

Synopsis of Fit For 55 drafts II COM(2021) 557 final

- ▶ **Directive (EU 2018/2001) on the promotion of the use of energy from renewable sources (RED II)**
- ▶ **Regulation (EU 2018/1999) on the governance of the Energy Union and Climate Action**
- ▶ **Directive (98/70/EC) on the quality of petrol and diesel fuels**

August 2021

Dear Reader

The dynamic of the legislative initiatives both at the EU-level and across EU member states is currently unprecedented. We are seeing a new urgency to decarbonise large parts of carbon-intensive sectors combined with the need to prevent carbon-leakage and the transfer of production to economies with less scrutiny on (still) carbon-intensive production processes. The task requires a holistic overhaul of the current framework for carbon-pricing, carbon-quotas, furthering and further enhancement of decarbonisation more broadly.

Drafts of the legislative package have recently been published and will be discussed and amended over the coming months. However, the timing of the adoption of the published drafts depends heavily on the political process. One important legal act due for revision is the RED II (Renewable Energy Directive II), for which this document provides a synopsis for those wanting to better understand what changes are discussed, what to consider for future industries and business cases as well as to focus potential lobbying efforts.

We hope you will find this helpful and remain at your disposal for any questions or queries you may have.

Kind regards



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Legislative Amendments¹

I. Amendments to Directive (EU) 2018/2001

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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 (22) 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;

(1a) 'quality roundwood' means roundwood felled or otherwise harvested and removed, whose characteristics, such as species, dimensions, rectitude, and node density, make it suitable for industrial use, as defined and duly justified by Member States according to the relevant forest conditions. This does not include pre-commercial thinning operations or trees extracted from forests affected by fires, pests, diseases or damage due to abiotic factors ;

(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;

¹ Please note that we chose not to correct editorial errors in the European Commission's draft.

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(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 (²³);	
(8)‘SME’ means a micro, small or medium-sized enterprise as defined in Article 2 of the Annex to Commission Recommendation 2003/361/EC (²⁴);	
(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 (²⁵);	
(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-	

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generated renewable electricity, provided that, for a non-household renewables self-consumer, those activities do not constitute its primary commercial or professional activity;

(14a)‘bidding zone’ means a bidding zone as defined in Article 2, point (65) of Regulation (EU) 2019/943 of the European Parliament and of the Council;

(14b)‘smart metering system’ means smart metering system as defined in Article 2, point (23) of Directive (EU) 2019/944 of the European Parliament and of the Council;

(14c)‘recharging point’ means recharging point as defined in point 33 of Article 2, point (33) of Directive (EU) No 2019/944;

(14d)‘market participant’ means market participant as defined in point (25) of Article 2, point (25) of Regulation (EU) 2019/943;

(14e)‘electricity market’ means electricity market as defined in Article 2, point (9) of Directive 2019/944;

(14f)‘domestic battery’ means a stand-alone rechargeable battery of rated capacity greater than 2 kwh, which is suitable for installation and use in a domestic environment;

(14g)‘electric vehicle battery’ means an electric vehicle battery as defined in Article 2, point (12) of [the proposed Regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020];

(14h)‘industrial battery’ means industrial battery as defined in Article 2. point (11) of [the proposed Regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020];

(14i)‘state of health’ means state of health as defined in point (25) of Article 2, point

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	(25) of [the proposal for a Regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020 23];
	(14j)‘state of charge’ means state of charge as defined in Article 2, point (24) of [the proposal for a Regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) 2019/1020];
	(14k)‘power set point’ means the information held in a battery’s management system prescribing the electric power settings at which the battery operates during a recharging or a discharging operation, so that its state of health and operational use are optimised;
	(14l)‘smart charging’ means a recharging operation in which the intensity of electricity delivered to the battery is adjusted in real-time, based on information received through electronic communication;
	(14m)‘regulatory authority’ means regulatory authority defined in Article 2, point (2) of Regulation (EU) 2019/943;
	(14n)‘bidirectional charging’ means smart charging where the direction of electric charge may be reversed, so that electric charge flows from the battery to the recharging point it is connected to;
	(14o)‘normal power recharging point’ means ‘normal power recharging point’ as defined in Article 2 point 31 of [the proposal for a Regulation concerning the deployment of alternative fuel infrastructure, repealing Directive 2014/94/EU];
(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:	

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(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;	<p>(18a) ‘industry’ means companies and products that fall sections B, C, F and J, division (63) of the statistical classification of economic activities (NACE REV.2);</p> <p>(18b) ‘non-energy purpose’ means the use of fuels as raw materials in an industrial process, instead of being used to produce energy;</p>
(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;	<p>(22a)‘renewable fuels’ means biofuels, bioliquids, biomass fuels and renewable fuels of non-biological origin;</p>

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(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;	(36)‘renewable fuels of non-biological origin’ means liquid and gaseous fuels 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	

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	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;	
	(44a)‘plantation forest’ means a planted forest that is intensively managed and meets, at planting and stand maturity, all the following criteria: one or two species, even age class, and regular spacing. It includes short rotation plantations for wood, fibre and energy, and excludes forests planted for protection or ecosystem restoration,

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as well as forests established through planting or seeding which at stand maturity resemble or will resemble naturally regenerating forests;

(44b)‘planted forest’ means forest predominantly composed of trees established through planting and/or deliberate seeding provided that the planted or seeded trees are expected to constitute more than fifty percent of the growing stock at maturity; it includes coppice from trees that were originally planted or seeded;’

(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.

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 40%.

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.

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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 distorting 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.

3. Member States shall take measures to ensure that energy from biomass is produced in a way that minimises undue distortive effects on the biomass raw material market and harmful impacts on biodiversity. To that end, they shall take into account the waste hierarchy as set out in Article 4 of Directive 2008/98/EC and the cascading principle referred to in the third subparagraph.

As part of the measures referred to in the first subparagraph:

(a) Member States shall grant no support for:

(i) the use of saw logs, veneer logs, stumps and roots to produce energy.

(ii) the production of renewable energy produced from the incineration of waste if the separate collection obligations laid down in Directive 2008/98/EC have not been complied with.

(iii) practices which are not in line with the delegated act referred to in the third subparagraph.

(b) From 31 December 2026, and without prejudice to the obligations in the first subparagraph, Member States shall grant no support to the production of electricity from forest biomass in electricity-only-installations, unless such electricity meets at least one of the following conditions:

(i) it is produced in a region identified in a territorial just transition plan approved by the European Commission, in accordance with Regulation (EU) 2021/... of the European Parliament

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	<p>and the Council establishing the Just Transition Fund due to its reliance on solid fossil fuels, and meets the relevant requirements set in Article 29(11);</p> <p>(ii) it is produced applying Biomass CO₂ Capture and Storage and meets the requirements set in Article 29(11), second subparagraph.</p>
	<p>No later than one year after [the entry into force of this amending Directive], the Commission shall adopt a delegated act in accordance with Article 35 on how to apply the cascading principle for biomass, in particular on how to minimise the use of quality roundwood for energy production, with a focus on support schemes and with due regard to national specificities. By 2026 the Commission shall present a report on the impact of the Member States' support schemes for biomass, including on biodiversity and possible market distortions, and will assess the possibility for further limitations regarding support schemes to forest biomass.</p>
<p>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.</p>	<p>4a. Member States shall establish a framework, which may include support schemes and facilitating the uptake of renewable power purchase agreements, enabling the deployment of renewable electricity to a level that is consistent with the Member State's national contribution referred to in paragraph 2 and at a pace that is consistent with the indicative trajectories referred to in Article 4(a)(2) of Regulation (EU) 2018/1999. In particular, that framework shall tackle remaining barriers, including those related to permitting procedures, to a high level of renewable electricity supply. When designing that framework, Member States shall take</p>

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.

