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) (Text with EEA relevance)

Article 1

Subject matter

This Directive establishes a common framework for the promotion of energy from renewable sources. It sets a binding Union target for the overall share of energy from renewable sources in the Union's gross final consumption of energy in 2030. It also lays down rules on financial support for electricity from renewable sources, on self-consumption of such electricity, on the use of energy from renewable sources in the heating and cooling sector and in the transport sector, on regional cooperation between Member States, and between Member States and third countries, on guarantees of origin, on administrative procedures and on information and training. It also establishes sustainability and greenhouse gas emissions saving criteria for biofuels, bioliquids and biomass fuels.

Article 2

Definitions

For the purposes of this Directive, the relevant definitions in Directive 2009/72/EC of the European Parliament and of the Council[(1)] apply.

The following definitions also apply:

(1) ‘energy from renewable sources’ or ‘renewable energy’ means energy from renewable non-fossil sources, namely wind, solar (solar thermal and solar photovoltaic) and geothermal energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas;

(2) ‘ambient energy’ means naturally occurring thermal energy and energy accumulated in the environment with constrained boundaries, which can be stored in the ambient air, excluding in exhaust air, or in surface or sewage water;

(3) ‘geothermal energy’ means energy stored in the form of heat beneath the surface of solid earth;

(4) ‘gross final consumption of energy’ means the energy commodities delivered for energy purposes to industry, transport, households, services including public services, agriculture, forestry and fisheries, the consumption of electricity and heat by the energy branch for electricity, heat and transport fuel production, and losses of electricity and heat in distribution and transmission;

(5) ‘support scheme’ means any instrument, scheme or mechanism applied by a Member State, or a group of Member States, that promotes the use of energy from renewable sources by reducing the cost of that energy, increasing the price at which it can be sold, or increasing, by means of a renewable energy obligation or otherwise, the volume of such energy purchased, including but not restricted to, investment aid, tax exemptions or reductions, tax refunds, renewable energy obligation support schemes

including those using green certificates, and direct price support schemes including feed-in tariffs and sliding or fixed premium payments;

(6) 'renewable energy obligation' means a support scheme requiring energy producers to include a given share of energy from renewable sources in their production, requiring energy suppliers to include a given share of energy from renewable sources in their supply, or requiring energy consumers to include a given share of energy from renewable sources in their consumption, including schemes under which such requirements may be fulfilled by using green certificates;

(7) 'financial instrument' means a financial instrument as defined in point (29) of Article 2 of Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council[(2)];

(8) 'SME' means a micro, small or medium-sized enterprise as defined in Article 2 of the Annex to Commission Recommendation 2003/361/EC[(3)];

(9) 'waste heat and cold' means unavoidable heat or cold generated as by-product in industrial or power generation installations, or in the tertiary sector, which would be dissipated unused in air or water without access to a district heating or cooling system, where a cogeneration process has been used or will be used or where cogeneration is not feasible;

(10) 'repowering' means renewing power plants that produce renewable energy, including the full or partial replacement of installations or operation systems and equipment for the purposes of replacing capacity or increasing the efficiency or capacity of the installation;

(11) 'distribution system operator' means an operator as defined in point (6) of Article 2 of Directive 2009/72/EC and in point (6) of Article 2 of Directive 2009/73/EC of the European Parliament and of the Council[(4)];

(12) 'guarantee of origin' means an electronic document which has the sole function of providing evidence to a final customer that a given share or quantity of energy was produced from renewable sources;

(13) 'residual energy mix' means the total annual energy mix for a Member State, excluding the share covered by cancelled guarantees of origin;

(14) 'renewables self-consumer' means a final customer operating within its premises located within confined boundaries or, where permitted by a Member State, within other premises, who generates renewable electricity for its own consumption, and who may store or sell self-generated renewable electricity, provided that, for a non-household renewables self-consumer, those activities do not constitute its primary commercial or professional activity;

(15) 'jointly acting renewables self-consumers' means a group of at least two jointly acting renewables self-consumers in accordance with point (14) who are located in the same building or multi-apartment block;

(16) 'renewable energy community' means a legal entity:

(a) which, in accordance with the applicable national law, is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity;

(b) the shareholders or members of which are natural persons, SMEs or local authorities, including municipalities;

(c) the primary purpose of which is to provide environmental, economic or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits;

(17) 'renewables power purchase agreement' means a contract under which a natural or legal person agrees to purchase renewable electricity directly from an electricity producer;

(18) 'peer-to-peer trading' of renewable energy means the sale of renewable energy between market participants by means of a contract with pre-determined conditions governing the automated execution and settlement of the transaction, either directly between market participants or indirectly through a certified third-party market participant, such as an aggregator. The right to conduct peer-to-peer trading shall be without prejudice to the rights and obligations of the parties involved as final customers, producers, suppliers or aggregators;

(19) 'district heating' or 'district cooling' means the distribution of thermal energy in the form of steam, hot water or chilled liquids, from central or decentralised sources of production through a network to multiple buildings or sites, for the use of space or process heating or cooling;

(20) 'efficient district heating and cooling' means efficient district heating and cooling as defined in point (41) of Article 2 of Directive 2012/27/EU;

(21) 'high-efficiency cogeneration' means high-efficiency cogeneration as defined in point (34) of Article 2 of Directive 2012/27/EU;

(22) 'energy performance certificate' means energy performance certificate as defined in point (12) of Article 2 of Directive 2010/31/EU;

(23) 'waste' means waste as defined in point (1) of Article 3 of Directive 2008/98/EC, excluding substances that have been intentionally modified or contaminated in order to meet this definition;

(24) 'biomass' means the biodegradable fraction of products, waste and residues from biological origin from agriculture, including vegetal and animal substances, from forestry and related industries, including fisheries and aquaculture, as well as the biodegradable fraction of waste, including industrial and municipal waste of biological origin;

(25) 'agricultural biomass' means biomass produced from agriculture;

(26) 'forest biomass' means biomass produced from forestry;

(27) 'biomass fuels' means gaseous and solid fuels produced from biomass;

(28) 'biogas' means gaseous fuels produced from biomass;

(29) 'biowaste' means biowaste as defined in point (4) of Article 3 of Directive 2008/98/EC;

(30) 'sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available

and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass;

(31) ‘forest regeneration’ means the re-establishment of a forest stand by natural or artificial means following the removal of the previous stand by felling or as a result of natural causes, including fire or storm;

(32) ‘bioliquids’ means liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from biomass;

(33) ‘biofuels’ means liquid fuel for transport produced from biomass;

(34) ‘advanced biofuels’ means biofuels that are produced from the feedstock listed in Part A of Annex IX;

(35) ‘recycled carbon fuels’ means liquid and gaseous fuels that are produced from liquid or solid waste streams of non-renewable origin which are not suitable for material recovery in accordance with Article 4 of Directive 2008/98/EC, or from waste processing gas and exhaust gas of non-renewable origin which are produced as an unavoidable and unintentional consequence of the production process in industrial installations;

(36) ‘renewable liquid and gaseous transport fuels of non-biological origin’ means liquid or gaseous fuels which are used in the transport sector other than biofuels or biogas, the energy content of which is derived from renewable sources other than biomass;

(37) ‘low indirect land-use change-risk biofuels, bioliquids and biomass fuels’ means biofuels, bioliquids and biomass fuels, the feedstock of which was produced within schemes which avoid displacement effects of food and feed-crop based biofuels, bioliquids and biomass fuels through improved agricultural practices as well as through the cultivation of crops on areas which were previously not used for cultivation of crops, and which were produced in accordance with the sustainability criteria for biofuels, bioliquids and biomass fuels laid down in Article 29;

(38) ‘fuel supplier’ means an entity supplying fuel to the market that is responsible for passing fuel through an excise duty point or, in the case of electricity or where no excise is due or where duly justified, any other relevant entity designated by a Member State;

(39) ‘starch-rich crops’ means crops comprising mainly cereals, regardless of whether the grains alone or the whole plant, such as in the case of green maize, are used; tubers and root crops, such as potatoes, Jerusalem artichokes, sweet potatoes, cassava and yams; and corm crops, such as taro and cocoyam;

(40) ‘food and feed crops’ means starch-rich crops, sugar crops or oil crops produced on agricultural land as a main crop excluding residues, waste or ligno-cellulosic material and intermediate crops, such as catch crops and cover crops, provided that the use of such intermediate crops does not trigger demand for additional land;

(41) ‘ligno-cellulosic material’ means material composed of lignin, cellulose and hemicellulose, such as biomass sourced from forests, woody energy crops and forest-based industries' residues and wastes;

(42) ‘non-food cellulosic material’ means feedstock mainly composed of cellulose and hemicellulose, and having a lower lignin content than ligno-cellulosic material, including food and feed crop residues, such as straw, stover, husks and shells; grassy energy crops with a low starch content, such as ryegrass, switchgrass, miscanthus,

giant cane; cover crops before and after main crops; ley crops; industrial residues, including from food and feed crops after vegetal oils, sugars, starches and protein have been extracted; and material from biowaste, where ley and cover crops are understood to be temporary, short-term sown pastures comprising grass-legume mixture with a low starch content to obtain fodder for livestock and improve soil fertility for obtaining higher yields of arable main crops;

(43) ‘residue’ means a substance that is not the end product(s) that a production process directly seeks to produce; it is not a primary aim of the production process and the process has not been deliberately modified to produce it;

(44) ‘agricultural, aquaculture, fisheries and forestry residues’ means residues that are directly generated by agriculture, aquaculture, fisheries and forestry and that do not include residues from related industries or processing;

(45) ‘actual value’ means the greenhouse gas emissions savings for some or all of the steps of a specific biofuel, bioliquid or biomass fuel production process, calculated in accordance with the methodology laid down in Part C of Annex V or Part B of Annex VI;

(46) ‘typical value’ means an estimate of the greenhouse gas emissions and greenhouse gas emissions savings for a particular biofuel, bioliquid or biomass fuel production pathway, which is representative of the Union consumption;

(47) ‘default value’ means a value derived from a typical value by the application of pre-determined factors and that may, in circumstances specified in this Directive, be used in place of an actual value.

Article 3

Binding overall Union target for 2030

1 Member States shall collectively ensure that the share of energy from renewable sources in the Union's gross final consumption of energy in 2030 is at least 32 %. The Commission shall assess that target with a view to submitting a legislative proposal by 2023 to increase it where there are further substantial costs reductions in the production of renewable energy, where needed to meet the Union's international commitments for decarbonisation, or where a significant decrease in energy consumption in the Union justifies such an increase.

2 Member States shall set national contributions to meet, collectively, the binding overall Union target set in paragraph 1 of this Article as part of their integrated national energy and climate plans in accordance with Articles 3 to 5 and 9 to 14 of Regulation (EU) 2018/1999. In preparing their draft integrated national energy and climate plans, Member States may consider the formula referred to in Annex II to that Regulation.

If, on the basis of the assessment of the draft integrated national energy and climate plans submitted pursuant to Article 9 of Regulation (EU) 2018/1999, the Commission concludes that the national contributions of the Member States are insufficient for the collective achievement of the binding overall Union target, it shall follow the procedure laid down in Articles 9 and 31 of that Regulation.

3 Member States shall ensure that their national policies, including the obligations deriving from Articles 25 to 28 of this Directive, and their support schemes, are designed with due regard to the waste hierarchy as set out in Article 4 of Directive 2008/98/EC to aim to avoid undue distortive effects on the raw material markets. Member States shall grant no support for

renewable energy produced from the incineration of waste if the separate collection obligations laid down in that Directive have not been complied with.

4 From 1 January 2021, the share of energy from renewable sources in each Member State's gross final consumption of energy shall not be lower than the baseline share shown in the third column of the table in Part A of Annex I to this Directive. Member States shall take the necessary measures to ensure compliance with that baseline share. If a Member State does not maintain its baseline share as measured over any one-year period, the first and second subparagraphs of Article 32(4) of Regulation (EU) 2018/1999 shall apply.

5 The Commission shall support the high ambition of Member States through an enabling framework comprising the enhanced use of Union funds, including additional funds to facilitate a just transition of carbon intensive regions towards increased shares of renewable energy, in particular financial instruments, especially for the following purposes:

a reducing the cost of capital for renewable energy projects;

b developing projects and programmes for integrating renewable sources into the energy system, for increasing flexibility of the energy system, for maintaining grid stability and for managing grid congestions;

c developing transmission and distribution grid infrastructure, intelligent networks, storage facilities and interconnections, with the objective of arriving at a 15 % electricity interconnection target by 2030, in order to increase the technically feasible and economically affordable level of renewable energy in the electricity system;

d enhancing regional cooperation between Member States and between Member States and third countries, through joint projects, joint support schemes and the opening of support schemes for renewable electricity to producers located in other Member States.

6 The Commission shall establish a facilitative platform in order to support Member States that use cooperation mechanisms to contribute to the binding overall Union target set in paragraph 1.

Article 4

Support schemes for energy from renewable sources

1 In order to reach or exceed the Union target set in Article 3(1), and each Member State's contribution to that target set at a national level for the deployment of renewable energy, Member States may apply support schemes.

2 Support schemes for electricity from renewable sources shall provide incentives for the integration of electricity from renewable sources in the electricity market in a market-based and market-responsive way, while avoiding unnecessary distortions of electricity markets as well as taking into account possible system integration costs and grid stability.

3 Support schemes for electricity from renewable sources shall be designed so as to maximise the integration of electricity from renewable sources in the electricity market and to ensure that renewable energy producers are responding to market price signals and maximise their market revenues.

To that end, with regard to direct price support schemes, support shall be granted in the form of a market premium, which could be, *inter alia*, sliding or fixed.

