fuel of non-biological origin, the added capacity shall be considered to be part of the existing installation, provided that the capacity is added at the same site and the addition takes place no later than 36 months after the initial installation came into operation;
- (c) the installation producing electricity is not connected to the grid, or the installation producing electricity is connected to the grid but a smart metering system that measures all electricity flows from the grid shows that no electricity has been taken from the grid to produce renewable liquid and gaseous transport fuel of non-biological origin.

If the fuel producer also uses electricity from the grid, it may count it as fully renewable if it complies with the rules set out in Article 4.

Article 4

General rules for counting electricity taken from the grid as fully renewable

1. Fuel producers may count electricity taken from the grid as fully renewable if the installation producing the renewable liquid and gaseous transport fuel of non-biological origin is located in a bidding zone where the average proportion of renewable electricity exceeded 90% in the previous calendar year and the production of renewable liquid and gaseous transport fuel of non-biological origin does not exceed a maximum number of hours set in relation to the proportion of renewable electricity in the bidding zone.

This maximum number of hours shall be calculated by multiplying the total number of hours in each calendar year by the share of renewable electricity reported for the bidding zone where the renewable liquid and gaseous transport fuel of non-biological origin is produced. The average share of renewable electricity shall be determined by dividing the gross final consumption of electricity from renewable sources in the bidding zone calculated by analogy to the rules set out in Article 7(2) of Directive (EU) 2018/2001 by the gross electricity production from all energy sources as defined in Annex B to Regulation (EC) 1099/2008, except from water previously pumped uphill, plus imports minus exports of electricity to the bidding zone. Once the average share of renewable electricity exceeds 90% in a calendar year, it shall be continued to be considered to be higher than 90% for the subsequent five years unless the calculated share is lower than 90% in two consecutive years.

2. Electricity taken from the grid that is used to produce renewable liquid and gaseous transport fuel of non-biological origin may also be counted as fully renewable if the electricity used to produce renewable liquid and gaseous transport fuel of non-biological origin is consumed during an imbalance settlement period during which

the fuel producer can demonstrate, based on evidence from the national transmission system operator, that:

(a) power-generating installations using renewable energy sources were redispatched downwards in accordance with Article 13 of Regulation (EU) 2019/943,

(b) the electricity consumed for the production of renewable liquid and gaseous transport fuel of non-biological origin reduced the need for redispatching by a corresponding amount.

3. Where the conditions in paragraphs 1 and 2 are not met, fuel producers may count electricity taken from the grid as fully renewable if it complies with the conditions on additionality, temporal correlation and geographic correlation in accordance with Articles 5, 6 and 7.

Article 5

Additionality

The additionality condition referred to in Article 4 (3), first subparagraph shall be considered complied with if fuel producers have concluded directly, or via intermediaries, one or more renewables power purchase agreements with economic operators producing renewable electricity in one or more installations generating renewable electricity for an amount that is at least equivalent to the amount of electricity that is claimed as fully renewable and the electricity claimed is effectively produced in this or these installations, provided that the following criteria are met:

- (a) the installation generating renewable electricity came into operation not earlier than 36 months before the installation producing the renewable liquid and gaseous transport fuel of non-biological origin;

where an installation generating renewable electricity complied with the requirements set out in the first subparagraph of this paragraph under a renewables power purchase agreement with a fuel producer that has ended, it shall be considered to have come into operation at the same time as the installation producing the renewable liquid and gaseous transport fuel of non-biological origin under a new renewables power purchase agreement;

where additional production capacity is added to an existing installation producing renewable liquid and gaseous transport fuel of non-biological origin, the added capacity shall be considered to have come into operation at the same time as the initial installation, provided that the capacity is added at the same site and the addition takes place no later than 36 months after the initial installation came into operation.;

- (b) the installation generating renewable electricity has not received support in the form of operating aid or investment aid, excluding support received by installations before their repowering, financial support for land or for grid connections, support that does not constitute net support, such as support that is fully repaid and support for installations generating renewable electricity that are supplying installations producing renewable liquid and gaseous transport fuel of non-biological origin used for research, testing and demonstration.

Article 6

Temporal correlation

Until 31 March 2028 the temporal correlation condition referred to in Article 4(3), first subparagraph shall be considered complied with if the renewable liquid and gaseous transport fuel of non-biological origin is produced during the same quarter of the calendar year as the renewable electricity produced under the renewables power purchase agreement or from renewable electricity from a new storage asset that is located behind the same network connection point as the electrolyser or the installation generating renewable electricity, that has been charged during the same quarter of the calendar year in which the electricity under the renewables power purchase agreement has been produced.