4a. Member States shall establish a framework, which may include support schemes and facilitating the uptake of renewable power purchase agreements, enabling the deployment of renewable electricity to a level that is consistent with the Member State's national contribution referred to in paragraph 2 and at a pace that is consistent with the indicative trajectories referred to in Article 4(a)(2) of Regulation (EU) 2018/1999. In particular, that framework shall tackle remaining barriers, including those related to permitting procedures, to a high level of renewable electricity supply. When designing that framework, Member States shall take

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	into account the additional renewable electricity required to meet demand in the transport, industry, building and heating and cooling sectors and for the production of renewable fuels of nonbiological origin.
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.

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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.	

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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.

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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.

With regard to **the first subparagraph**, point (a), (b), or (c), gas and electricity from renewable sources shall be considered only once for the purposes of calculating the share of gross final consumption of energy from renewable sources. Energy produced from renewable fuels of non-biological origin shall be accounted in the sector - electricity, heating and cooling or transport - where it is consumed.

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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.	2. For the purposes of paragraph 1, first subparagraph, point (a), 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 electricity from renewable fuels of nonbiological origin and excluding the production of electricity in pumped storage units from water that has previously been pumped uphill as well as the electricity used to produce renewable fuels of non-biological origin.
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.	

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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.**

(a) Final consumption of energy from renewable sources in the transport sector shall be calculated as the sum of all biofuels, **biogas** and renewable fuels of non-biological origin consumed in the transport sector.

(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.

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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.

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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.

1a. By 31 December 2025, each Member State shall agree to establish at least one joint project with one or more other Member States for the production of renewable energy. The Commission shall be notified of such an agreement, including the date on which the project is expected to become operational. Projects financed by national contributions under the Union renewable energy financing mechanism established by Commission Implementing Regulation (EU) 2020/129425 shall be deemed to satisfy this obligation for the Member States involved.

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.

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	<p>7a. Member States bordering a sea basin shall cooperate to jointly define the amount of off-shore renewable energy they plan to produce in that sea basin by 2050, with intermediate steps in 2030 and 2040. They shall take into account the specificities and development in each region, the offshore renewable potential of the sea basin and the importance of ensuring the associated integrated grid planning. Member States shall notify that amount in the updated integrated national energy and climate plans submitted pursuant to Article 14 of Regulation (EU) 2018/1999.</p>

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:

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(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.	

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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.

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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:

Directive (EU) 2018/2001 (RED II)	Proposal
(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.	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 <ins>harmonised standards or</ins> European standards exist, including technical reference systems established by the European standardisation <ins>organisations</ins> , such technical specifications shall be expressed in terms of those standards. <ins>Precendence shall be given to harmonised standards, the references of which have been published in the Official Journal of the European Union in support of European legislation, in their absence, other harmonised standards and European standards shall be used, in that order.</ins> 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	

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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, <i>inter alia</i>, 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	

Directive (EU) 2018/2001 (RED II)	Proposal
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.	8. Member States shall assess the regulatory and administrative barriers to long-term renewables power purchase agreements, and shall remove unjustified barriers to, and <ins>promote</ins> the uptake of, such agreements, <ins>including</ins> by exploring how to reduce the financial risks associated with them, in particular by using <ins>credit guarantees</ins> . Member States shall ensure that those agreements are not subject to disproportionate or discriminatory procedures or charges, <ins>and that any associated guarantees of origin can be transferred to the buyer of the renewable energy under the renewable power purchase agreement.</ins>
Member States shall describe policies and measures facilitating the uptake of renewables power purchase agreements in their integrated	Member States shall describe <ins>their</ins> policies and measures <ins>promoting</ins> the uptake of renewables power purchase agreements in their integrated

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national energy and climate plans and progress reports pursuant to Regulation (EU) 2018/1999.	national energy and climate plans referred to in Articles 3 and 14 of Regulation (EU) 2018/1999 and progress reports submitted pursuant to Article 17 of that Regulation. They shall also provide, in those reports, an indication of the volume of renewable power generation supported by renewables power purchase agreements.
	9. By one year after the entry into force of this amending Directive, the Commission shall review, and where appropriate, propose modifications to, the rules on administrative procedures set out in Articles 15, 16 and 17 and their application, and may take additional measures to support Member States in their implementation.

Article 15a

Mainstreaming renewable energy in buildings

1. In order to promote the production and use of renewable energy in the building sector, Member States shall set an indicative target for the share of renewables in final energy consumption in their buildings sector in 2030 that is consistent with an indicative target of at least a 49 % share of energy from renewable sources in the buildings sector in the Union's final consumption of energy in 2030. The national target shall be expressed in terms of share of national final energy consumption and calculated in accordance with the methodology set out in Article 7. Member States shall include their target in the updated integrated national energy and climate plans submitted pursuant to Article 14 of Regulation (EU) 2018/1999 as well as information on how they plan to achieve it.

2. Member States shall introduce measures in their building regulations and codes and, where applicable, in their support schemes, to increase the share of electricity and heating and cooling from renewable sources in the building stock, including national measures relating to substantial increases in renewables self-consumption, renewable energy communities and

Directive (EU) 2018/2001 (RED II)	Proposal
	local energy storage, in combination with energy efficiency improvements relating to co-generation and passive, nearly zero-energy and zeroenergy buildings.
	To achieve the indicative share of renewables set out in paragraph 1, Member States shall, in their building regulations and codes and, where applicable, in their support schemes or by other means with equivalent effect, require the use of minimum levels of energy from renewable sources in buildings, in line with the provisions of Directive 2010/31/EU. Member States shall allow those minimum levels to be fulfilled, among others, through efficient district heating and cooling.
	For existing buildings, 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.
	3. Member States shall ensure that public buildings at national, regional and local level, fulfil an exemplary role as regards the share of renewable energy used, in accordance with the provisions of Article 9 of Directive 2010/31/EU and Article 5 of Directive 2012/27/EU. Member States may, among others, allow that obligation to be fulfilled 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.
	4. In order to achieve the indicative share of renewable energy set out in paragraph 1, Member States shall promote the use of renewable heating and cooling systems and equipment. To that end, Member States shall use all appropriate measures, tools and incentives, including, among others, energy labels developed under Regulation (EU) 2017/1369 of the European Parliament and of the Council ²⁶ , energy performance certificates pursuant to Directive

Directive (EU) 2018/2001 (RED II)	Proposal
	<p>2010/31/EU, or other appropriate certificates or standards developed at national or Union level, and shall ensure the provision of adequate information and advice on renewable, highly energy efficient alternatives as well as on financial instruments and incentives available to promote an increased replacement rate of old heating systems and an increased switch to solutions based on renewable energy.</p>

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.