Member States may exempt small-scale installations and demonstration projects from this paragraph, without prejudice to the applicable Union law on the internal market for electricity.

4 Member States shall ensure that support for electricity from renewable sources is granted in an open, transparent, competitive, non-discriminatory and cost-effective manner.

Member States may exempt small-scale installations and demonstration projects from tendering procedures.

Member States may also consider establishing mechanisms to ensure the regional diversification in the deployment of renewable electricity, in particular to ensure cost-efficient system integration.

5 Member States may limit tendering procedures to specific technologies where opening support schemes to all producers of electricity from renewable sources would lead to a suboptimal result, in view of:

a the long-term potential of a particular technology;

b the need to achieve diversification;

c grid integration costs;

d network constraints and grid stability;

e for biomass, the need to avoid distortions of raw materials markets.

6 Where support for electricity from renewable sources is granted by means of a tendering procedure, Member States shall, in order to ensure a high project realisation rate:

a establish and publish non-discriminatory and transparent criteria to qualify for the tendering procedure and set clear dates and rules for delivery of the project;

b publish information about previous tendering procedures, including project realisation rates.

7 In order to increase the generation of energy from renewable sources in the outermost regions and small islands, Member States may adapt financial support schemes for projects located in those regions in order to take into account the production costs associated with their specific conditions of isolation and external dependence.

8 By 31 December 2021 and every three years thereafter, the Commission shall report to the European Parliament and to the Council on the performance of support for electricity from renewable sources granted by means of tendering procedures in the Union, analysing in particular the ability of tendering procedures to:

a achieve cost-reduction;

b achieve technological improvement;

c achieve high realisation rates;

d provide non-discriminatory participation of small actors and, where applicable, local authorities;

e limit environmental impact;

f ensure local acceptability;

g ensure security of supply and grid integration.

9 This Article shall apply without prejudice to Articles 107 and 108 TFEU.

Article 5

Opening of support schemes for electricity from renewable sources

1 Member States shall have the right, in accordance with Articles 7 to 13 of this Directive, to decide to which extent they support electricity from renewable sources which is

produced in another Member State. However, Member States may open participation in support schemes for electricity from renewable sources to producers located in other Member States, subject to the conditions laid down in this Article.

When opening participation in support schemes for electricity from renewable sources, Member States may provide that support for an indicative share of the newly-supported capacity, or of the budget allocated thereto, in each year is open to producers located in other Member States.

Such indicative shares may, in each year, amount to at least 5 % from 2023 to 2026 and at least 10 % from 2027 to 2030, or, where lower, to the level of interconnectivity of the Member State concerned in any given year.

In order to acquire further implementation experience, Member States may organise one or more pilot schemes where support is open to producers located in other Member States.

2 Member States may require proof of physical import of electricity from renewable sources. To that end, Member States may limit participation in their support schemes to producers located in Member States with which there is a direct connection via interconnectors. However, Member States shall not change or otherwise affect cross-zonal schedules and capacity allocation due to producers participating in cross-border support schemes. Cross-border electricity transfers shall be determined only by the outcome of capacity allocation pursuant to Union law on the internal market in electricity.

3 If a Member State decides to open participation in support schemes to producers located in other Member States, the relevant Member States shall agree on the principles of such participation. Such agreements shall cover at least the principles of allocation of renewable electricity that is the subject of cross-border support.

4 The Commission shall, upon the request of the relevant Member States, assist them throughout the negotiation process with the setting up of cooperation arrangements by providing information and analysis, including quantitative and qualitative data on the direct and indirect costs and benefits of cooperation, as well as with guidance and technical expertise. The Commission may encourage or facilitate the exchange of best practices and may develop templates for cooperation agreements in order to facilitate the negotiation process. The Commission shall assess, by 2025, the costs and benefits of the deployment of electricity from renewable sources in the Union pursuant to this Article.

5 By 2023, the Commission shall carry out an evaluation of the implementation of this Article. That evaluation shall assess the need to introduce an obligation on Member States partially to open participation in their support schemes for electricity from renewable sources to producers located in other Member States with a view to a 5 % opening by 2025 and a 10 % opening by 2030.

Article 6

Stability of financial support

1 Without prejudice to adaptations necessary to comply with Articles 107 and 108 TFEU, Member States shall ensure that the level of, and the conditions attached to, the support granted to renewable energy projects are not revised in a way that negatively affects the rights conferred thereunder and undermines the economic viability of projects that already benefit from support.

2 Member States may adjust the level of support in accordance with objective criteria, provided that such criteria are established in the original design of the support scheme.

3 Member States shall publish a long-term schedule anticipating the expected allocation of support, covering, as a reference, at least the following five years, or, in the case of budgetary planning constraints, the following three years, including the indicative timing, the frequency of tendering procedures where appropriate, the expected capacity and budget or maximum unitary support expected to be allocated, and the expected eligible technologies, if applicable. That schedule shall be updated on an annual basis or, where necessary, to reflect recent market developments or expected allocation of support.

4 Member States shall, at least every five years, assess the effectiveness of their support schemes for electricity from renewable sources and their major distributive effects on different consumer groups, and on investments. That assessment shall take into account the effect of possible changes to the support schemes. The indicative long-term planning governing the decisions of the support and design of new support shall take into account the results of that assessment. Member States shall include the assessment in the relevant updates of their integrated national energy and climate plans and progress reports in accordance with Regulation (EU) 2018/1999.

Article 7

Calculation of the share of energy from renewable sources

1 The gross final consumption of energy from renewable sources in each Member State shall be calculated as the sum of:

a gross final consumption of electricity from renewable sources;

b gross final consumption of energy from renewable sources in the heating and cooling sector; and

c final consumption of energy from renewable sources in the transport sector.

With regard to point (a), (b), or (c) of the first subparagraph, gas, electricity and hydrogen from renewable sources shall be considered only once for the purposes of calculating the share of gross final consumption of energy from renewable sources.

Subject to the second subparagraph of Article 29(1), biofuels, bioliquids and biomass fuels that do not fulfil the sustainability and greenhouse gas emissions saving criteria laid down in Article 29(2) to (7) and (10) shall not be taken into account.

2 For the purposes of point (a) of the first subparagraph of paragraph 1, gross final consumption of electricity from renewable sources shall be calculated as the quantity of electricity produced in a Member State from renewable sources, including the production of electricity from renewables self-consumers and renewable energy communities and excluding the production of electricity in pumped storage units from water that has previously been pumped uphill.

In multi-fuel plants using renewable and non-renewable sources, only the part of electricity produced from renewable sources shall be taken into account. For the purposes of that calculation, the contribution of each energy source shall be calculated on the basis of its energy content.

The electricity generated by hydropower and wind power shall be accounted for in accordance with the normalisation rules set out in Annex II.

3 For the purposes of point (b) of the first subparagraph of paragraph 1, gross final consumption of energy from renewable sources in the heating and cooling sector shall be calculated as the quantity of district heating and cooling produced in a Member State from renewable sources, plus the consumption of other energy from renewable sources in industry, households, services, agriculture, forestry and fisheries, for heating, cooling and processing purposes.

In multi-fuel plants using renewable and non-renewable sources, only the part of heating and cooling produced from renewable sources shall be taken into account. For the purposes of that calculation, the contribution of each energy source shall be calculated on the basis of its energy content.

Ambient and geothermal energy used for heating and cooling by means of heat pumps and district cooling systems shall be taken into account for the purposes of point (b) of the first subparagraph of paragraph 1, provided that the final energy output significantly exceeds the primary energy input required to drive the heat pumps. The quantity of heat or cold to be considered to be energy from renewable sources for the purposes of this Directive shall be calculated in accordance with the methodology set out in Annex VII and shall take into account energy use in all end-use sectors.

Thermal energy generated by passive energy systems, under which lower energy consumption is achieved passively through building design or from heat generated by energy from non-renewable sources, shall not be taken into account for the purposes of point (b) of the first subparagraph of paragraph 1.

By 31 December 2021, the Commission shall adopt delegated acts in accordance with Article 35 to supplement this Directive by establishing a methodology for calculating the quantity of renewable energy used for cooling and district cooling and to amend Annex VII.

That methodology shall include minimum seasonal performance factors for heat pumps operating in reverse mode.

4 For the purposes of point (c) of the first subparagraph of paragraph 1, the following requirements shall apply:

a Final consumption of energy from renewable sources in the transport sector shall be calculated as the sum of all biofuels, biomass fuels and renewable liquid and gaseous transport fuels of non-biological origin consumed in the transport sector. However, renewable liquid and gaseous transport fuels of non-biological origin that are produced from renewable electricity shall be considered to be part of the calculation pursuant to point (a) of the first subparagraph of paragraph 1 only when calculating the quantity of electricity produced in a Member State from renewable sources.

b For the calculation of final consumption of energy in the transport sector, the values regarding the energy content of transport fuels, as set out in Annex III, shall be used. For the determination of the energy content of transport fuels not included in Annex III, Member States shall use the relevant European Standards Organisation (ESO) standards in order to determine the calorific values of fuels. Where no ESO standard has been adopted for that purpose, Member States shall use the relevant International Organization for Standardisation (ISO) standards.

5 The share of energy from renewable sources shall be calculated as the gross final consumption of energy from renewable sources divided by the gross final consumption of energy from all energy sources, expressed as a percentage.

For the purposes of the first subparagraph of this paragraph, the sum referred to in the first subparagraph of paragraph 1 of this Article shall be adjusted in accordance with Articles 8, 10, 12 and 13.

In calculating a Member State's gross final consumption of energy for the purposes of measuring its compliance with the targets and indicative trajectory laid down in this Directive, the amount of energy consumed in aviation shall, as a proportion of that Member State's gross final consumption of energy, be considered to be no more than 6,18 %. For Cyprus and Malta the amount of energy consumed in aviation shall, as a proportion of those Member States' gross final consumption of energy, be considered to be no more than 4,12 %.

6 The methodology and definitions used in the calculation of the share of energy from renewable sources shall be those provided for in Regulation (EC) No 1099/2008.

Member States shall ensure coherence of the statistical information used in calculating those sectoral and overall shares and of the statistical information reported to the Commission pursuant to that Regulation.

Article 8

Union renewable development platform and statistical transfers between Member States

1 Member States may agree on the statistical transfer of a specified amount of energy from renewable sources from one Member State to another Member State. The transferred quantity shall be:

a deducted from the amount of energy from renewable sources that is taken into account in calculating the renewable energy share of the Member State making the transfer for the purposes of this Directive; and

b added to the amount of energy from renewable sources that is taken into account in calculating the renewable energy share of the Member State accepting the transfer for the purposes of this Directive.

2 In order to facilitate the achievement of the Union target set in Article 3(1) of this Directive and of each Member State's contribution to that target in accordance with Article 3(2) of this Directive, and to facilitate statistical transfers in accordance with paragraph 1 of this Article, the Commission shall establish a Union renewable development platform (‘URDP’). Member States may, on a voluntary basis, submit to the URDP annual data on their national contributions to the Union target or any benchmark set for monitoring progress in Regulation (EU) 2018/1999, including the amount by which they expect to fall short of or exceed their contribution, and an indication of the price at which they would accept to transfer any excess production of energy from renewable sources from or to another Member State. The price of those transfers shall be set on a case-by-case basis based on the URDP demand-and-supply matching mechanism.

3 The Commission shall ensure that the URDP is able to match the demand for and supply of the amounts of energy from renewable sources that are taken into account in the calculation of the renewable energy share of a Member State based on prices or other criteria specified by the Member State accepting the transfer.

The Commission is empowered to adopt delegated acts in accordance with Article 35 to supplement this Directive by establishing the URDP and setting the conditions for the finalisation of transfers as referred to in paragraph 5 of this Article.

4 The arrangements referred to in paragraphs 1 and 2 may have a duration of one or more calendar years. Such arrangements shall be notified to the Commission or finalised on the URDP not later than 12 months after the end of each year in which they have effect. The information sent to the Commission shall include the quantity and price of the energy involved. For transfers finalised on the URDP, the parties involved and the information on the particular transfer shall be disclosed to the public.

5 Transfers shall become effective after all Member States involved in the transfer have notified the transfer to the Commission or after all clearing conditions are met on the URDP, as applicable.

Article 9

Joint projects between Member States

1 Two or more Member States may cooperate on all types of joint projects with regard to the production of electricity, heating or cooling from renewable sources. Such cooperation may involve private operators.

2 Member States shall notify the Commission of the proportion or amount of electricity, heating or cooling from renewable sources produced by any joint project in their territory that became operational after 25 June 2009, or by the increased capacity of an installation that was refurbished after that date, which is to be regarded as counting towards the renewable energy share of another Member State for the purposes of this Directive.

3 The notification referred to in paragraph 2 shall:

a describe the proposed installation or identify the refurbished installation;

b specify the proportion or amount of electricity or heating or cooling produced from the installation which is to be regarded as counting towards the renewable energy share of the other Member State;

c identify the Member State in whose favour the notification is being made; and

d specify the period, in whole calendar years, during which the electricity or heating or cooling produced by the installation from renewable sources is to be regarded as counting towards the renewable energy share of the other Member State.

4 The duration of a joint project as referred to in this Article may extend beyond 2030.

5 A notification made under this Article shall not be varied or withdrawn without the joint agreement of the Member State making the notification and the Member State identified in accordance with point (c) of paragraph 3.

6 The Commission shall, upon the request of the Member States concerned, facilitate the establishment of joint projects between Member States, in particular via dedicated technical assistance and project development assistance.

Article 10

Effects of joint projects between Member States

1 Within three months of the end of each year falling within the period referred to in point (d) of Article 9(3), the Member State that made the notification under Article 9 shall issue a letter of notification stating:

a the total amount of electricity or heating or cooling produced from renewable sources during that year by the installation which was the subject of the notification under Article 9; and

b the amount of electricity or heating or cooling produced from renewable sources during that year by that installation which is to count towards the renewable energy share of another Member State in accordance with the terms of the notification.