From 1 April 2028, the temporal correlation condition shall be considered complied with if the renewable liquid and gaseous transport fuel of non-biological origin is produced during the same one-hour period as the renewable electricity produced under the renewables power purchase agreement or from renewable electricity from a new storage asset that is located behind the same network connection point as the electrolyser or the installation generating renewable electricity, that has been charged during the same one-hour period in which the electricity under the renewables power purchase agreement has been produced.

The temporal correlation condition shall always be considered complied with if the renewable liquid and gaseous transport fuel of non-biological origin is produced during a one-hour period, the clearing price of electricity resulting from single day-ahead market coupling in the bidding zone, as referred to in Article 39 (2), point (a) of Commission Regulation (EU) 2015/1222⁶, is lower or equal to EUR 20 per MWh or lower than 0,36 times the price of an allowance to emit one tonne of carbon dioxide equivalent during the relevant period for the purpose of meeting the requirements of Directive 2003/87/EC of the European Parliament and of the Council⁷.

Article 7

Geographical correlation

1. The geographical correlation condition referred to in Article 4 (3), first subparagraph shall be considered complied with if at least one of the following criteria relating to the location of the electrolyser is fulfilled:
 - (a) the installation generating renewable electricity under the renewables power purchase agreement is located, or was located at the time when it came into operation, in the same bidding zone as the electrolyser;
 - (b) the installation generating renewable electricity is located in an interconnected bidding zone, including in another Member State, and electricity prices in the relevant time period on the day-ahead market referred to in Article 6 in the interconnected bidding zone is equal or higher than in the bidding zone where the renewable liquid and gaseous transport fuel of non-biological origin is produced;

⁶ Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (OJ L 197, 25.7.2015, p. 24).

⁷ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (OJ L 275, 25.10.2003, p. 32).

- (c) the installation generating renewable electricity under the renewables power purchase agreement is located in an offshore bidding zone that is interconnected with the bidding zone where the electrolyser is located.
- 2. Without prejudice to Articles 14 and 15 of Regulation (EU) 2019/943, Member States may introduce additional criteria concerning the location of electrolysers and the installation producing renewable electricity to the criteria set out in paragraph 1, in order to ensure compatibility of capacity additions with the national planning of the hydrogen and electricity grid. Any additional criteria shall have no negative impact on the functioning of the internal electricity market.

Article 8

Common rules

Fuel producers shall provide reliable information demonstrating that all requirements set out in Articles 3 to 7 are complied with, including for each hour as relevant:

- (a) the amount of electricity used to produce renewable liquid and gaseous transport fuel of non-biological origin, further detailed as follows:
 - (i) the amount of electricity sourced from the grid that does not count as fully renewable as well as the proportion of renewable electricity;
 - (ii) the amount of electricity that counts as fully renewable because it has been obtained from a direct connection to an installation generating renewable electricity as set out in Article 3;
 - (iii) the amount of electricity sourced from the grid that counts as fully renewable in accordance with the criteria set out in Article 4(1);
 - (iv) the amount of electricity that counts as fully renewable in accordance with the criteria set out in Article 4(2);
 - (iv) the amount of electricity that counts as fully renewable in accordance with the criteria set out in Article 4(3);
- (b) the amount of renewable electricity generated by the installations generating renewable electricity, regardless of whether they are directly connected to an electrolyser and regardless of whether the renewable electricity is used for the production of the renewable liquid and gaseous transport fuel of non-biological origin or for other purposes;
- (c) the amounts of renewable and non-renewable liquid and gaseous transport fuel of non-biological origin produced by the fuel producer.

Article 9

Certification of compliance

Fuel producers may make use of national schemes or international voluntary schemes recognised by the Commission pursuant to Article 30(4) of Directive (EU) 2018/2001 to demonstrate compliance with the criteria set out in Articles 3 to 7 of this Regulation, in line with Article 8, as relevant.

Where a fuel producer provides evidence or data obtained in accordance with a scheme that has been the subject of a decision in accordance with Article 30(4) of Directive (EU) 2018/2001, to the extent that such decision covers the demonstrating of compliance of the

scheme with Article 27(3), fifth and sixth subparagraphs of that Directive, a Member State shall not require the suppliers of renewable liquid and gaseous transport fuels of non-biological origin to provide further evidence of compliance with the criteria set out in this Regulation.

Article 10

Transitional phase

Article 5, points (a) and (b) shall not apply until 31 December 2036 to installations producing renewable liquid and gaseous transport fuel of non-biological origin that come into operation before 1 January 2027. This exemption shall not apply to capacity added after 1 January 2027 for the production of renewable liquid and gaseous transport fuel of non-biological origin.

Article 11

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,

For the Commission
The President
Ursula von der Leyen