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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,

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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.	3. Member States shall ensure that certification schemes are available for installers and designers of all forms of renewable heating and cooling systems in buildings, industry and agriculture, and for installers of solar photovoltaic systems. 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.
	Member States shall ensure that trained and qualified installers of renewable heating and cooling systems are available in sufficient numbers for the relevant technologies to service the growth of renewable heating and cooling required to contribute to the annual increase in the share of renewable energy in the heating and cooling sector as set out in Article 23.
	To achieve such sufficient numbers of installers and designers, Member States shall ensure that sufficient training programmes leading to qualification or certification covering renewable heating and cooling technologies, and their latest innovative solutions, are made available. Member States shall put in place measures to promote participation in such programmes, in particular by small and medium-sized enterprises and the self-employed. Member States may put in place voluntary agreements with the relevant technology providers and vendors to train sufficient numbers of installers, which may be based on estimates of sales, in the latest innovative solutions and technologies available on the market.
4. Member States shall make information on certification schemes or equivalent qualification schemes as referred to in paragraph 3 available	4. Member States shall make information on the certification schemes referred to in paragraph 3 available to the public. Member States

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<p>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.</p>	<p>shall ensure that the list of installers who are qualified or certified in accordance with paragraph 3 <ins>is regularly updated and made</ins> available to the public.</p>
<p>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.</p>	
<p>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.</p>	
<p><i>Article 19</i></p> <p>Guarantees of origin for energy from renewable sources</p>	
<p>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.</p>	
<p>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.</p>	<p>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. 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.</p>

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.

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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, in 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;

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- (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.~~

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 Article 3(9), point (a) of Directive 2009/72/EC, it shall do so by using guarantees of origin except 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.

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.

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<p>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.</p> <p>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.</p>	

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 odorization 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.

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 efficient district heating and cooling infrastructure to promote heating and cooling from renewable energy sources, including solar energy, ambient energy, geothermal energy, biomass, biogas, bioliquids and waste heat and cold, in combination with thermal energy storage.

Article 20a

Facilitating system integration of renewable electricity

1. Member States shall require transmission system operators and distribution system operators in their territory to make available information on the share of renewable electricity and the greenhouse gas emissions content of the electricity supplied in each bidding zone, as accurately as possible and as close to real time

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as possible but in time intervals of no more than one hour, with forecasting where available. This information shall be made available digitally in a manner that ensures it can be used by electricity market participants, aggregators, consumers and endusers, and that it can be read by electronic communication devices such as smart metering systems, electric vehicle recharging points, heating and cooling systems and building energy management systems.

2. In addition to the requirements in [the proposal for a Regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020], Member States shall ensure that manufacturers of domestic and industrial batteries enable real-time access to basic battery management system information, including battery capacity, state of health, state of charge and power set point, to battery owners and users as well as to third parties acting on their behalf, such as building energy management companies and electricity market participants, under non-discriminatory terms and at no cost.

Member States shall ensure that vehicle manufacturers make available, in real-time, in-vehicle data related to the battery state of health, battery state of charge, battery power setpoint, battery capacity, as well as the location of electric vehicles to electric vehicle owners and users, as well as to third parties acting on the owners' and users' behalf, such as electricity market participants and electromobility service providers, under non-discriminatory terms and at no cost, in addition to further requirements in the type approval and market surveillance regulation.

3. In addition to the requirements in [the proposal for a Regulation concerning the deployment of alternative fuel infrastructure, repealing Directive 2014/94/EU], Member States shall ensure that non-publicly accessible normal power recharging points installed in their territory from [the transposition deadline of

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	<p>this amending Directive] can support smart charging functionalities and, where appropriate based on assessment by the regulatory authority, bidirectional charging functionalities.</p> <p>4. Member States shall ensure that the national regulatory framework does not discriminate against participation in the electricity markets, including congestion management and the provision of flexibility and balancing services, of small or mobile systems such as domestic batteries and electric vehicles, both directly and through aggregation.</p>

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 with 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;

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	(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, <i>inter alia</i> :
(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.

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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;

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(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 22a
Mainstreaming renewable energy in industry

1. Member States shall endeavour to increase the share of renewable sources in the amount of energy sources used for final energy and non-energy purposes in the industry sector by an indicative average minimum annual increase of 1.1 percentage points by 2030.

Member States shall include the measures planned and taken to achieve such indicative increase in their integrated national energy and climate plans and progress reports submitted pursuant to Articles 3, 14 and 17 of Regulation (EU) 2018/1999.

Member States shall ensure that the contribution of renewable fuels of non-biological origin used for final energy and non-energy purposes shall be 50 % of the hydrogen used for final energy and non-energy purposes in industry by 2030. For the calculation of that percentage, the following rules shall apply:

(a) For the calculation of the denominator, the energy content of hydrogen for final energy and non-energy purposes shall be taken into account, excluding hydrogen used as intermediate products for the production of conventional transport fuels.

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(b) For the calculation of the numerator, the energy content of the renewable fuels of non-biological origin consumed in the industry sector for final energy and nonenergy purposes shall be taken into account, excluding renewable fuels of nonbiological origin used as intermediate products for the production of conventional transport fuels.

(c) For the calculation of the numerator and the denominator, the values regarding the energy content of fuels set out in Annex III shall be used.

2. Member States shall ensure that industrial products that are labelled or claimed to be produced with renewable energy and renewable fuels of non-biological origin shall indicate the percentage of renewable energy used or renewable fuels of nonbiological origin used in the raw material acquisition and pre-processing, manufacturing and distribution stage, calculated on the basis of the methodologies laid down in Recommendation 2013/179/EU27 or, alternatively, ISO 14067:2018.

*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.~~

1. In order to promote the use of renewable energy in the heating and cooling sector, each Member State shall, increase the share of renewable energy in that sector by ~~at least 1.1~~ 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 ~~gross~~ final energy consumption and calculated in accordance with the methodology set out in Article 7. That increase shall be ~~of 1.5~~ percentage points for Member States where waste heat and cold is used. ~~In that case, Member States may count waste heat and cold up to 40 % of the average annual increase. In addition to the minimum 1.1 percentage points annual increase referred to in the first subparagraph, each Member State shall endeavour to increase~~

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	the share of renewable energy in their heating and cooling sector by the amount set out in Annex 1a.
	1a. 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 including, where appropriate, an analysis of areas suitable for their deployment at low ecological risk and of the potential for small-scale household projects. The assessment shall set out milestones and measures to increase renewables in heating and cooling and, where appropriate, the use of waste heat and cold through district heating and cooling with a view of establishing a long-term national strategy to decarbonise heating and cooling. The assessment shall be part of the integrated national energy and climate plans referred to in Articles 3 and 14 of Regulation (EU) 2018/1999, and shall accompany the comprehensive heating and cooling assessment required by Article 14(1) of Directive 2012/27/EU.
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:	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;	(a) 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
(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	(b) 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	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

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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 ~~en~~ ~~ergy~~ 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;

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.