2 The notifying Member State shall submit the letter of notification to the Member State in whose favour the notification was made and to the Commission.

3 For the purposes of this Directive, the amount of electricity or heating or cooling from renewable sources notified in accordance with point (b) of paragraph 1 shall be:

a deducted from the amount of electricity or heating or cooling from renewable sources that is taken into account in calculating the renewable energy share of the Member State issuing the letter of notification pursuant to paragraph 1; and

b added to the amount of electricity or heating or cooling from renewable sources that is taken into account in calculating the renewable energy share of the Member State receiving the letter of notification pursuant to paragraph 2.

Article 11

Joint projects between Member States and third countries

1 One or more Member States may cooperate with one or more third countries on all types of joint projects with regard to the production of electricity from renewable sources. Such cooperation may involve private operators and shall take place in full respect of international law.

2 Electricity from renewable sources produced in a third country shall be taken into account for the purposes of calculating the renewable energy shares of the Member States only where the following conditions are met:

a the electricity is consumed in the Union, which is deemed to be met where:

(i) an equivalent amount of electricity to the electricity accounted for has been firmly nominated to the allocated interconnection capacity by all responsible transmission system operators in the country of origin, the country of destination and, if relevant, each third country of transit;

(ii) an equivalent amount of electricity to the electricity accounted for has been firmly registered in the schedule of balance by the responsible transmission system operator on the Union side of an interconnector; and

(iii) the nominated capacity and the production of electricity from renewable sources by the installation referred to in point (b) refer to the same period of time;

b the electricity is produced by an installation that became operational after 25 June 2009 or by the increased capacity of an installation that was refurbished after that date, under a joint project as referred to in paragraph 1;

c the amount of electricity produced and exported has not received support from a support scheme of a third country other than investment aid granted to the installation; and

d the electricity has been produced in accordance with international law, in a third country that is a signatory to the Council of Europe Convention for the Protection of Human

Rights and Fundamental Freedoms, or other international conventions or treaties on human rights.

3 For the purposes of paragraph 4, Member States may apply to the Commission for account to be taken of electricity from renewable sources produced and consumed in a third country, in the context of the construction of an interconnector with a very long lead-time between a Member State and a third country where the following conditions are met:

a construction of the interconnector started by 31 December 2026;

b it is not possible for the interconnector to become operational by 31 December 2030;

c it is possible for the interconnector to become operational by 31 December 2032;

d after it becomes operational, the interconnector will be used for the export to the Union, in accordance with paragraph 2, of electricity from renewable sources;

e the application relates to a joint project that fulfils the criteria set out in points (b) and (c) of paragraph 2 and that will use the interconnector after it becomes operational, and to a quantity of electricity that is no greater than the quantity that will be exported to the Union after the interconnector becomes operational.

4 The proportion or amount of electricity produced by any installation in the territory of a third country, which is to be regarded as counting towards the renewable energy share of one or more Member States for the purposes of this Directive, shall be notified to the Commission. When more than one Member State is concerned, the distribution between Member States of that proportion or amount shall be notified to the Commission. The proportion or amount shall not exceed the proportion or amount actually exported to, and consumed in, the Union, shall correspond to the amount referred to in point (a)(i) and (ii) of paragraph 2 and shall meet the conditions set out in point (a) of that paragraph. The notification shall be made by each Member State towards whose overall national target the proportion or amount of electricity is to count.

5 The notification referred to in paragraph 4 shall:

a describe the proposed installation or identify the refurbished installation;

b specify the proportion or amount of electricity produced from the installation which is to be regarded as counting towards the renewable energy share of a Member State as well as, subject to confidentiality requirements, the corresponding financial arrangements;

c specify the period, in whole calendar years, during which the electricity is to be regarded as counting towards the renewable energy share of the Member State; and

d include a written acknowledgement of points (b) and (c) by the third country in whose territory the installation is to become operational and an indication of the proportion or amount of electricity produced by the installation which will be used domestically by that third country.

6 The duration of a joint project as referred to in this Article may extend beyond 2030.

7 A notification made under this Article shall be varied or withdrawn only where there is a joint agreement between the Member State making the notification and the third country that has acknowledged the joint project in accordance with point (d) of paragraph 5.

8 Member States and the Union shall encourage the relevant bodies of the Energy Community to take, in conformity with the Energy Community Treaty, the measures necessary to allow the Contracting Parties to apply the provisions on cooperation between Member States laid down in this Directive.

Article 12

Effects of joint projects between Member States and third countries

1 Within 12 months of the end of each year falling within the period specified under point (c) of Article 11(5), the notifying Member State shall issue a letter of notification stating:

a the total amount of electricity produced from renewable sources during that year by the installation which was the subject of the notification under Article 11;

b the amount of electricity produced from renewable sources during that year by that installation which is to count towards its renewable energy share in accordance with the terms of the notification under Article 11; and

c evidence of compliance with the conditions laid down in Article 11(2).

2 The Member State referred to in paragraph 1 shall submit the letter of notification to the Commission and to the third country that has acknowledged the project in accordance with point (d) of Article 11(5).

3 For the purposes of calculating the renewable energy shares under this Directive, the amount of electricity from renewable sources notified in accordance with point (b) of paragraph 1 shall be added to the amount of energy from renewable sources that is taken into account in calculating the renewable energy shares of the Member State issuing the letter of notification.

Article 13

Joint support schemes

1 Without prejudice to the obligations of Member States under Article 5, two or more Member States may decide, on a voluntary basis, to join or partly coordinate their national support schemes. In such cases, a certain amount of energy from renewable sources produced in the territory of one participating Member State may count towards the renewable energy share of another participating Member State, provided that the Member States concerned:

a make a statistical transfer of specified amounts of energy from renewable sources from one Member State to another Member State in accordance with Article 8; or

b set up a distribution rule agreed by participating Member States that allocates amounts of energy from renewable sources between the participating Member States.

A distribution rule as referred to in point (b) of the first subparagraph shall be notified to the Commission not later than three months after the end of the first year in which it takes effect.

2 Within three months of the end of each year, each Member State that has made a notification under the second subparagraph of paragraph 1 shall issue a letter of notification stating the total amount of electricity or heating or cooling from renewable sources produced during the year which is to be the subject of the distribution rule.

3 For the purposes of calculating the renewable energy shares under this Directive, the amount of electricity or heating or cooling from renewable sources notified in accordance with paragraph 2 shall be reallocated between the Member States concerned in accordance with the notified distribution rule.

4 The Commission shall disseminate guidelines and best practices, and, upon the request of the Member States concerned, facilitate the establishment of joint support schemes between Member States.

Article 14

Capacity increases

For the purposes of Article 9(2) and point (b) of Article 11(2), units of energy from renewable sources imputable to an increase in the capacity of an installation shall be treated as if they were produced by a separate installation becoming operational at the moment at which the increase of capacity occurred.

Article 15

Administrative procedures, regulations and codes

1 Member States shall ensure that any national rules concerning the authorisation, certification and licensing procedures that are applied to plants and associated transmission and distribution networks for the production of electricity, heating or cooling from renewable sources, to the process of transformation of biomass into biofuels, bioliquids, biomass fuels or other energy products, and to renewable liquid and gaseous transport fuels of non-biological origin are proportionate and necessary and contribute to the implementation of the energy efficiency first principle.

Member States shall, in particular, take the appropriate steps to ensure that:

a administrative procedures are streamlined and expedited at the appropriate administrative level and predictable timeframes are established for the procedures referred to in the first subparagraph;

b rules concerning authorisation, certification and licensing are objective, transparent and proportionate, do not discriminate between applicants and take fully into account the particularities of individual renewable energy technologies;

c administrative charges paid by consumers, planners, architects, builders and equipment and system installers and suppliers are transparent and cost-related; and

d simplified and less burdensome authorisation procedures, including a simple-notification procedure, are established for decentralised devices, and for producing and storing energy from renewable sources.

2 Member States shall clearly define any technical specifications which are to be met by renewable energy equipment and systems in order to benefit from support schemes. Where European standards exist, including eco-labels, energy labels and other technical reference systems established by the European standardisation bodies, such technical specifications shall be expressed in terms of those standards. Such technical specifications shall not prescribe where the equipment and systems are to be certified and shall not impede the proper functioning of the internal market.

3 Member States shall ensure that their competent authorities at national, regional and local level include provisions for the integration and deployment of renewable energy, including for renewables self-consumption and renewable energy communities, and the use of unavoidable waste heat and cold when planning, including early spatial planning, designing, building and renovating urban infrastructure, industrial, commercial or residential areas and energy infrastructure, including electricity, district heating and cooling, natural gas and

alternative fuel networks. Member States shall, in particular, encourage local and regional administrative bodies to include heating and cooling from renewable sources in the planning of city infrastructure where appropriate, and to consult the network operators to reflect the impact of energy efficiency and demand response programs as well as specific provisions on renewables self-consumption and renewable energy communities, on the infrastructure development plans of the operators.

4 Member States shall introduce appropriate measures in their building regulations and codes in order to increase the share of all kinds of energy from renewable sources in the building sector.

In establishing such measures or in their support schemes, Member States may take into account, where applicable, national measures relating to substantial increases in renewables self-consumption, in local energy storage and in energy efficiency, relating to cogeneration and relating to passive, low-energy or zero-energy buildings.

Member States shall, in their building regulations and codes or by other means with equivalent effect, require the use of minimum levels of energy from renewable sources in new buildings and in existing buildings that are subject to major renovation in so far as technically, functionally and economically feasible, and reflecting the results of the cost-optimal calculation carried out pursuant to Article 5(2) of Directive 2010/31/EU, and in so far as this does not negatively affect indoor air quality. Member States shall permit those minimum levels to be fulfilled, *inter alia*, through efficient district heating and cooling using a significant share of renewable energy and waste heat and cold.

The requirements laid down in the first subparagraph shall apply to the armed forces only to the extent that its application does not cause any conflict with the nature and primary aim of the activities of the armed forces and with the exception of material used exclusively for military purposes.

5 Member States shall ensure that new public buildings, and existing public buildings that are subject to major renovation, at national, regional and local level, fulfil an exemplary role in the context of this Directive from 1 January 2012. Member States may, *inter alia*, allow that obligation to be fulfilled by complying with nearly zero-energy building provisions as required in Directive 2010/31/EU, or by providing for the roofs of public or mixed private-public buildings to be used by third parties for installations that produce energy from renewable sources.

6 With respect to their building regulations and codes, Member States shall promote the use of renewable heating and cooling systems and equipment that achieve a significant reduction of energy consumption. To that end, Member States shall use energy or eco-labels or other appropriate certificates or standards developed at national or Union level, where these exist, and ensure the provision of adequate information and advice on renewable, highly energy efficient alternatives as well as eventual financial instruments and incentives available in the case of replacement, with a view to promoting an increased replacement rate of old heating systems and an increased switch to solutions based on renewable energy in accordance with Directive 2010/31/EU.

7 Member States shall carry out an assessment of their potential of energy from renewable sources and of the use of waste heat and cold in the heating and cooling sector. That assessment shall, where appropriate, include spatial analysis of areas suitable for low-ecological-risk deployment and the potential for small-scale household projects and shall be included in the second comprehensive assessment required pursuant to Article 14(1) of Directive 2012/27/EU for the first time by 31 December 2020 and in the subsequent updates of the comprehensive assessments.

8 Member States shall assess the regulatory and administrative barriers to long-term renewables power purchase agreements, and shall remove unjustified barriers to, and facilitate the uptake of, such agreements. Member States shall ensure that those agreements are not subject to disproportionate or discriminatory procedures or charges.

Member States shall describe policies and measures facilitating the uptake of renewables power purchase agreements in their integrated national energy and climate plans and progress reports pursuant to Regulation (EU) 2018/1999.

Article 16

Organisation and duration of the permit-granting process

1 Member States shall set up or designate one or more contact points. Those contact points shall, upon request by the applicant, guide through and facilitate the entire administrative permit application and granting process. The applicant shall not be required to contact more than one contact point for the entire process. The permit-granting process shall cover the relevant administrative permits to build, repower and operate plants for the production of energy from renewable sources and assets necessary for their connection to the grid. The permit-granting process shall comprise all procedures from the acknowledgment of the receipt of the application to the transmission of the outcome of the procedure referred to in paragraph 2.

2 The contact point shall guide the applicant through the administrative permit application process in a transparent manner up to the delivery of one or several decisions by the responsible authorities at the end of the process, provide the applicant with all necessary information and involve, where appropriate, other administrative authorities. Applicants shall be allowed to submit relevant documents also in digital form.

3 The contact point shall make available a manual of procedures for developers of renewable energy production projects and shall provide that information also online, addressing distinctly also small-scale projects and renewables self-consumers projects. The online information shall indicate the contact point relevant to the applicant's application. If a Member State has more than one contact point, the online information shall indicate the contact point relevant to the applicant's application.

4 Without prejudice to paragraph 7, the permit-granting process referred to in paragraph 1 shall not exceed two years for power plants, including all relevant procedures of competent authorities. Where duly justified on the grounds of extraordinary circumstances, that two-year period may be extended by up to one year.

5 Without prejudice to paragraph 7, the permit-granting process shall not exceed one year for installations with an electrical capacity of less than 150 kW. Where duly justified on the grounds of extraordinary circumstances, that one-year period may be extended by up to one year.

Member States shall ensure that applicants have easy access to simple procedures for the settlement of disputes concerning the permit-granting process and the issuance of permits to build and operate renewable energy plants, including, where applicable, alternative dispute resolution mechanisms.