4. To achieve the average annual increase referred to in paragraph 1, first subparagraph, Member States may implement one or more of the following measures:

(a) physical incorporation of renewable energy or waste heat and cold in the energy sources and fuels supplied for heating and cooling;

(b) installation of highly efficient renewable heating and cooling systems in buildings, or use of renewable energy or waste heat and cold in industrial heating and cooling processes;

(c) measures covered by tradable certificates proving compliance with the obligation laid down in paragraph 1, first subparagraph, through support to installation measures under point (b) of this paragraph, carried out by another economic operator such as an independent renewable technology installer or an energy service company providing renewable installation services;

(d) capacity building for national and local authorities to plan and implement renewable projects and infrastructures;

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	(e) creation of risk mitigation frameworks to reduce the cost of capital for renewable heat and cooling projects;
	(f) promotion of heat purchase agreements for corporate and collective small consumers;
	(g) planned replacement schemes of fossil heating systems or fossil phase-out schemes with milestones;
	(h) renewable heat planning, encompassing cooling, requirements at local and regional level;
(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.	(i) other policy measures, with an equivalent effect, including fiscal measures, support schemes 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.	When adopting and implementing those measures, Member States shall ensure their accessibility 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.	

Directive (EU) 2018/2001 (RED II)**Proposal***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.
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 bills or on the suppliers' websites and on request. The information on the renewable energy share shall be expressed at least as a percentage of gross final consumption of heating and cooling assigned to the customers of a given district heating and cooling system, including information on how much energy was used to deliver one unit of heating to the customer or end-user.
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:~~ 4. Member States shall endeavour to increase the share of energy from renewable sources and from waste heat and cold in district heating and cooling by at least 2.1 percentage points 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, and shall lay down the measures necessary to that end. The share of renewable energy shall be expressed in terms of share of gross final energy consumption in district heating and cooling adjusted to normal average climatic conditions.

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<p>(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.</p> <p>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.</p> <p>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.</p>	<p>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.</p> <p>Member States shall lay down the necessary measures to implement the average annual increase referred to in the first subparagraph in their integrated national energy and climate plans pursuant to Annex I to Regulation (EU) 2018/1999.</p>
<p>(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:</p> <ul style="list-style-type: none"> (i) meet demand from new customers; (ii) replace existing heat or cold generation capacity; (iii) expand existing heat or cold generation capacity. 	

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	<p>4a. Member States shall ensure that operators of district heating or cooling systems above 25 MW_{th} capacity are obliged to connect third party 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 such operators need to do one or more of the following:</p> <ul style="list-style-type: none"> (a) meet demand from new customers; (b) replace existing heat or cold generation capacity; (c) expand existing heat or cold generation capacity.
<p>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:</p> <ul style="list-style-type: none"> (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 co-generation; (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; 	<p>5. Member States may allow an operator of a district heating or cooling system to refuse to connect and to purchase heat or cold from a third-party supplier in any of the following situations:</p> <ul style="list-style-type: none"> (a) the system lacks the necessary capacity due to other supplies of heat or cold from renewable sources or of waste heat and cold; (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; (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; (d) the operator's system meets the definition of efficient district heating and cooling set out

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	in [Article x of the proposed recast of the Energy Efficiency Directive].
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.	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. Member States shall ensure that an appropriate process is in place to remedy unjustified refusals.
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:	6. Member States shall put in place a coordination framework between district heating and cooling system operators and the potential sources of waste heat and cold in the industrial and tertiary sectors to facilitate the use of waste heat and cold. That coordination framework shall ensure dialogue as regards the use of waste heat and cold involving at least:
(a) efficient district heating and cooling;	(a) district heating and cooling system operators;
(b) efficient district heating and cooling that exploits high efficiency cogeneration;	(b) industrial and tertiary sector enterprises generating waste heat and cold that can be economically recovered via district heating and cooling systems, such as data centres, industrial plants, large commercial buildings and public transport; and
(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;	(c) local authorities responsible for planning and approving energy infrastructures.
(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	8. Member States shall establish a framework under which electricity distribution system operators will assess, at least every four years, in cooperation with the operators of district heating and cooling systems in their respective ar-

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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.	eas, the potential for district heating and cooling systems to provide balancing and other system services, including demand response and thermal storage of excess electricity from renewable sources, and whether the use of the identified potential would be more resource- and cost-efficient than alternative solutions.
	Member States shall ensure that electricity transmission and distribution system operators take due account of the results of the assessment required under the first subparagraph in grid planning, grid investment and infrastructure development in their respective territories.
	Member States shall facilitate coordination between operators of district heating and cooling systems and electricity transmission and distribution system operators to ensure that balancing, storage and other flexibility services, such as demand response, provided by district heating and district cooling system operators, can participate in their electricity markets.
	Member States may extend the assessment and coordination requirements under the first and third subparagraphs to gas transmission and distribution system operators, including hydrogen networks and other energy networks.
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.	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, publicly available and enforced by the competent authority
10. A Member State shall not be required to apply paragraphs 2 to 9 of this Article where:	10. A Member State shall not be required to apply paragraphs 2 and 9 where at least one of the following conditions is met:
(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;	(a) its share of district heating and cooling was less than or equal to 2 % of the gross final energy consumption in heating and cooling on 24 December 2018;

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(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	(b) its share of district heating and cooling is increased above 2 % <ins>of the gross final energy consumption in heating and cooling on 24 December 2018</ins> 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 and the assessment referred to in Article 23(1a) of this Directive;
(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.	(c) <ins>90 % of the gross final energy consumption in district heating and cooling systems takes place in district heating and cooling systems meeting the definition laid down in [Article x of the proposed recast of the Energy Efficiency Directive].</ins>

*Article 25***Mainstreaming renewable energy in the transport sector****Greenhouse gas intensity reduction in the transport sector from the use of renewable energy**

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.~~

1. Each Member State shall set an obligation on fuel suppliers to ensure that:

(a) the amount of renewable fuels and renewable electricity supplied to the transport sector leads to a greenhouse gas intensity reduction of at least 13 % by 2030, compared to the baseline set out in Article 27(1), point (b), in accordance with an indicative trajectory set by the Member State;

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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~~

- (b) the share of advanced biofuels and biogas produced from the feedstock listed in Part A of Annex IX **in the energy supplied to the transport sector** is at least 0,2 % in 2022, 0,5 % in 2025 and 2,2 % in 2030, **and the share of renewable fuels of nonbiological origin is at least 2,6 % in 2030.**

For the calculation of the **reduction** referred to in point (a) and the share referred to in point (b), Member States shall take into account renewable fuels of non-biological origin also when they are used as intermediate products for the production of conventional fuels. **For the calculation of the reduction referred to in point (a), Member States** may take into account recycled carbon fuels.

When setting the obligation on fuel suppliers, Member States may exempt fuel suppliers supplying **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.

2. Member States shall establish a mechanism allowing fuel suppliers in their territory to exchange credits for supplying renewable energy to the transport sector. Economic operators that supply renewable electricity to electric vehicles through public recharging stations shall receive credits, irrespectively of whether the economic operators are subject to the obligation set by the Member State on fuel suppliers,

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<p>emissions savings of recycled carbon fuels through a life cycle assessment that takes into account the specificities of each fuel.</p>	<p>and may sell those credits to fuel suppliers, which shall be allowed to use the credits to fulfil the obligation set out in paragraph 1, first subparagraph.</p>
<i>Article 26</i>	
Specific rules for biofuels, bioliquids and biomass fuels produced from food and feed crops	
<p>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.</p>	<p>1. For the calculation of a Member State's gross final consumption of energy from renewable sources referred to in Article 7 and of the greenhouse gas intensity reduction target referred to in Article 25(1), first subparagraph, point (a), 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 transport sector in 2020 in that Member State, with a maximum of 7 % of final consumption of energy in the transport sector in that Member State.</p>
<p>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.</p>	
<p>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.</p>	
<p>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.</p>	<p>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 greenhouse gas intensity reduction target referred to in Article 25(1), first subparagraph, point (a), accordingly, in view of the contribution these fuels would have made in terms of greenhouse gas emissions saving. For that purpose, Member States shall consider those fuels save 50 % greenhouse gas emissions.</p>

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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.	2. For the calculation of a Member State's gross final consumption of energy from renewable sources referred to in Article 7 and <ins>the greenhouse gas emission reduction target referred to in Article 25(1), first subparagraph, point (a)</ins> , 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 %.	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 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 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	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

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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.	in Article 3(1) and the greenhouse gas emission reduction target referred to in Article 25(1), first subparagraph, point (a), 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.
<i>Article 27</i>	<i>Article 27</i>
Calculation rules with regard to the minimum shares of renewable energy in the transport sector	Calculation rules in the transport sector and with regard to renewable fuels of non-biological origin regardless of their end use
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:	1. For the calculation of the greenhouse gas intensity reduction referred to in Article 25(1), first subparagraph, point (a), the following rules 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;	(a) the greenhouse gas emissions savings shall be calculated as follows:
(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.	(i) for biofuel and biogas, by multiplying the amount of these fuels supplied to all transport modes by their emissions savings determined in accordance with Article 31;
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,	(ii) for renewable fuels of non-biological origin and recycled carbon fuels, by multiplying the amount of these fuels that is supplied to all transport modes by their emissions savings determined in accordance with delegated acts adopted pursuant to Article 29a(3);
	(iii) for renewable electricity, by multiplying the amount of renewable electricity that is supplied to all transport modes by the fossil fuel comparator ECF(e) set out in Annex V;
	(b) the baseline referred to in Article 25(1) shall be calculated by multiplying the amount of energy supplied to the transport sector by the fossil fuel comparator EF(t) set out in Annex V;
	(c) for the calculation of the relevant amounts of energy, the following rules shall apply:

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<p>modify that limit, taking into account the availability of feedstock. Any such modification shall be subject to approval by the Commission;</p> <p>(e) 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.</p>	<p>(i) in order to determine the amount of energy supplied to the transport sector, the values regarding the energy content of transport fuels set out in Annex III shall be used;</p> <p>(ii) in order to determine the energy content of transport fuels not included in Annex III, the Member States shall use the relevant European standards for the determination of the calorific values of fuels. Where no European standard has been adopted for that purpose, the relevant ISO standards shall be used;</p> <p>(iii) the amount of renewable electricity supplied to the transport sector is determined by multiplying the amount of electricity supplied to that sector by the average share of renewable electricity supplied in the territory of the Member State in the two previous years. By way of exception, where electricity is obtained from a direct connection to an installation generating renewable electricity and supplied to the transport sector, that electricity shall be fully counted as renewable;</p> <p>(iv) the share of biofuels and biogas produced from the feedstock listed in Part B of Annex IX in the energy content of fuels and electricity supplied to the transport sector shall, except in Cyprus and Malta, be limited to 1,7 %;</p> <p>(d) the greenhouse gas intensity reduction from the use of renewable energy is determined by dividing the greenhouse gas emissions saving from the use of biofuels, biogas and renewable electricity supplied to all transport modes by the baseline.</p> <p>The Commission is empowered to adopt delegated acts in accordance with Article 35 to supplement this Directive by adapting the energy content of transport fuels, as set out in Annex III, in accordance with scientific and technical progress;</p>

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	<p>1a. For the calculation of the targets referred to in Article 25(1), first subparagraph, point (b), the following rules shall apply:</p> <ul style="list-style-type: none"> (a) for the calculation of the denominator, that is the amount of energy consumed in the transport sector, all fuels and electricity supplied to the transport sector shall be taken into account; (b) for the calculation of the numerator, the energy content of advanced biofuels and biogas produced from the feedstock listed in Part A of Annex IX and renewable fuels of non-biological origin supplied to all transport modes in the territory of the Union shall be taken into account; (c) the shares of advanced biofuels and biogas produced from the feedstock listed in Part A of Annex IX and of renewable fuels of non-biological origin supplied in the aviation and maritime modes shall be considered to be 1,2 times their energy content.
<p>2. For the purposes of demonstrating compliance with the minimum shares referred to in Article 25(1):</p> <ul style="list-style-type: none"> (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. <p>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</p>	

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<p>this Article, Member States shall refer to the two year period before the year in which the electricity is supplied in their territory.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> (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 	
	<p>3. Where electricity is used for the production of renewable fuels of nonbiological 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.</p> <p>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 fuels of nonbiological origin, provided that the installation:</p> <ul style="list-style-type: none"> (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

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that the electricity concerned has been supplied without taking electricity from the grid.	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.	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.	
	<i>Article 28</i>
	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	

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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 CO₂ the capture of which has already received an emission credit under other provisions of law.	By 31 December 2024 , 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.
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.

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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)~~.

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 Article 25(1), first subparagraph, point (b) 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 Article 25(1), first subparagraph, point (b).