6 Member States shall facilitate the repowering of existing renewable energy plants by ensuring a simplified and swift permit-granting process. The length of that process shall not exceed one year.

Where duly justified on the grounds of extraordinary circumstances, such as on grounds of overriding safety reasons where the repowering project impacts substantially on the

grid or the original capacity, size or performance of the installation, that one-year period may be extended by up to one year.

7 The deadlines established in this Article shall apply without prejudice to obligations under applicable Union environmental law, to judicial appeals, remedies and other proceedings before a court or tribunal, and to alternative dispute resolution mechanisms, including complaints procedures, non-judicial appeals and remedies, and may be extended for the duration of such procedures.

8 Member States may establish a simple-notification procedure for grid connections for repowering projects as referred to in Article 17(1). Where Member States do so, repowering shall be permitted following notification to the relevant authority where no significant negative environmental or social impact is expected. That authority shall decide within six months of receipt of a notification whether this is sufficient.

Where the relevant authority decides that a notification is sufficient, it shall automatically grant the permit. Where that authority decides that the notification is not sufficient, it shall be necessary to apply for a new permit and the time-limits referred to in paragraph 6 shall apply.

Article 17

Simple-notification procedure for grid connections

1 Member States shall establish a simple-notification procedure for grid connections whereby installations or aggregated production units of renewables self-consumers and demonstration projects, with an electrical capacity of 10,8 kW or less, or equivalent for connections other than three-phase connections, are to be connected to the grid following a notification to the distribution system operator.

The distribution system operator may, within a limited period following the notification, reject the requested grid connection or propose an alternative grid connection point on justified grounds of safety concerns or technical incompatibility of the system components. In the case of a positive decision by the distribution system operator, or in the absence of a decision by the distribution system operator within one month following the notification, the installation or aggregated production unit may be connected.

2 Member States may allow a simple-notification procedure for installations or aggregated production units with an electrical capacity of above 10,8 kW and up to 50 kW, provided that grid stability, grid reliability and grid safety are maintained.

Article 18

Information and training

1 Member States shall ensure that information on support measures is made available to all relevant actors, such as consumers including low-income, vulnerable consumers, renewables self-consumers, renewable energy communities, builders, installers, architects, suppliers of heating, cooling and electricity equipment and systems, and suppliers of vehicles compatible with the use of renewable energy and of intelligent transport systems.

2 Member States shall ensure that information on the net benefits, cost and energy efficiency of equipment and systems for the use of heating, cooling and electricity from

renewable sources is made available either by the supplier of the equipment or system or by the competent authorities.

3 Member States shall ensure that certification schemes or equivalent qualification schemes are available for installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps. Those schemes may take into account existing schemes and structures as appropriate, and shall be based on the criteria laid down in Annex IV. Each Member State shall recognise the certification awarded by other Member States in accordance with those criteria.

4 Member States shall make information on certification schemes or equivalent qualification schemes as referred to in paragraph 3 available to the public. Member States may also make the list of installers who are qualified or certified in accordance with paragraph 3 available to the public.

5 Member States shall ensure that guidance is made available to all relevant actors, in particular to planners and architects so that they are able properly to consider the optimal combination of energy from renewable sources, of high-efficiency technologies, and of district heating and cooling when planning, designing, building and renovating industrial, commercial or residential areas.

6 Member States, where appropriate with the participation of local and regional authorities, shall develop suitable information, awareness-raising, guidance or training programmes in order to inform citizens of how to exercise their rights as active customers, and of the benefits and practicalities, including technical and financial aspects, of developing and using energy from renewable sources, including by renewables self-consumption or in the framework of renewable energy communities.

Article 19

Guarantees of origin for energy from renewable sources

1 For the purposes of demonstrating to final customers the share or quantity of energy from renewable sources in an energy supplier's energy mix and in the energy supplied to consumers under contracts marketed with reference to the consumption of energy from renewable sources, Member States shall ensure that the origin of energy from renewable sources can be guaranteed as such within the meaning of this Directive, in accordance with objective, transparent and non-discriminatory criteria.

2 To that end, Member States shall ensure that a guarantee of origin is issued in response to a request from a producer of energy from renewable sources, unless Member States decide, for the purposes of accounting for the market value of the guarantee of origin, not to issue such a guarantee of origin to a producer that receives financial support from a support scheme. Member States may arrange for guarantees of origin to be issued for energy from non-renewable sources. Issuance of guarantees of origin may be made subject to a minimum capacity limit. A guarantee of origin shall be of the standard size of 1 MWh. No more than one guarantee of origin shall be issued in respect of each unit of energy produced.

Member States shall ensure that the same unit of energy from renewable sources is taken into account only once.

Member States shall ensure that when a producer receives financial support from a support scheme, the market value of the guarantee of origin for the same production is taken into account appropriately in the relevant support scheme.

It shall be presumed that the market value of the guarantee of origin has been taken into account appropriately in any of the following cases:

a where the financial support is granted by way of a tendering procedure or a tradable green certificate system;

b where the market value of the guarantees of origin is administratively taken into account in the level of financial support; or

c where the guarantees of origin are not issued directly to the producer but to a supplier or consumer who buys the energy from renewable sources either in a competitive setting or in a long-term renewables power purchase agreement.

In order to take into account the market value of the guarantee of origin, Member States may, *inter alia*, decide to issue a guarantee of origin to the producer and immediately cancel it.

The guarantee of origin shall have no function in terms of a Member State's compliance with Article 3. Transfers of guarantees of origin, separately or together with the physical transfer of energy, shall have no effect on the decision of Member States to use statistical transfers, joint projects or joint support schemes for compliance with Article 3 or on the calculation of the gross final consumption of energy from renewable sources in accordance with Article 7.

3 For the purposes of paragraph 1, guarantees of origin shall be valid for 12 months after the production of the relevant energy unit. Member States shall ensure that all guarantees of origin that have not been cancelled expire at the latest 18 months after the production of the energy unit. Member States shall include expired guarantees of origin in the calculation of their residual energy mix.

4 For the purposes of disclosure referred to in paragraphs 8 and 13, Member States shall ensure that energy companies cancel guarantees of origin at the latest six months after the end of the validity of the guarantee of origin.

5 Member States or designated competent bodies shall supervise the issuance, transfer and cancellation of guarantees of origin. The designated competent bodies shall not have overlapping geographical responsibilities, and shall be independent of production, trade and supply activities.

6 Member States or the designated competent bodies shall put in place appropriate mechanisms to ensure that guarantees of origin are issued, transferred and cancelled electronically and are accurate, reliable and fraud-resistant. Member States and designated competent bodies shall ensure that the requirements they impose comply with the standard CEN - EN 16325.

7 A guarantee of origin shall specify at least:

a the energy source from which the energy was produced and the start and end dates of production;

b whether it relates to:

(i) electricity;

(ii) gas, including hydrogen; or

(iii) heating or cooling;

c the identity, location, type and capacity of the installation where the energy was produced;

d whether the installation has benefited from investment support and whether the unit of energy has benefited in any other way from a national support scheme, and the type of support scheme;

e the date on which the installation became operational; and

f the date and country of issue and a unique identification number.

Simplified information may be specified on guarantees of origin from installations of less than 50 kW.

8 Where an electricity supplier is required to demonstrate the share or quantity of energy from renewable sources in its energy mix for the purposes of point (a) of Article 3(9) of Directive 2009/72/EC, it shall do so by using guarantees of origin except:

a as regards the share of its energy mix corresponding to non-tracked commercial offers, if any, for which the supplier may use the residual mix; or

b where a Member State decides not to issue guarantees of origin to a producer that receives financial support from a support scheme.

Where Member States have arranged to have guarantees of origin for other types of energy, suppliers shall use for disclosure the same type of guarantees of origin as the energy supplied. Likewise, guarantees of origin created pursuant to Article 14(10) of Directive 2012/27/EU may be used to substantiate any requirement to demonstrate the quantity of electricity produced from high-efficiency cogeneration. For the purposes of paragraph 2 of this Article, where electricity is generated from high-efficiency cogeneration using renewable sources, only one guarantee of origin specifying both characteristics may be issued.

9 Member States shall recognise guarantees of origin issued by other Member States in accordance with this Directive exclusively as evidence of the elements referred to in paragraph 1 and points (a) to (f) of the first subparagraph of paragraph 7. A Member State may refuse to recognise a guarantee of origin only where it has well-founded doubts about its accuracy, reliability or veracity. The Member State shall notify the Commission of such a refusal and its justification.

10 If the Commission finds that a refusal to recognise a guarantee of origin is unfounded, the Commission may adopt a decision requiring the Member State in question to recognise it.

11 Member States shall not recognise guarantees of origins issued by a third country except where the Union has concluded an agreement with that third country on mutual recognition of guarantees of origin issued in the Union and compatible guarantees of origin systems established in that third country, and only where there is direct import or export of energy.

12 A Member State may, in accordance with Union law, introduce objective, transparent and non-discriminatory criteria for the use of guarantees of origin in accordance with the obligations laid down in Article 3(9) of Directive 2009/72/EC.

13 The Commission shall adopt a report assessing options to establish a Union-wide green label with a view to promoting the use of renewable energy coming from new installations. Suppliers shall use the information contained in guarantees of origin to demonstrate compliance with the requirements of such a label.

Article 20

Access to and operation of the grids

1 Where relevant, Member States shall assess the need to extend existing gas network infrastructure to facilitate the integration of gas from renewable sources.

2 Where relevant, Member States shall require transmission system operators and distribution system operators in their territory to publish technical rules in accordance with Article 8 of Directive 2009/73/EC, in particular regarding network connection rules that include gas quality, gas odoration and gas pressure requirements. Member States shall also require transmission and distribution system operators to publish the connection tariffs to connect gas from renewable sources based on objective, transparent and non-discriminatory criteria.

3 Subject to their assessment included in the integrated national energy and climate plans in accordance with Annex I to Regulation (EU) 2018/1999 on the necessity to build new infrastructure for district heating and cooling from renewable sources in order to achieve the Union target set in Article 3(1) of this Directive, Member States shall, where relevant, take the necessary steps with a view to developing a district heating and cooling infrastructure to accommodate the development of heating and cooling from large biomass, solar energy, ambient energy and geothermal energy facilities and from waste heat and cold.

Article 21

Renewables self-consumers

1 Member States shall ensure that consumers are entitled to become renewables self-consumers, subject to this Article.

2 Member States shall ensure that renewables self-consumers, individually or through aggregators, are entitled:

a to generate renewable energy, including for their own consumption, store and sell their excess production of renewable electricity, including through renewables power purchase agreements, electricity suppliers and peer-to-peer trading arrangements, without being subject:

(i) in relation to the electricity that they consume from or feed into the grid, to discriminatory or disproportionate procedures and charges, and to network charges that are not cost-reflective;

(ii) in relation to their self-generated electricity from renewable sources remaining within their premises, to discriminatory or disproportionate procedures, and to any charges or fees;

b to install and operate electricity storage systems combined with installations generating renewable electricity for self-consumption without liability for any double charge, including network charges, for stored electricity remaining within their premises;

c to maintain their rights and obligations as final consumers;

d to receive remuneration, including, where applicable, through support schemes, for the self-generated renewable electricity that they feed into the grid, which reflects the market value of that electricity and which may take into account its long-term value to the grid, the environment and society.

3 Member States may apply non-discriminatory and proportionate charges and fees to renewables self-consumers, in relation to their self-generated renewable electricity remaining within their premises in one or more of the following cases:

a if the self-generated renewable electricity is effectively supported via support schemes, only to the extent that the economic viability of the project and the incentive effect of such support are not undermined;

b from 1 December 2026, if the overall share of self-consumption installations exceeds 8 % of the total installed electricity capacity of a Member State, and if it is demonstrated, by means of a cost-benefit analysis performed by the national regulatory authority of that Member State, which is conducted by way of an open, transparent and participatory process, that the provision laid down in point (a)(ii) of paragraph 2 either results in a significant disproportionate burden on the long-term financial sustainability of the electric system, or creates an incentive exceeding what is objectively needed to achieve cost-effective deployment of renewable energy, and that such burden or incentive cannot be minimised by taking other reasonable actions; or

c if the self-generated renewable electricity is produced in installations with a total installed electrical capacity of more than 30 kW.

4 Member States shall ensure that renewables self-consumers located in the same building, including multi-apartment blocks, are entitled to engage jointly in activities referred to in paragraph 2 and that they are permitted to arrange sharing of renewable energy that is produced on their site or sites between themselves, without prejudice to the network charges and other relevant charges, fees, levies and taxes applicable to each renewables self-consumer. Member States may differentiate between individual renewables self-consumers and jointly acting renewables self-consumers. Any such differentiation shall be proportionate and duly justified.

5 The renewables self-consumer's installation may be owned by a third party or managed by a third party for installation, operation, including metering and maintenance, provided that the third party remains subject to the renewables self-consumer's instructions. The third party itself shall not be considered to be a renewables self-consumer.

6 Member States shall put in place an enabling framework to promote and facilitate the development of renewables self-consumption based on an assessment of the existing unjustified barriers to, and of the potential of, renewables self-consumption in their territories and energy networks. That enabling framework shall, *inter alia*:

a address accessibility of renewables self-consumption to all final customers, including those in low-income or vulnerable households;

b address unjustified barriers to the financing of projects in the market and measures to facilitate access to finance;

c address other unjustified regulatory barriers to renewables self-consumption, including for tenants;

d address incentives to building owners to create opportunities for renewables self-consumption, including for tenants;

e grant renewables self-consumers, for self-generated renewable electricity that they feed into the grid, non-discriminatory access to relevant existing support schemes as well as to all electricity market segments;

f ensure that renewables self-consumers contribute in an adequate and balanced way to the overall cost sharing of the system when electricity is fed into the grid.