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:

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:

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<p>(a) contributing towards the Union target set in Article 3(1) and the renewable energy shares of Member States;</p> <p>(b) measuring compliance with renewable energy obligations, including the obligation laid down in Article 25;</p> <p>(c) eligibility for financial support for the consumption of biofuels, bioliquids and biomass fuels.</p>	<p>(a) contributing towards the renewable energy shares of Member States and the targets referred to in Articles 3(1), 15a(1), 22a(1), 23(1), 24(4), and 25(1) of this Directive;</p> <p>(b) measuring compliance with renewable energy obligations, including the obligation laid down in Article 25;</p> <p>(c) eligibility for financial support for the consumption of biofuels, bioliquids and biomass fuels.</p>
<p>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.</p>	<p>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.</p>
<p>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.</p>	<p>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.</p>
<p>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.</p>	<p>Biomass fuels shall fulfil the sustainability and greenhouse gas emissions saving criteria laid down in paragraphs 2 to 7 and 10 if used,</p> <p>(a) in the case of solid biomass fuels, in installations producing electricity, heating and cooling with a total rated thermal input equal to or exceeding 5 MW,</p> <p>(b) in the case of gaseous biomass fuels, in installations producing electricity, heating and cooling with a total rated thermal input equal to or exceeding 2 MW,</p> <p>(c) in the case of installations producing gaseous biomass fuels with the following average biomethane flow rate:</p>

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	(i) above 200 m ³ methane equivalent/h measured at standard conditions of temperature and pressure (i.e. 0°C and 1 bar atmospheric pressure);
	(ii) if biogas is composed of a mixture of methane and non-combustible other gases, for the methane flow rate, the threshold set out in point (i), recalculated proportionally to the volumetric share of methane in the mixture;
	Member States may apply the sustainability and greenhouse gas emissions saving criteria to installations with lower total rated thermal input or biomethane flow rate.

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),

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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.

This paragraph, with the exception of the first subparagraph, point (c), also applies to biofuels, bioliquids and biomass fuels produced from forest biomass.

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.

The first subparagraph, with the exception of points (b) and (c), and the second subparagraph also apply to biofuels, bioliquids and biomass fuels produced from forest biomass.

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<p>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.</p>	<p>5. Biofuels, bioliquids and biomass fuels produced from agricultural <ins>or forest</ins> biomass taken into account for the purposes referred to in <ins>paragraph 1, first subparagraph</ins>, points (a), (b) and (c), 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.</p>
<p>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:</p> <p>(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:</p> <ul style="list-style-type: none"> (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 <p>(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</p>	<p>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:</p> <p>(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:</p> <ul style="list-style-type: none"> (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, <ins>in a way that avoids harvesting of stumps and roots, degradation of primary forests or their conversion into plantation forests, and harvesting on vulnerable soils; minimises large clear-cuts and ensures locally appropriate thresholds for deadwood extraction and requirements to use logging systems that minimise impacts on soil quality including soil compaction, and on biodiversity features and habitats; and</ins>

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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.

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- (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 maintenance of soil quality and biodiversity with the aim of minimising negative impacts, in a way that avoids harvesting of stumps and roots, degradation of primary forests or their conversion into plantation forests, and harvesting on vulnerable soils; minimises large clear-cuts and ensures locally appropriate thresholds for deadwood extraction and requirements to use logging systems that minimise impacts on soil quality, including soil compaction, and on biodiversity features and habitats; and
- (v) that harvesting maintains or improves the long-term production capacity of the forest.

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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:	
(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;	
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;	

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(c) at least 65 % for biofuels, biogas consumed in the transport sector, and bioliquids produced in installations starting operation from 1 January 2021;	(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 .	(d) at least 70 % for electricity, heating and cooling production from biomass fuels used in installations until 31 December 2025, and at least 80 % 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.	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).	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 (²⁶);	
(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	

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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.

Article 29a

**Greenhouse gas emissions saving criteria
for renewable fuels of non-biological origin
and recycled carbon fuels**

1. Energy from renewable fuels of non-biological origin shall be counted towards Member States' shares of renewable energy and the targets referred to in Articles 3(1), 15a(1), 22a(1), 23(1), 24(4) and 25(1) only if the greenhouse gas emissions savings from the use of those fuels are at least 70 %.

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2. Energy from recycled carbon fuels may be counted towards the greenhouse gas emissions reduction target referred to in Article 25(1), first subparagraph, point (a), only if the greenhouse gas emissions savings from the use of those fuels are at least 70%.
3. The Commission is empowered to adopt delegated acts in accordance with Article 35 to supplement this Directive by specifying the methodology for assessing greenhouse gas emissions savings from renewable fuels of non-biological origin and from recycled carbon fuels. The methodology shall ensure that credit for avoided emissions is not given for CO₂ the capture of which has already received an emission credit under other provisions of law.

*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

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 Articles 29(2) to (7) and (10) and 29a(1) and (2) for renewable fuels and recycled-carbon fuels have been fulfilled. For that purpose, 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

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that the size of consignments is adjusted according to their energy content;	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	(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.	(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.	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 green house gas emissions savings thresholds set in,	3. Member States shall take measures to ensure that economic operators submit reliable information regarding the compliance with the sus-

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~~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

tainability and greenhouse gas emissions saving criteria laid down in Articles 29(2) to (7) and (10) and 29a(1) and (2), and that economic operators make available to the relevant Member State, upon request, the data used to develop that information.

The obligations laid down in this paragraph shall apply regardless of whether renewable fuels and 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.

4. The Commission may decide that voluntary national or international schemes setting standards for the production of renewable fuels and recycled carbon fuels, EN 48 EN provide accurate data on greenhouse gas emission savings for the purposes of Articles 29(10) and

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<p>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 (e)(ii) of the first subparagraph of Article 29(3).</p> <p>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.</p> <p>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.</p> <p>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 set out in Annex IX 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.</p> <p>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.</p> <p>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</p>	<p>29a (1) and (2), demonstrate compliance with Articles 27(3) and 31a(5), or demonstrate that consignments of biofuels, bioliquids and 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 Article 29(3), first subparagraph, point (c)(ii).</p> <p>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.</p> <p>5. Member States may set up national schemes where compliance with the sustainability and greenhouse gas emissions saving criteria laid down in Articles 29(2) to (7) and (10) and 29a(1) and (2), in accordance with the method-</p>

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<p>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.</p>	<p>ology developed under Article 29a(3), is verified throughout the entire chain of custody involving competent national authorities. Those schemes may also be used to verify the accuracy and completeness of the information included by economic operators in the Union database, to demonstrate compliance with Article 27(3) and for the certification of biofuels, bioliquids and biomass fuels with low indirect land-use change-risk.</p>
<p>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).</p>	<p>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 those schemes. 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).</p>
<p>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).</p>	<p>Where the decision is positive, other schemes recognised by the Commission in accordance with this Article shall not refuse mutual recognition with that Member State's national scheme as regards verification of compliance with the criteria for which it has been recognised by the Commission.</p>
	<p>For installations producing electricity heating and cooling with a total rated thermal input between 5 and 10 MW, Member States shall establish simplified national verification schemes to ensure the fulfillment of the sustainability and greenhouse gas emissions criteria set out in paragraphs (2) to (7) and (10) of Article 29.</p>

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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,

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, a Member State shall not require the economic operator to provide further evidence of compliance with the elements covered by the scheme for which the scheme has been recognised by the Commission.

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

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time and location of audits. Where Member States find issues of non-conformity, they shall inform the voluntary scheme without delay.	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.	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) <ins>and Article 29a(1) and (2)</ins> in relation to a source of <ins>renewable fuels and recycled carbon fuels</ins> 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	(a) take into account <ins>the renewable fuels and recycled carbon fuels</ins> 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.	(b) by way of derogation from paragraph 9 of this Article, require suppliers of the source of <ins>renewable fuels and recycled carbon fuels</ins> to provide further evidence of compliance with those sustainability and greenhouse gas emissions saving criteria and those greenhouse gas emissions savings thresholds.