Member States shall include a summary of the policies and measures under the enabling framework and an assessment of their implementation respectively in their integrated

national energy and climate plans and progress reports pursuant to Regulation (EU) 2018/1999.

7 This Article shall apply without prejudice to Articles 107 and 108 TFEU.

Article 22

Renewable energy communities

1 Member States shall ensure that final customers, in particular household customers, are entitled to participate in a renewable energy community while maintaining their rights or obligations as final customers, and without being subject to unjustified or discriminatory conditions or procedures that would prevent their participation in a renewable energy community, provided that for private undertakings, their participation does not constitute their primary commercial or professional activity.

2 Member States shall ensure that renewable energy communities are entitled to:

a produce, consume, store and sell renewable energy, including through renewables power purchase agreements;

b share, within the renewable energy community, renewable energy that is produced by the production units owned by that renewable energy community, subject to the other requirements laid down in this Article and to maintaining the rights and obligations of the renewable energy community members as customers;

c access all suitable energy markets both directly or through aggregation in a non-discriminatory manner.

3 Member States shall carry out an assessment of the existing barriers and potential of development of renewable energy communities in their territories.

4 Member States shall provide an enabling framework to promote and facilitate the development of renewable energy communities. That framework shall ensure, *inter alia*, that:

a unjustified regulatory and administrative barriers to renewable energy communities are removed;

b renewable energy communities that supply energy or provide aggregation or other commercial energy services are subject to the provisions relevant for such activities;

c the relevant distribution system operator cooperates with renewable energy communities to facilitate energy transfers within renewable energy communities;

d renewable energy communities are subject to fair, proportionate and transparent procedures, including registration and licensing procedures, and cost-reflective network charges, as well as relevant charges, levies and taxes, ensuring that they contribute, in an adequate, fair and balanced way, to the overall cost sharing of the system in line with a transparent cost-benefit analysis of distributed energy sources developed by the national competent authorities;

e renewable energy communities are not subject to discriminatory treatment with regard to their activities, rights and obligations as final customers, producers, suppliers, distribution system operators, or as other market participants;

f the participation in the renewable energy communities is accessible to all consumers, including those in low-income or vulnerable households;

g tools to facilitate access to finance and information are available;

h regulatory and capacity-building support is provided to public authorities in enabling and setting up renewable energy communities, and in helping authorities to participate directly;

i rules to secure the equal and non-discriminatory treatment of consumers that participate in the renewable energy community are in place.

5 The main elements of the enabling framework referred to in paragraph 4, and of its implementation, shall be part of the updates of the Member States' integrated national energy and climate plans and progress reports pursuant to Regulation (EU) 2018/1999.

6 Member States may provide for renewable energy communities to be open to cross-border participation.

7 Without prejudice to Articles 107 and 108 TFEU, Member States shall take into account specificities of renewable energy communities when designing support schemes in order to allow them to compete for support on an equal footing with other market participants.

Article 23

Mainstreaming renewable energy in heating and cooling

1 In order to promote the use of renewable energy in the heating and cooling sector, each Member State shall endeavour to increase the share of renewable energy in that sector by an indicative 1,3 percentage points as an annual average calculated for the periods 2021 to 2025 and 2026 to 2030, starting from the share of renewable energy in the heating and cooling sector in 2020, expressed in terms of national share of final energy consumption and calculated in accordance with the methodology set out in Article 7, without prejudice to paragraph 2 of this Article. That increase shall be limited to an indicative 1,1 percentage points for Member States where waste heat and cold is not used. Member States shall, where appropriate, prioritise the best available technologies.

2 For the purposes of paragraph 1, when calculating its share of renewable energy in the heating and cooling sector and its average annual increase in accordance with that paragraph, each Member State:

a may count waste heat and cold, subject to a limit of 40 % of the average annual increase;

b where its share of renewable energy in the heating and cooling sector is above 60 %, may count any such share as fulfilling the average annual increase; and

c where its share of renewable energy in the heating and cooling sector is above 50 % and up to 60 %, may count any such share as fulfilling half of the average annual increase.

When deciding which measures to adopt for the purposes of deploying energy from renewable sources in the heating and cooling sector, Member States may take into account cost-effectiveness reflecting structural barriers arising from the high share of natural gas or cooling, or from a dispersed settlement structure with low population density.

Where those measures would result in a lower average annual increase than that referred to in paragraph 1 of this Article, Member States shall make it public, for instance by the means of their integrated national energy and climate progress reports pursuant to Article 20 of Regulation (EU) 2018/1999, and provide the Commission with reasons, including of choice of measures as referred to the second subparagraph of this paragraph.

3 On the basis of objective and non-discriminatory criteria, Member States may establish and make public a list of measures and may designate and make public the implementing entities, such as fuel suppliers, public or professional bodies, which are to contribute to the average annual increase referred to in paragraph 1.

4 Member States may implement the average annual increase referred to in paragraph 1 by means, *inter alia*, of one or more of the following options:

a physical incorporation of renewable energy or waste heat and cold in the energy and energy fuel supplied for heating and cooling;

b direct mitigation measures such as the installation of highly efficient renewable heating and cooling systems in buildings, or the use of renewable energy or waste heat and cold in industrial heating and cooling processes;

c indirect mitigation measures covered by tradable certificates proving compliance with the obligation laid down in paragraph 1 through support to indirect mitigation measures, carried out by another economic operator such as an independent renewable technology installer or energy service company providing renewable installation services;

d other policy measures, with an equivalent effect, to reach the average annual increase referred to in paragraph 1, including fiscal measures or other financial incentives.

When adopting and implementing the measures referred to in the first subparagraph, Member States shall aim to ensure the accessibility of measures to all consumers, in particular those in low-income or vulnerable households, who would not otherwise possess sufficient up-front capital to benefit.

5 Member States may use the structures established under the national energy savings obligations set out in Article 7 of Directive 2012/27/EU to implement and monitor the measures referred to in paragraph 3 of this Article.

6 Where entities are designated under paragraph 3, Member States shall ensure that the contribution by those designated entities is measurable and verifiable and that the designated entities report annually on:

a the total amount of energy supplied for heating and cooling;

b the total amount of renewable energy supplied for heating and cooling;

c the amount of waste heat and cold supplied for heating and cooling;

d the share of renewable energy and waste heat and cold in the total amount of energy supplied for heating and cooling; and

e the type of renewable energy source.

Article 24

District heating and cooling

1 Member States shall ensure that information on the energy performance and the share of renewable energy in their district heating and cooling systems is provided to final consumers in an easily accessible manner, such as on the suppliers' websites, on annual bills or upon request.

2 Member States shall lay down the necessary measures and conditions to allow customers of district heating or cooling systems which are not efficient district heating and cooling systems, or which are not such a system by 31 December 2025 on the basis of a plan approved by the competent authority, to disconnect by terminating or modifying their contract in order to produce heating or cooling from renewable sources themselves.

Where the termination of a contract is linked to physical disconnection, such a termination may be made conditional on compensation for the costs directly incurred as a result of the physical disconnection and for the undepreciated portion of assets needed to provide heat and cold to that customer.

3 Member States may restrict the right to disconnect by terminating or modifying a contract in accordance with paragraph 2 to customers who can demonstrate that the planned alternative supply solution for heating or cooling results in a significantly better energy performance. The energy-performance assessment of the alternative supply solution may be based on the energy performance certificate.

4 Member States shall lay down the necessary measures to ensure that district heating and cooling systems contribute to the increase referred to in Article 23(1) of this Directive by implementing at least one of the two following options:

a Endeavour to increase the share of energy from renewable sources and from waste heat and cold in district heating and cooling by at least one percentage point as an annual average calculated for the period 2021 to 2025 and for the period 2026 to 2030, starting from the share of energy from renewable sources and from waste heat and cold in district heating and cooling in 2020, expressed in terms of share of final energy consumption in district heating and cooling, by implementing measures that can be expected to trigger that average annual increase in years with normal climatic conditions.

   Member States with a share of energy from renewable sources and from waste heat and cold in district heating and cooling above 60 % may count any such share as fulfilling the average annual increase referred to in the first subparagraph of this point.

   Member States shall lay down the necessary measures to implement the average annual increase referred to in the first subparagraph of this point in their integrated national energy and climate plans pursuant to Annex I to Regulation (EU) 2018/1999.

b Ensure that operators of district heating or cooling systems are obliged to connect suppliers of energy from renewable sources and from waste heat and cold or are obliged to offer to connect and purchase heat or cold from renewable sources and from waste heat and cold from third-party suppliers based on non-discriminatory criteria set by the competent authority of the Member State concerned, where they need to do one or more of the following:

   (i) meet demand from new customers;

   (ii) replace existing heat or cold generation capacity;

   (iii) expand existing heat or cold generation capacity.

5 Where a Member State exercises the option referred to in point (b) of paragraph 4, an operator of a district heating or cooling system may refuse to connect and to purchase heat or cold from a third-party supplier where:

a the system lacks the necessary capacity due to other supplies of waste heat and cold, of heat or cold from renewable sources or of heat or cold produced by high-efficiency cogeneration;

b the heat or cold from the third-party supplier does not meet the technical parameters necessary to connect and ensure the reliable and safe operation of the district heating and cooling system; or

c the operator can demonstrate that providing access would lead to an excessive heat or cold cost increase for final customers compared to the cost of using the main local heat or cold supply with which the renewable source or waste heat and cold would compete.

Member States shall ensure that, when an operator of a district heating or cooling system refuses to connect a supplier of heating or cooling pursuant to the first subparagraph, information on the reasons for the refusal, as well as the conditions to be met and measures to be taken in the system in order to enable the connection, is provided by that operator to the competent authority in accordance with paragraph 9.

6 Where a Member State exercises the option referred to in point (b) of paragraph 4, it may exempt operators of the following district heating and cooling systems from the application of that point:

a efficient district heating and cooling;

b efficient district heating and cooling that exploits high-efficiency cogeneration;

c district heating and cooling that, on the basis of a plan approved by the competent authority, is efficient district heating and cooling by 31 December 2025;

d district heating and cooling with a total rated thermal input below 20 MW.

7 The right to disconnect by terminating or modifying a contract in accordance with paragraph 2 may be exercised by individual customers, by joint undertakings formed by customers or by parties acting on behalf of customers. For multi-apartment blocks, such disconnection may be exercised only at a whole building level in accordance with the applicable housing law.

8 Member States shall require electricity distribution system operators to assess at least every four years, in cooperation with the operators of district heating or cooling systems in their respective area, the potential for district heating or cooling systems to provide balancing and other system services, including demand response and storing of excess electricity from renewable sources, and whether the use of the identified potential would be more resource- and cost-efficient than alternative solutions.

9 Member States shall ensure that the rights of consumers and the rules for operating district heating and cooling systems in accordance with this Article are clearly defined and enforced by the competent authority.

10 A Member State shall not be required to apply paragraphs 2 to 9 of this Article where:

a its share of district heating and cooling is less than or equal to 2 % of the overall consumption of energy in heating and cooling on 24 December 2018;

b its share of district heating and cooling is increased above 2 % by developing new efficient district heating and cooling based on its integrated national energy and climate plan pursuant to Annex I to Regulation (EU) 2018/1999 or the assessment referred to in Article 15(7) of this Directive; or

c its share of systems referred to in paragraph 6 of this Article constitutes over 90 % of total sales of its district heating and cooling.

Article 25

Mainstreaming renewable energy in the transport sector

1 In order to mainstream the use of renewable energy in the transport sector, each Member State shall set an obligation on fuel suppliers to ensure that the share of renewable energy within the final consumption of energy in the transport sector is at least 14 % by 2030 (minimum share) in accordance with an indicative trajectory set by the Member State and calculated in accordance with the methodology set out in this Article and in Articles 26 and 27. The Commission shall assess that obligation, with a view to submitting, by 2023, a legislative proposal to increase it in the event of further substantial costs reductions in the production of renewable energy, where necessary to meet the Union's international commitments for decarbonisation, or where justified on the grounds of a significant decrease in energy consumption in the Union.

Member States may exempt, or distinguish between, different fuel suppliers and different energy carriers when setting the obligation on the fuel suppliers, ensuring that

the varying degrees of maturity and the cost of different technologies are taken into account.

For the calculation of the minimum share referred to in the first subparagraph, Member States:

a shall take into account renewable liquid and gaseous transport fuels of non-biological origin also when they are used as intermediate products for the production of conventional fuels; and

b may take into account recycled carbon fuels.

Within the minimum share referred to in the first subparagraph, the contribution of advanced biofuels and biogas produced from the feedstock listed in Part A of Annex IX as a share of final consumption of energy in the transport sector shall be at least 0,2 % in 2022, at least 1 % in 2025 and at least 3,5 % in 2030.

Member States may exempt fuel suppliers supplying fuel in the form of electricity or renewable liquid and gaseous transport fuels of non-biological origin from the requirement to comply with the minimum share of advanced biofuels and biogas produced from the feedstock listed in Part A of Annex IX with respect to those fuels.

When setting the obligation referred to in the first and fourth subparagraphs to ensure the achievement of the share set out therein, Member States may do so, *inter alia*, by means of measures targeting volumes, energy content or greenhouse gas emissions, provided that it is demonstrated that the minimum shares referred to in the first and fourth subparagraphs are achieved.

2 The greenhouse gas emissions savings from the use of renewable liquid and gaseous transport fuels of non-biological origin shall be at least 70 % from 1 January 2021.

By 1 January 2021, the Commission shall adopt a delegated act in accordance with Article 35 to supplement this Directive by establishing appropriate minimum thresholds for greenhouse gas emissions savings of recycled carbon fuels through a life-cycle assessment that takes into account the specificities of each fuel.

Article 26

Specific rules for biofuels, bioliquids and biomass fuels produced from food and feed crops

1 For the calculation of a Member State's gross final consumption of energy from renewable sources referred to in Article 7 and the minimum share referred to in the first subparagraph of Article 25(1), the share of biofuels and bioliquids, as well as of biomass fuels consumed in transport, where produced from food and feed crops, shall be no more than one percentage point higher than the share of such fuels in the final consumption of energy in the road and rail transport sectors in 2020 in that Member State, with a maximum of 7 % of final consumption of energy in the road and rail transport sectors in that Member State.

Where that share is below 1 % in a Member State, it may be increased to a maximum of 2 % of the final consumption of energy in the road and rail transport sectors.

Member States may set a lower limit and may distinguish, for the purposes of Article 29(1), between different biofuels, bioliquids and biomass fuels produced from food and feed crops, taking into account best available evidence on indirect land-use change impact. Member States may, for example, set a lower limit for the share of biofuels, bioliquids and biomass fuels produced from oil crops.

Where the share of biofuels and bioliquids, as well as of biomass fuels consumed in transport, produced from food and feed crops in a Member State is limited to a share lower than 7 % or a Member State decides to limit the share further, that Member State may reduce the minimum share referred to in the first subparagraph of Article 25(1) accordingly, by a maximum of 7 percentage points.

2 For the calculation of a Member State's gross final consumption of energy from renewable sources referred to in Article 7 and the minimum share referred to in the first subparagraph of Article 25(1), the share of high indirect land-use change-risk biofuels, bioliquids or biomass fuels produced from food and feed crops for which a significant expansion of the production area into land with high-carbon stock is observed shall not exceed the level of consumption of such fuels in that Member State in 2019, unless they are certified to be low indirect land-use change-risk biofuels, bioliquids or biomass fuels pursuant to this paragraph.

From 31 December 2023 until 31 December 2030 at the latest, that limit shall gradually decrease to 0 %.

By 1 February 2019, the Commission shall submit to the European Parliament and to the Council a report on the status of worldwide production expansion of the relevant food and feed crops.

By 1 February 2019, the Commission shall adopt a delegated act in accordance with Article 35 to supplement this Directive by setting out the criteria for certification of low indirect land-use change-risk biofuels, bioliquids and biomass fuels and for determining the high indirect land-use change-risk feedstock for which a significant expansion of the production area into land with high-carbon stock is observed. The report and the accompanying delegated act shall be based on the best available scientific data.

By 1 September 2023, the Commission shall review the criteria laid down in the delegated act referred to in the fourth subparagraph based on the best available scientific data and shall adopt delegated acts in accordance with Article 35 to amend such criteria, where appropriate, and to include a trajectory to gradually decrease the contribution to the Union target set in Article 3(1) and to the minimum share referred to in the first subparagraph of Article 25(1), of high indirect land-use change-risk biofuels, bioliquids and biomass fuels produced from feedstock for which a significant expansion of the production into land with high-carbon stock is observed.

Article 27

Calculation rules with regard to the minimum shares of renewable energy in the transport sector

1 For the calculation of the minimum shares referred to in the first and fourth subparagraphs of Article 25(1), the following provisions shall apply:

a for the calculation of the denominator, that is the energy content of road- and rail-transport fuels supplied for consumption or use on the market, petrol, diesel, natural gas, biofuels, biogas, renewable liquid and gaseous transport fuels of non-biological origin, recycled carbon fuels and electricity supplied to the road and rail transport sectors, shall be taken into account;

b for the calculation of the numerator, that is the amount of energy from renewable sources consumed in the transport sector for the purposes of the first subparagraph of Article 25(1), the energy content of all types of energy from renewable sources supplied to all transport sectors, including renewable electricity supplied to the road and rail transport

sectors, shall be taken into account. Member States may also take into account recycled carbon fuels.

For the calculation of the numerator, the share of biofuels and biogas produced from the feedstock listed in Part B of Annex IX shall, except for in Cyprus and Malta, be limited to 1,7 % of the energy content of transport fuels supplied for consumption or use on the market. Member States may, where justified, modify that limit, taking into account the availability of feedstock. Any such modification shall be subject to approval by the Commission;

c for the calculation of both numerator and denominator, the values regarding the energy content of transport fuels set out in Annex III shall be used. For the determination of the energy content of transport fuels not included in Annex III, the Member States shall use the relevant ESO standards for the determination of the calorific values of fuels. Where no ESO standard has been adopted for that purpose, the relevant ISO standards shall be used. The Commission is empowered to adopt delegated acts in accordance with Article 35 to amend this Directive by adapting the energy content of transport fuels, as set out in Annex III, in accordance with scientific and technical progress.

2 For the purposes of demonstrating compliance with the minimum shares referred to in Article 25(1):

a the share of biofuels and biogas for transport produced from the feedstock listed in Annex IX may be considered to be twice its energy content;

b the share of renewable electricity shall be considered to be four times its energy content when supplied to road vehicles and may be considered to be 1,5 times its energy content when supplied to rail transport;

c with the exception of fuels produced from food and feed crops, the share of fuels supplied in the aviation and maritime sectors shall be considered to be 1,2 times their energy content.

3 For the calculation of the share of renewable electricity in the electricity supplied to road and rail vehicles for the purposes of paragraph 1 of this Article, Member States shall refer to the two-year period before the year in which the electricity is supplied in their territory.

By way of derogation from the first subparagraph of this paragraph, to determine the share of electricity for the purposes of paragraph 1 of this Article, in the case of electricity obtained from a direct connection to an installation generating renewable electricity and supplied to road vehicles, that electricity shall be fully counted as renewable.

In order to ensure that the expected increase in demand for electricity in the transport sector beyond the current baseline is met with additional renewable energy generation capacity, the Commission shall develop a framework on additionality in the transport sector and shall develop different options with a view to determining the baseline of Member States and measuring additionality.

For the purposes of this paragraph, where electricity is used for the production of renewable liquid and gaseous transport fuels of non-biological origin, either directly or for the production of intermediate products, the average share of electricity from renewable sources in the country of production, as measured two years before the year in question, shall be used to determine the share of renewable energy.

However, electricity obtained from direct connection to an installation generating renewable electricity may be fully counted as renewable electricity where it is used for

the production of renewable liquid and gaseous transport fuels of non-biological origin, provided that the installation:

a comes into operation after, or at the same time as, the installation producing the renewable liquid and gaseous transport fuels of non-biological origin; and

b is not connected to the grid or is connected to the grid but evidence can be provided that the electricity concerned has been supplied without taking electricity from the grid.

Electricity that has been taken from the grid may be counted as fully renewable provided that it is produced exclusively from renewable sources and the renewable properties and other appropriate criteria have been demonstrated, ensuring that the renewable properties of that electricity are claimed only once and only in one end-use sector.

By 31 December 2021, the Commission shall adopt a delegated act in accordance with Article 35 to supplement this Directive by 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 this paragraph.

Article 28

Other provisions on renewable energy in the transport sector

1 With a view to minimising the risk of single consignments being claimed more than once in the Union, Member States and the Commission shall strengthen cooperation among national systems and between national systems and voluntary schemes and verifiers established pursuant to Article 30, including, where appropriate, the exchange of data. Where the competent authority of one Member State suspects or detects a fraud, it shall, where appropriate, inform the other Member States.

2 The Commission shall ensure that a Union database is put in place to enable the tracing of liquid and gaseous transport fuels that are eligible for being counted towards the numerator referred to in point (b) of Article 27(1) or that are taken into account for the purposes referred to in points (a), (b), and (c) of the first subparagraph of Article 29(1). Member States shall require the relevant economic operators to enter into that database information on the transactions made and the sustainability characteristics of those fuels, including their life-cycle greenhouse gas emissions, starting from their point of production to the fuel supplier that places the fuel on the market. A Member State may set up a national database that is linked to the Union database ensuring that information entered is instantly transferred between the databases.

Fuel suppliers shall enter the information necessary to verify compliance with the requirements laid down in the first and fourth subparagraphs of Article 25(1) into the relevant database.

3 By 31 December 2021, Member States shall take measures to ensure the availability of fuels from renewable sources for transport including with regard to publicly accessible high-power recharging points and other refuelling infrastructure as provided for in their national policy frameworks in accordance with Directive 2014/94/EU.

4 Member States shall have access to the Union database referred to in paragraph 2 of this Article. They shall take measures to ensure that economic operators enter accurate information into the relevant database. The Commission shall require the schemes that are the subject of a decision pursuant to Article 30(4) of this Directive to verify compliance with that requirement when checking compliance with the sustainability criteria for biofuels, bioliquids and biomass fuels. It shall publish, every two years, aggregated information from the Union database pursuant to Annex VIII to Regulation (EU) 2018/1999.

5 By 31 December 2021, the Commission shall adopt delegated acts in accordance with Article 35 to supplement this Directive by specifying the methodology to determine the share of biofuel, and biogas for transport, resulting from biomass being processed with fossil fuels in a common process, and by specifying the methodology for assessing greenhouse gas emissions savings from renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuels, which shall ensure that credit for avoided emissions is not given for CO_2 the capture of which has already received an emission credit under other provisions of law.

6 By 25 June 2019 and every two years thereafter, the Commission shall review the list of feedstock set out in Parts A and B of Annex IX with a view to adding feedstock in accordance with the principles set out in the third subparagraph.

The Commission is empowered to adopt delegated acts in accordance with Article 35 to amend the list of feedstock set out in Parts A and B of Annex IX by adding, but not removing, feedstock. Feedstock that can be processed only with advanced technologies shall be added to Part A of Annex IX. Feedstock that can be processed into biofuels, or biogas for transport, with mature technologies shall be added to Part B of Annex IX.

Such delegated acts shall be based on an analysis of the potential of the raw material as feedstock for the production of biofuels and biogas for transport, taking into account all of the following:

a the principles of the circular economy and of the waste hierarchy established in Directive 2008/98/EC;

b the Union sustainability criteria laid down in Article 29(2) to (7);

c the need to avoid significant distortive effects on markets for (by-)products, wastes or residues;

d the potential for delivering substantial greenhouse gas emissions savings compared to fossil fuels based on a life-cycle assessment of emissions;

e the need to avoid negative impacts on the environment and biodiversity;

f the need to avoid creating an additional demand for land.

7 By 31 December 2025, in the context of the biennial assessment of progress made pursuant to Regulation (EU) 2018/1999, the Commission shall assess whether the obligation relating to advanced biofuels and biogas produced from feedstock listed in Part A of Annex IX laid down in the fourth subparagraph of Article 25(1) effectively stimulates innovation and ensures greenhouse gas emissions savings in the transport sector. The Commission shall analyse in that assessment whether the application of this Article effectively avoids double accounting of renewable energy.

The Commission shall, if appropriate, submit a proposal to amend the obligation relating to advanced biofuels and biogas produced from feedstock listed in Part A of Annex IX laid down in the fourth subparagraph of Article 25(1).

Article 29

Sustainability and greenhouse gas emissions saving criteria for biofuels, bioliquids and biomass fuels

1 Energy from biofuels, bioliquids and biomass fuels shall be taken into account for the purposes referred to in points (a), (b) and (c) of this subparagraph only if they fulfil the sustainability and the greenhouse gas emissions saving criteria laid down in paragraphs 2 to 7 and 10:

a contributing towards the Union target set in Article 3(1) and the renewable energy shares of Member States;

b measuring compliance with renewable energy obligations, including the obligation laid down in Article 25;

c eligibility for financial support for the consumption of biofuels, bioliquids and biomass fuels.

However, biofuels, bioliquids and biomass fuels produced from waste and residues, other than agricultural, aquaculture, fisheries and forestry residues, are required to fulfil only the greenhouse gas emissions saving criteria laid down in paragraph 10 in order to be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph. This subparagraph shall also apply to waste and residues that are first processed into a product before being further processed into biofuels, bioliquids and biomass fuels.

Electricity, heating and cooling produced from municipal solid waste shall not be subject to the greenhouse gas emissions saving criteria laid down in paragraph 10.

Biomass fuels shall fulfil the sustainability and greenhouse gas emissions saving criteria laid down in paragraphs 2 to 7 and 10 if used in installations producing electricity, heating and cooling or fuels with a total rated thermal input equal to or exceeding 20 MW in the case of solid biomass fuels, and with a total rated thermal input equal to or exceeding 2 MW in the case of gaseous biomass fuels. Member States may apply the sustainability and greenhouse gas emissions saving criteria to installations with lower total rated thermal input.

The sustainability and the greenhouse gas emissions saving criteria laid down in paragraphs 2 to 7 and 10 shall apply irrespective of the geographical origin of the biomass.

2 Biofuels, bioliquids and biomass fuels produced from waste and residues derived not from forestry but from agricultural land shall be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 only where operators or national authorities have monitoring or management plans in place in order to address the impacts on soil quality and soil carbon. Information about how those impacts are monitored and managed shall be reported pursuant to Article 30(3).

3 Biofuels, bioliquids and biomass fuels produced from agricultural biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall not be made from raw material obtained from land with a high biodiversity value, namely land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status:

a primary forest and other wooded land, namely forest and other wooded land of native species, where there is no clearly visible indication of human activity and the ecological processes are not significantly disturbed;

b highly biodiverse forest and other wooded land which is species-rich and not degraded, or has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;

c areas designated:

(i) by law or by the relevant competent authority for nature protection purposes; or

(ii) for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature, subject to their recognition in accordance with the first subparagraph of Article 30(4),

unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;

d highly biodiverse grassland spanning more than one hectare that is:

(i) natural, namely grassland that would remain grassland in the absence of human intervention and that maintains the natural species composition and ecological characteristics and processes; or

(ii) non-natural, namely grassland that would cease to be grassland in the absence of human intervention and that is species-rich and not degraded and has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the harvesting of the raw material is necessary to preserve its status as highly biodiverse grassland.