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

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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. 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~~

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<p>V for biofuels and bioliquids and in Part C of Annex VI for biomass fuels.</p> <p>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.</p> <p>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.</p> <p>In the case of an adaptation of, or addition to, the list of default values in Annexes V and VI:</p> <ul style="list-style-type: none"> (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. <p>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 CO₂ capture, CO₂ replacement and CO₂ geological storage. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(3).</p>	
	<p><i>Article 31a</i></p> <p>Union database</p>
	<p>1. The Commission shall ensure that a Union database is set up to enable the tracing of liquid and gaseous renewable fuels and recycled carbon fuels.</p> <p>2. Member States shall require the relevant economic operators to enter in a timely manner accurate information into that database on the transactions made and the sustainability characteristics of the fuels subject to those transactions, including their life-cycle greenhouse gas emissions, starting from their point of production to the moment it is consumed in the Union. Information on whether support has been provided for the production of a specific consignment of fuel, and if so, on the type of support scheme, shall also be included in the database.</p>

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	<p>Where appropriate to improve traceability of data along the entire supply chain, the Commission is empowered to adopt delegated acts in accordance with Article 35 to further extend the scope of the information to be included in the Union database to cover relevant data from the point of production or collection of the raw material used for the fuel production.</p> <p>Member States shall require fuel suppliers to enter the information necessary to verify compliance with the requirements laid down in Article 25(1), first subparagraph, into the Union database.</p> <p>3. Member States shall have access to the Union database for the purposes of monitoring and data verification.</p> <p>4. If guarantees of origin have been issued for the production of a consignment of renewable gases, Member States shall ensure that those guarantees of origin are cancelled before the consignment of renewable gases can be registered in the database.</p> <p>5. Member States shall ensure that the accuracy and completeness of the information included by economic operators in the database is verified, for instance by using voluntary or national schemes.</p> <p>For data verification, voluntary or national schemes recognised by the Commission pursuant to Article 30(4), (5) and (6) may use third party information systems as intermediaries to collect the data, provided that such use has been notified to the Commission.</p>

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.

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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 2. The power to adopt delegated acts referred to in Article 8(3), second subparagraph, Article 29a(3), Article 26(2), fourth subparagraph, Article 26(2) fifth subparagraph, Article 27(1),

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<p>subparagraph of Article 26(2), the fifth subparagraph of Article 26(2), point (e) 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.</p>	<p>second subparagraph, Article 27(3), fourth subparagraph, Article 28(5), Article 28(6), second subparagraph, Article 31(5), second subparagraph, and Article 31a(2), second subparagraph, shall be conferred on the Commission for a period of five years from [the entry into force of this amending Directive]. 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.</p>
<p>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.</p>	
<p>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 (e) 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 <i>Official Journal of the European Union</i> or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.</p>	<p>4. The delegation of power referred to in Article 7(3), fifth subparagraph, Article 8(3), second subparagraph, Article 29a(3), Article 26(2), fourth subparagraph, Article 26(2) fifth subparagraph, Article 27(1), second subparagraph, Article 27(3), fourth subparagraph, Article 28(5), Article 28(6), second subparagraph, Article 31(5), and Article 31a(2), second subparagraph, 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.</p>
<p>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.</p>	
<p>6. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.</p>	
<p>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</p>	<p>7. A delegated act adopted pursuant to Article 7(3), fifth subparagraph, Article 8(3), second subparagraph, Article 29a(3), Article 26(2), fourth subparagraph, Article 26(2) fifth sub-</p>

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26(2), point (e) 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.	paragraph, Article 27(1), second subparagraph , Article 27(3), fourth subparagraph, Article 28(5), Article 28(6), second subparagraph , Article 31(5), and Article 31a(2), second subparagraph , 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.

II. Amendments to Regulation (EU) 2018/1999 (only changes displayed)

Regulation (EU) 2018/1999

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Article 2
Definitions

The following definitions apply:

- (1) 'policies and measures' means all instruments which contribute to meeting the objectives of the integrated national energy and climate plans and/or to implement commitments under points (a) and (b) of Article 4(2) of the UNFCCC, which may include those that do not have the limitation and reduction of greenhouse gas emissions or change in the energy system as a primary objective;
- (2) 'existing policies and measures' means implemented policies and measures and adopted policies and measures;
- (3) 'implemented policies and measures' means policies and measures for which one or more of the following applies at the date of submission of the integrated national energy and climate plan or of the integrated national energy and climate progress report: directly applicable Union or national law is in force, one or more voluntary agreements have been established, financial resources have been allocated, human resources have been mobilised;
- (4) 'adopted policies and measures' means policies and measures for which an official government decision has been made by the date of submission of the integrated national energy and climate plan or of the integrated national energy and climate progress report and there is a clear commitment to proceed with implementation;
- (5) 'planned policies and measures' means options that are under discussion and that have a realistic chance of being adopted and implemented after the date of submission of the integrated national energy and climate plan or of the integrated national energy and climate progress report;
- (6) 'system for policies and measures and projections' means a system of institutional, legal and procedural arrangements established for reporting policies and measures and projections relating to anthropogenic emissions by sources and removals by sinks of greenhouse gases and to the energy system, *inter alia* as required by Article 39;
- (7) 'projections' means forecasts of anthropogenic greenhouse gas emissions by sources and removals by sinks or developments of the energy system, including at least quantitative estimates for a sequence of four future years ending with 0 or 5 immediately following the reporting year;
- (8) 'projections without measures' means projections of anthropogenic greenhouse gas emissions by sources and removals by sinks that exclude the effects of all policies and measures which are planned, adopted or implemented after the year chosen as the starting point for the relevant projection;
- (9) 'projections with measures' means projections of anthropogenic greenhouse gas emissions by sources and removals by sinks that encompass the effects, in terms of greenhouse gas emission reductions or developments of the energy system, of policies and measures that have been adopted and implemented;