The Commission may adopt implementing acts further specifying the criteria by which to determine which grassland are to be covered by point (d) of the first subparagraph of this paragraph. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(3).

4 Biofuels, bioliquids and biomass fuels produced from agricultural biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall not be made from raw material obtained from land with high-carbon stock, namely land that had one of the following statuses in January 2008 and no longer has that status:

a wetlands, namely land that is covered with or saturated by water permanently or for a significant part of the year;

b continuously forested areas, namely land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30 %, or trees able to reach those thresholds *in situ*;

c land spanning more than one hectare with trees higher than five metres and a canopy cover of between 10 % and 30 %, or trees able to reach those thresholds *in situ*, unless evidence is provided that the carbon stock of the area before and after conversion is such that, when the methodology laid down in Part C of Annex V is applied, the conditions laid down in paragraph 10 of this Article would be fulfilled.

This paragraph shall not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008.

5 Biofuels, bioliquids and biomass fuels produced from agricultural biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall not be made from raw material obtained from land that was peatland in January 2008, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil.

6 Biofuels, bioliquids and biomass fuels produced from forest biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall meet the following criteria to minimise the risk of using forest biomass derived from unsustainable production:

a the country in which forest biomass was harvested has national or sub-national laws applicable in the area of harvest as well as monitoring and enforcement systems in place ensuring:

(i) the legality of harvesting operations;

(ii) forest regeneration of harvested areas;

(iii) that areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected;

(iv) that harvesting is carried out considering maintenance of soil quality and biodiversity with the aim of minimising negative impacts; and

(v) that harvesting maintains or improves the long-term production capacity of the forest;

b when evidence referred to in point (a) of this paragraph is not available, the biofuels, bioliquids and biomass fuels produced from forest biomass shall be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 if management systems are in place at forest sourcing area level ensuring:

(i) the legality of harvesting operations;

(ii) forest regeneration of harvested areas;

(iii) that areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected unless evidence is provided that the harvesting of that raw material does not interfere with those nature protection purposes;

(iv) that harvesting is carried out considering the maintenance of soil quality and biodiversity with the aim of minimising negative impacts; and

(v) that harvesting maintains or improves the long-term production capacity of the forest.

7 Biofuels, bioliquids and biomass fuels produced from forest biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall meet the following land-use, land-use change and forestry (LULUCF) criteria:

[[X1]a the country or regional economic integration organisation of origin of the forest biomass is a Party to the Paris Agreement and:

(i) it has submitted a nationally determined contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC), covering emissions and removals from agriculture, forestry and land use which ensures that changes in carbon stock associated with biomass harvest are accounted towards the country's commitment to reduce or limit greenhouse gas emissions as specified in the NDC; or

(ii) it has national or sub-national laws in place, in accordance with Article 5 of the Paris Agreement, applicable in the area of harvest, to conserve and enhance carbon stocks and sinks, and provides evidence that reported LULUCF-sector emissions do not exceed removals;**]**

b where evidence referred to in point (a) of this paragraph is not available, the biofuels, bioliquids and biomass fuels produced from forest biomass shall be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of

paragraph 1 if management systems are in place at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained, or strengthened over the long term.

8 By 31 January 2021, the Commission shall adopt implementing acts establishing the operational guidance on the evidence for demonstrating compliance with the criteria laid down in paragraphs 6 and 7 of this Article. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(3).

9 By 31 December 2026, the Commission shall assess whether the criteria laid down in paragraphs 6 and 7 effectively minimise the risk of using forest biomass derived from unsustainable production and address LULUCF criteria, on the basis of the available data.

The Commission shall, if appropriate, submit a legislative proposal to amend the criteria laid down in paragraphs 6 and 7 for the period after 2030.

10 The greenhouse gas emission savings from the use of biofuels, bioliquids and biomass fuels taken into account for the purposes referred to in paragraph 1 shall be:

a at least 50 % for biofuels, biogas consumed in the transport sector, and bioliquids produced in installations in operation on or before 5 October 2015;

b at least 60 % for biofuels, biogas consumed in the transport sector, and bioliquids produced in installations starting operation from 6 October 2015 until 31 December 2020;

c at least 65 % for biofuels, biogas consumed in the transport sector, and bioliquids produced in installations starting operation from 1 January 2021;

d at least 70 % for electricity, heating and cooling production from biomass fuels used in installations starting operation from 1 January 2021 until 31 December 2025, and 80 % for installations starting operation from 1 January 2026.

An installation shall be considered to be in operation once the physical production of biofuels, biogas consumed in the transport sector and bioliquids, and the physical production of heating and cooling and electricity from biomass fuels has started.

The greenhouse gas emission savings from the use of biofuels, biogas consumed in the transport sector, bioliquids and biomass fuels used in installations producing heating, cooling and electricity shall be calculated in accordance with Article 31(1).

11 Electricity from biomass fuels shall be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 only if it meets one or more of the following requirements:

a it is produced in installations with a total rated thermal input below 50 MW;

b for installations with a total rated thermal input from 50 to 100 MW, it is produced applying high-efficiency cogeneration technology, or, for electricity-only installations, meeting an energy efficiency level associated with the best available techniques (BAT-AEELs) as defined in Commission Implementing Decision (EU) 2017/1442[(5)];

c for installations with a total rated thermal input above 100 MW, it is produced applying high-efficiency cogeneration technology, or, for electricity-only installations, achieving an net-electrical efficiency of at least 36 %;

d it is produced applying Biomass CO_2 Capture and Storage.

For the purposes of points (a), (b) and (c) of the first subparagraph of paragraph 1 of this Article, electricity-only-installations shall be taken into account only if they do not use fossil fuels as a main fuel and only if there is no cost-effective potential for the

application of high-efficiency cogeneration technology according to the assessment in accordance with Article 14 of Directive 2012/27/EU.

For the purposes of points (a) and (b) of the first subparagraph of paragraph 1 of this Article, this paragraph shall apply only to installations starting operation or converted to the use of biomass fuels after 25 December 2021. For the purposes of point (c) of the first subparagraph of paragraph 1 of this Article, this paragraph shall be without prejudice to support granted under support schemes in accordance with Article 4 approved by 25 December 2021.

Member States may apply higher energy efficiency requirements than those referred in the first subparagraph to installations with lower rated thermal input.

The first subparagraph shall not apply to electricity from installations which are the object of a specific notification by a Member State to the Commission based on the duly substantiated existence of risks for the security of supply of electricity. Upon assessment of the notification, the Commission shall adopt a decision taking into account the elements included therein.

12 For the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 of this Article, and without prejudice to Articles 25 and 26, Member States shall not refuse to take into account, on other sustainability grounds, biofuels and bioliquids obtained in compliance with this Article. This paragraph shall be without prejudice to public support granted under support schemes approved before 24 December 2018.

13 For the purposes referred to in point (c) of the first subparagraph of paragraph 1 of this Article, Member States may derogate, for a limited period of time, from the criteria laid down in paragraphs 2 to 7 and 10 and 11 of this Article by adopting different criteria for:

a installations located in an outermost region as referred to in Article 349 TFEU to the extent that such facilities produce electricity or heating or cooling from biomass fuels; and

b biomass fuels used in the installations referred to in point (a) of this subparagraph, irrespective of the place of origin of that biomass, provided that such criteria are objectively justified on the grounds that their aim is to ensure, for that outermost region, a smooth phase-in of the criteria laid down in paragraphs 2 to 7 and 10 and 11 of this Article and thereby incentivise the transition from fossil fuels to sustainable biomass fuels.

The different criteria referred to in this paragraph shall be subject to a specific notification by the relevant Member State to the Commission.

14 For the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1, Member States may establish additional sustainability criteria for biomass fuels.

By 31 December 2026, the Commission shall assess the impact of such additional criteria on the internal market, accompanied, if necessary, by a proposal to ensure harmonisation thereof.

Editorial Information

X1 Substituted by Corrigendum 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 sources (Official Journal of the European Union L 328 of 21 December 2018).

Article 30

Verification of compliance with the sustainability and greenhouse gas emissions saving criteria

1 Where biofuels, bioliquids and biomass fuels, or other fuels that are eligible for counting towards the numerator referred to in point (b) of Article 27(1), are to be taken into account for the purposes referred to in Articles 23 and 25 and in points (a), (b) and (c) of the first subparagraph of Article 29(1), Member States shall require economic operators to show that the sustainability and greenhouse gas emissions saving criteria laid down in Article 29(2) to (7) and (10) have been fulfilled. For those purposes, they shall require economic operators to use a mass balance system which:

a allows consignments of raw material or fuels with differing sustainability and greenhouse gas emissions saving characteristics to be mixed for instance in a container, processing or logistical facility, transmission and distribution infrastructure or site;

b allows consignments of raw material with differing energy content to be mixed for the purposes of further processing, provided that the size of consignments is adjusted according to their energy content;

c requires information about the sustainability and greenhouse gas emissions saving characteristics and sizes of the consignments referred to in point (a) to remain assigned to the mixture; and

d provides for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics, in the same quantities, as the sum of all consignments added to the mixture and requires that this balance be achieved over an appropriate period of time.

The mass balance system shall ensure that each consignment is counted only once in point (a), (b) or (c) of the first subparagraph of Article 7(1) for the purposes of calculating the gross final consumption of energy from renewable sources and shall include information on whether support has been provided for the production of that consignment, and if so, on the type of support scheme.

2 Where a consignment is processed, information on the sustainability and greenhouse gas emissions saving characteristics of the consignment shall be adjusted and assigned to the output in accordance with the following rules:

a when the processing of a consignment of raw material yields only one output that is intended for the production of biofuels, bioliquids or biomass fuels, renewable liquid and gaseous transport fuels of non-biological origin, or recycled carbon fuels, the size of the consignment and the related quantities of sustainability and greenhouse gas emissions saving characteristics shall be adjusted applying a conversion factor representing the ratio between the mass of the output that is intended for such production and the mass of the raw material entering the process;

b when the processing of a consignment of raw material yields more than one output that is intended for the production of biofuels, bioliquids or biomass fuels, renewable liquid and gaseous transport fuels of non-biological origin, or recycled carbon fuels, for each output a separate conversion factor shall be applied and a separate mass balance shall be used.

3 Member States shall take measures to ensure that economic operators submit reliable information regarding the compliance with the greenhouse gas emissions savings thresholds set in, and adopted pursuant to, Article 25(2), and with the sustainability and greenhouse

gas emissions saving criteria laid down in Article 29(2) to (7) and (10), and that economic operators make available to the relevant Member State, upon request, the data that were used to develop the information. Member States shall require economic operators to arrange for an adequate standard of independent auditing of the information submitted, and to provide evidence that this has been done. In order to comply with point (a) of Article 29(6) and point (a) of Article 29(7), the first or second party auditing may be used up to the first gathering point of the forest biomass. The auditing shall verify that the systems used by economic operators are accurate, reliable and protected against fraud, including verification ensuring that materials are not intentionally modified or discarded so that the consignment or part thereof could become a waste or residue. It shall evaluate the frequency and methodology of sampling and the robustness of the data.

The obligations laid down in this paragraph shall apply regardless of whether the biofuels, bioliquids, biomass fuels, renewable liquid and gaseous transport fuels of non-biological origin, or recycled carbon fuels are produced within the Union or are imported. Information about the geographic origin and feedstock type of biofuels, bioliquids and biomass fuels per fuel supplier shall be made available to consumers on the websites of operators, suppliers or the relevant competent authorities and shall be updated on an annual basis.

Member States shall submit to the Commission, in aggregated form, the information referred to in the first subparagraph of this paragraph. The Commission shall publish that information on the e-reporting platform referred to in Article 28 of Regulation (EU) 2018/1999 in summary form preserving the confidentiality of commercially sensitive information.

4 The Commission may decide that voluntary national or international schemes setting standards for the production of biofuels, bioliquids or biomass fuels, or other fuels that are eligible for counting towards the numerator referred to in point (b) of Article 27(1), provide accurate data on greenhouse gas emission savings for the purposes of Article 25(2) and Article 29(10), demonstrate compliance with Article 27(3) and Article 28(2) and (4), or demonstrate that consignments of biofuels, bioliquids or biomass fuels comply with the sustainability criteria laid down in Article 29(2) to (7). When demonstrating that the criteria laid down in Article 29(6) and (7) are met, the operators may provide the required evidence directly at sourcing area level. The Commission may recognise areas for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature for the purposes of point (c)(ii) of the first subparagraph of Article 29(3).

The Commission may decide that those schemes contain accurate information on measures taken for soil, water and air protection, for the restoration of degraded land, for the avoidance of excessive water consumption in areas where water is scarce, and for certification of biofuels, bioliquids and biomass fuels with low indirect land-use change-risk.

5 The Commission shall adopt decisions under paragraph 4 of this Article by means of implementing acts. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(3). Such decisions shall be valid for a period of no more than five years.

The Commission shall require that each voluntary scheme on which a decision has been adopted under paragraph 4 submit annually by 30 April a report to the Commission covering each of the points **[**[XI]set out in Annex XI to Regulation (EU) 2018/1999.**]** The report shall cover the preceding calendar year. The requirement to submit a report shall apply only to voluntary schemes that have operated for at least 12 months.

The Commission shall make the reports drawn up by the voluntary schemes available, in an aggregated form or in full if appropriate, on the e-reporting platform referred to in Article 28 of Regulation (EU) 2018/1999.

6 Member States may set up national schemes where compliance with the sustainability and greenhouse gas emissions saving criteria laid down in Article 29(2) to (7) and (10) and with the greenhouse gas emissions savings thresholds for renewable liquid and gaseous transport fuels of non-biological origin and recycled carbon fuels set in, and adopted pursuant to, Article 25(2) and in accordance with Article 28(5) is verified throughout the entire chain of custody involving competent national authorities.

A Member State may notify such a national scheme to the Commission. The Commission shall give priority to the assessment of such a scheme in order to facilitate mutual bilateral and multilateral recognition of schemes for verification of compliance with the sustainability and greenhouse gas emissions saving criteria for biofuels, bioliquids and biomass fuels and with the greenhouse gas emissions savings thresholds for other fuels that are eligible for counting towards the numerator referred to in point (b) of Article 27(1). The Commission may decide, by means of implementing acts, whether such a notified national scheme complies with the conditions laid down in this Directive. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(3).

Where the decision is positive, schemes established in accordance with this Article shall not refuse mutual recognition with that Member State's scheme, as regards verification of compliance with the sustainability and greenhouse gas emissions saving criteria laid down in Article 29(2) to (7) and (10) and the greenhouse gas emissions savings thresholds set in, and adopted pursuant to, Article 25(2).

7 The Commission shall adopt decisions under paragraph 4 of this Article only if the scheme in question meets adequate standards of reliability, transparency and independent auditing and provides adequate assurances that no materials have been intentionally modified or discarded so that the consignment or part thereof would fall under Annex IX. In the case of schemes to measure greenhouse gas emissions savings, such schemes shall also comply with the methodological requirements set out in Annex V or VI. Lists of areas of high biodiversity value as referred to in point (c)(ii) of the first subparagraph of Article 29(3) shall meet adequate standards of objectivity and coherence with internationally recognised standards and provide for appropriate appeal procedures.

The voluntary schemes referred to in paragraph 4 shall, at least annually, publish a list of their certification bodies used for independent auditing, indicating for each certification body by which entity or national public authority it was recognised and which entity or national public authority is monitoring it.

8 In order to ensure that compliance with the sustainability and greenhouse gas emissions saving criteria as well as with the provisions on low or high direct and indirect land-use change-risk biofuels, bioliquids and biomass fuels is verified in an efficient and harmonised manner and in particular to prevent fraud, the Commission shall adopt implementing acts specifying detailed implementing rules, including adequate standards of reliability, transparency and independent auditing and require all voluntary schemes to apply those standards. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(3).

In those implementing acts, the Commission shall pay particular attention to the need to minimise administrative burden. The implementing acts shall set a time frame by which voluntary schemes are required to implement the standards. The Commission

may repeal decisions recognising voluntary schemes pursuant to paragraph 4 in the event that those schemes fail to implement such standards in the time frame provided for. Where a Member State raises concerns that a voluntary scheme does not operate in accordance with the standards of reliability, transparency and independent auditing that constitute the basis for decisions under paragraph 4, the Commission shall investigate the matter and take appropriate action.

9 Where an economic operator provides evidence or data obtained in accordance with a scheme that has been the subject of a decision pursuant to paragraph 4 or 6 of this Article, to the extent covered by that decision, a Member State shall not require the supplier to provide further evidence of compliance with the sustainability and greenhouse gas emissions saving criteria laid down in Article 29(2) to (7) and (10).

Competent authorities of the Member States shall supervise the operation of certification bodies that are conducting independent auditing under a voluntary scheme. Certification bodies shall submit, upon the request of competent authorities, all relevant information necessary to supervise the operation, including the exact date, time and location of audits. Where Member States find issues of non-conformity, they shall inform the voluntary scheme without delay.

10 At the request of a Member State, which may be based on the request of an economic operator, the Commission shall, on the basis of all available evidence, examine whether the sustainability and greenhouse gas emissions saving criteria laid down in Article 29(2) to (7) and (10) in relation to a source of biofuels, bioliquids and biomass fuels, and the greenhouse gas emissions savings thresholds set in, and adopted pursuant to, Article 25(2), have been met.

Within six months of receipt of such a request and in accordance with the examination procedure referred to in Article 34(3), the Commission shall, by means of implementing acts, decide whether the Member State concerned may either:

a take into account biofuels, bioliquids, biomass fuels and other fuels that are eligible for counting towards the numerator referred to in point (b) of Article 27(1) from that source for the purposes referred to in points (a), (b) and (c) of the first subparagraph of Article 29(1); or

b by way of derogation from paragraph 9 of this Article, require suppliers of the source of biofuels, bioliquids, biomass fuels and other fuels that are eligible for counting towards the numerator referred to in point (b) of Article 27(1) to provide further evidence of compliance with those sustainability and greenhouse gas emissions saving criteria and those greenhouse gas emissions savings thresholds.

Editorial Information

X1 Substituted by Corrigendum 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 sources (Official Journal of the European Union L 328 of 21 December 2018).

Article 31

Calculation of the greenhouse gas impact of biofuels, bioliquids and biomass fuels

1 For the purposes of Article 29(10), the greenhouse gas emissions saving from the use of biofuel, bioliquids and biomass fuels shall be calculated in one of the following ways:

a where a default value for greenhouse gas emissions saving for the production pathway is laid down in Part A or B of Annex V for biofuels and bioliquids and in Part A of Annex VI for biomass fuels where the e_l value for those biofuels or bioliquids calculated in accordance with point 7 of Part C of Annex V and for those biomass fuels calculated in accordance with point 7 of Part B of Annex VI is equal to or less than zero, by using that default value;

b by using an actual value calculated in accordance with the methodology laid down in Part C of Annex V for biofuels and bioliquids and in Part B of Annex VI for biomass fuels;

c by using a value calculated as the sum of the factors of the formulas referred to in point 1 of Part C of Annex V, where disaggregated default values in Part D or E of Annex V may be used for some factors, and actual values, calculated in accordance with the methodology laid down in Part C of Annex V, are used for all other factors;

d by using a value calculated as the sum of the factors of the formulas referred to in point 1 of Part B of Annex VI, where disaggregated default values in Part C of Annex VI may be used for some factors, and actual values, calculated in accordance with the methodology laid down in Part B of Annex VI, are used for all other factors.

2 Member States may submit to the Commission reports including information on the typical greenhouse gas emissions from the cultivation of agricultural raw materials of the areas on their territory classified as level 2 in the nomenclature of territorial units for statistics (NUTS) or as a more disaggregated NUTS level in accordance with Regulation (EC) No 1059/2003 of the European Parliament and of the Council[(6)]. Those reports shall be accompanied by a description of the method and data sources used to calculate the level of emissions. That method shall take into account soil characteristics, climate and expected raw material yields.

3 In the case of territories outside the Union, reports equivalent to those referred to in paragraph 2 and drawn up by competent bodies may be submitted to the Commission.

4 The Commission may, by means of implementing acts, decide that the reports referred to in paragraphs 2 and 3 of this Article contain accurate data for the purposes of measuring the greenhouse gas emissions associated with the cultivation of agriculture biomass feedstock produced in the areas included in such reports for the purposes of Article 29(10). Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(3).

Those data may, pursuant to such decisions, be used instead of the disaggregated default values for cultivation laid down in Part D or E of Annex V for biofuels and bioliquids and in Part C of Annex VI for biomass fuels.

5 The Commission shall review Annexes V and VI with a view, where justified, to adding or revising values for biofuel, bioliquid and biomass fuel production pathways. Those reviews shall also consider modifying the methodology laid down in Part C of Annex V and in Part B of Annex VI.

The Commission is empowered to adopt delegated acts pursuant to Article 35 to amend, where appropriate, Annexes V and VI by adding or revising the default values or modifying the methodology.

In the case of an adaptation of, or addition to, the list of default values in Annexes V and VI:

a where the contribution of a factor to overall emissions is small, where there is limited variation, or where the cost or difficulty of establishing actual values is high, the default values shall be typical of normal production processes;

b in all other cases, the default values shall be conservative compared to normal production processes.

6 Where necessary in order to ensure the uniform application of Part C of Annex V and Part B of Annex VI, the Commission may adopt implementing acts setting out detailed technical specifications including definitions, conversion factors, the calculation of annual cultivation emissions or emission savings caused by changes above and below-ground carbon stocks on already cultivated land, the calculation of emission savings from CO_2 capture, CO_2 replacement and CO_2 geological storage. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(3).

Article 32

Implementing acts

The implementing acts referred to in the second subparagraph of Article 29(3), Article 29(8), the first subparagraph of Article 30(5), the second subparagraph of Article 30(6), the first subparagraph of Article 30(8), the first subparagraph of Article 31(4) and Article 31(6) of this Directive, shall take full account of the provisions relating to greenhouse gas emissions reductions in accordance with Article 7a of Directive 98/70/EC of the European Parliament and of the Council[7].

Article 33

Monitoring by the Commission

1 The Commission shall monitor the origin of biofuels, bioliquids and biomass fuels consumed in the Union and the impact of their production, including the impact as a result of displacement, on land use in the Union and in the main third countries of supply. Such monitoring shall be based on Member States' integrated national energy and climate plans and corresponding progress reports pursuant to Articles 3, 17 and 20 of Regulation (EU) 2018/1999, and those of relevant third countries, intergovernmental organisations, scientific studies and any other relevant pieces of information. The Commission shall also monitor the commodity price changes associated with the use of biomass for energy and any associated positive and negative effects on food security.

2 The Commission shall maintain a dialogue and exchange information with third countries and biofuel, bioliquid and biomass fuel producers, consumer organisations and civil society concerning the general implementation of the measures in this Directive relating to biofuels, bioliquids and biomass fuels. It shall, within that framework, pay particular attention to the impact that biofuel, bioliquid and biomass fuel production may have on food prices.

3 In 2026, the Commission shall submit, if appropriate, a legislative proposal on the regulatory framework for the promotion of energy from renewable sources for the period after 2030.

That proposal shall take into account the experience of the implementation of this Directive, including its sustainability and greenhouse gas emissions saving criteria, and technological developments in energy from renewable sources.

4 In 2032, the Commission shall publish a report reviewing the application of this Directive.

Article 34

Committee procedure

1 The Commission shall be assisted by the Energy Union Committee established by Article 44 of Regulation (EU) 2018/1999.

2 Notwithstanding paragraph 1, for matters relating to the sustainability of biofuels, bioliquids and biomass fuels, the Commission shall be assisted by the Committee on the Sustainability of Biofuels, Bioliquids and Biomass fuels. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.

3 Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

Where the Committee delivers no opinion, the Commission shall not adopt the draft implementing act and the third subparagraph of Article 5(4) of Regulation (EU) No 182/2011 shall apply.

Article 35

Exercise of the delegation

1 The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

2 The power to adopt delegated acts referred to in the second subparagraph of Article 8(3), the second subparagraph of Article 25(2), the fourth subparagraph of Article 26(2), the fifth subparagraph of Article 26(2), point (c) of Article 27(1), the seventh subparagraph of Article 27(3), Article 28(5), the second subparagraph of Article 28(6), and the second subparagraph of Article 31(5) shall be conferred on the Commission for a period of five years from 24 December 2018. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.

3 The power to adopt delegated acts referred to in the fifth subparagraph of Article 7(3) shall be conferred on the Commission for a period of two years from 24 December 2018.

4 The delegation of power referred to in the fifth subparagraph of Article 7(3), the second subparagraph of Article 8(3), the second subparagraph of Article 25(2), the fourth subparagraph of Article 26(2), the fifth subparagraph of Article 26(2), point (c) of Article 27(1), the seventh subparagraph of Article 27(3), Article 28(5), the second subparagraph of Article 28(6), and the second subparagraph of Article 31(5) may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

5 Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making.

6 As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

7 A delegated act adopted pursuant to the fifth subparagraph of Article 7(3), the second subparagraph of Article 8(3), the second subparagraph of Article 25(2), the fourth subparagraph of Article 26(2), the fifth subparagraph of Article 26(2), point (c) of Article 27(1), the seventh subparagraph of Article 27(3), Article 28(5), the second subparagraph of Article 28(6), and the second subparagraph of Article 31(5) shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and to the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

Article 36

Transposition

1 Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with Articles 2 to 13, 15 to 31 and 37 and Annexes II, III and V to IX, by 30 June 2021. They shall immediately communicate the text of those measures to the Commission.

When Member States adopt those measures, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. They shall also include a statement that references in existing laws, regulations and administrative provisions to the Directive repealed by this Directive shall be construed as references to this Directive. Member States shall determine how such reference is to be made and how that statement is to be formulated.

2 Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

3 This Directive shall not affect the application of the derogations pursuant to Union law on the internal market for electricity.

Article 37

Repeal

Directive 2009/28/EC, as amended by the Directives listed in Part A of Annex X, is repealed with effect from 1 July 2021, without prejudice to the obligations of the Member States relating to the time-limits for the transposition into national law of the Directives set out in Part B of Annex X and without prejudice to the obligations of Member States in 2020 as laid down in Article 3(1) and set out in Part A of Annex I to Directive 2009/28/EC.

References to the repealed Directive shall be construed as references to this Directive and shall be read in accordance with the correlation table set out in Annex XI.

Article 38

Entry into force

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

Article 39

Addressees

This Directive is addressed to the Member States.

(**1**) Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (OJ L 211, 14.8.2009, p. 55).

(**2**) Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012 (OJ L 193, 30.7.2018, p. 1).

(**3**) Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (OJ L 124, 20.5.2003, p. 36).

(**4**) Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC (OJ L 211, 14.8.2009, p. 94).

(**5**) Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants (OJ L 212, 17.8.2017, p. 1).

(**6**) Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS) (OJ L 154, 21.6.2003, p. 1).

(**7**) Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998 relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC (OJ L 350, 28.12.1998, p. 58).