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(10)‘projections with additional measures’ means projections of anthropogenic greenhouse gas emissions by sources and removals by sinks or developments of the energy system that encompass the effects, in terms of greenhouse gas emission reductions, of policies and measures which have been adopted and implemented to mitigate climate change or meet energy objectives, as well as policies and measures which are planned for that purpose;	
(11)‘the Union's 2030 targets for energy and climate’ means the Union-wide binding target of at least 40 % domestic reduction in economy-wide greenhouse gas emissions as compared to 1990 to be achieved by 2030, the Union-level binding target of at least 32 % for the share of renewable energy consumed in the Union in 2030 , the Union-level headline target of at least 32,5 % for improving energy efficiency in 2030, and the 15 % electricity interconnection target for 2030 or any subsequent targets in this regard agreed by the European Council or by the European Parliament and by the Council for 2030;	(11)‘the Union's 2030 targets for energy and climate’ means the Union-wide binding target of at least 40 % domestic reduction in economy-wide greenhouse gas emissions as compared to 1990 to be achieved by 2030, the Union's binding target for renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001, the Union-level headline target of at least 32,5 % for improving energy efficiency in 2030, and the 15 % electricity interconnection target for 2030 or any subsequent targets in this regard agreed by the European Council or by the European Parliament and by the Council for 2030.;
(12)‘national inventory system’ means a system of institutional, legal and procedural arrangements established within a Member State for estimating anthropogenic emissions by sources and removals by sinks of greenhouse gases, and for reporting and archiving inventory information;	
(13)‘indicator’ means a quantitative or qualitative factor or variable that contributes to better understanding progress in implementing;	
(14)‘key indicators’ mean the indicators for the progress made with regard to the five dimensions of the Energy Union as proposed by the Commission;	
(15)‘technical corrections’ means adjustments to the national greenhouse gas inventory estimates made in the context of the review carried out pursuant to Article 38 when the submitted inventory data are incomplete or are prepared in a way that is not consistent with relevant international or Union rules or guidelines and that are intended to replace originally submitted estimates;	
(16)‘quality assurance’ means a planned system of review procedures to ensure that data quality objectives are met and that the best possible estimates and information are reported to support the effectiveness of the quality control programme and to assist Member States;	
(17)‘quality control’ means a system of routine technical activities to measure and control the quality of the information and estimates compiled with the purpose of ensuring data integrity, correctness and completeness, identifying and addressing errors and omissions, documenting and archiving data and other material used, and recording all quality assurance activities;	
(18)‘energy efficiency first’ means taking utmost account in energy planning, and in policy and investment decisions, of alternative cost-efficient energy efficiency measures to make energy demand and energy supply more efficient, in particular by means of cost-effective end-use	

Regulation (EU) 2018/1999	Proposal
energy savings, demand response initiatives and more efficient conversion, transmission and distribution of energy, whilst still achieving the objectives of those decisions;	
(19)‘SET-Plan’ means the Strategic Energy Technology Plan as set out in the Commission communication of 15 September 2015, entitled, ‘Towards an Integrated Strategic Energy Technology (SET) Plan: Accelerating the European Energy System Transformation’;	
(20)‘early efforts’ means:	
(a) in the context of the assessment of a potential gap between the Union's 2030 target for energy from renewable sources and the collective contributions of Member States, a Member State's achievement of a share of energy from renewable sources above its national binding target for 2020 as set out in Annex I to Directive (EU) 2018/2001 or a Member State's early progress towards its national binding target for 2020;	
(b) in the context of Commission recommendations based on the assessment pursuant to point (b) of Article 29(1) with regard to energy from renewable sources, a Member State's early implementation of its contribution to the Union's binding target of at least 32 % of renewable energy in 2030 as measured against its national reference points for renewable energy;	(b) in the context of Commission recommendations based on the assessment pursuant to point (b) of Article 29(1) with regard to energy from renewable sources, a Member State's early implementation of its contribution to the Union's binding target for renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001 as measured against its national reference points for renewable energy;
(21)‘regional cooperation’ means cooperation between two or more Member States engaged in a partnership covering one or more of the five dimensions of the Energy Union;	
(22)‘energy from renewable sources’ or ‘renewable energy’ means energy from renewable sources or renewable energy as defined in point (1) of Article 2 of Directive (EU) 2018/2001;	
(23)‘gross final consumption of energy’ means gross final consumption of energy as defined in point (4) of Article 2 of Directive (EU) 2018/2001;	
(24)‘support scheme’ means support scheme as defined in point (5) of Article 2 of Directive (EU) 2018/2001;	
(25)‘repowering’ means repowering as defined in point (10) of Article 2 of Directive (EU) 2018/2001;	
(26)‘renewable energy community’ means renewable energy community as defined in point (16) of Article 2 of Directive (EU) 2018/2001;	
(27)‘district heating’ or ‘district cooling’ means district heating or district cooling as defined in point (19) of Article 2 of Directive (EU) 2018/2001;	
(28)‘waste’ means waste as defined in point (23) of Article 2 of Directive (EU) 2018/2001;	
(29)‘biomass’ means biomass as defined in point (24) of Article 2 of Directive (EU) 2018/2001;	
(30)‘agricultural biomass’ means agricultural biomass as defined in point (25) of Article 2 of Directive (EU) 2018/2001;	

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(31)‘forest biomass’ means forest biomass as defined in point (26) of Article 2 of Directive (EU) 2018/2001;	
(32)‘biomass fuels’ means biomass fuels as defined in point (27) of Article 2 of Directive (EU) 2018/2001;	
(33)‘biogas’ means biogas as defined in point (28) of Article 2 of Directive (EU) 2018/2001;	
(34)‘bioliquids’ means bioliquids as defined in point (32) of Article 2 of Directive (EU) 2018/2001;	
(35)‘biofuels’ means biofuels as defined in point (33) of Article 2 of Directive (EU) 2018/2001;	
(36)‘advanced biofuels’ means advanced biofuels as defined in point (34) of Article 2 of Directive (EU) 2018/2001;	
(37)‘recycled carbon fuels’ means recycled carbon fuels as defined in point (35) of Article 2 of Directive (EU) 2018/2001;	
(38)‘starch-rich crops’ means starch-rich crops as defined in point (39) of Article 2 of Directive (EU) 2018/2001;	
(39)‘food and feed crops’ means food and feed crops as defined in point (40) of Article 2 of Directive (EU) 2018/2001;	
(40)‘ligno-cellulosic material’ means ligno-cellulosic material as defined in point (41) of Article 2 of Directive (EU) 2018/2001;	
(41)‘residue’ means residue as defined in point (43) of Article 2 of Directive (EU) 2018/2001;	
(42)‘primary energy consumption’ means primary energy consumption as defined in point (2) of Article 2 of Directive 2012/27/EU;	
(43)‘final energy consumption’ means final energy consumption as defined in point (3) of Article 2 of Directive 2012/27/EU;	
(44)‘energy efficiency’ means energy efficiency as defined in point (4) of Article 2 of Directive 2012/27/EU;	
(45)‘energy savings’ means energy savings as defined in point (5) of Article 2 of Directive 2012/27/EU;	
(46)‘energy efficiency improvement’ means energy efficiency improvement as defined in point (6) of Article 2 of Directive 2012/27/EU;	
(47)‘energy service’ means energy service as defined in point (7) of Article 2 of Directive 2012/27/EU;	
(48)‘total useful floor area’ means total useful floor area as defined in point (10) of Article 2 of Directive 2012/27/EU;	
(49)‘energy management system’ means energy management system as defined in point (11) of Article 2 of Directive 2012/27/EU;	
(50)‘obligated party’ means obligated party as defined in point (14) of Article 2 of Directive 2012/27/EU;	

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(51)‘implementing public authority’ means implementing public authority as defined in point (17) of Article 2 of Directive 2012/27/EU;	
(52)‘individual action’ means individual action as defined in point (19) of Article 2 of Directive 2012/27/EU;	
(53)‘energy distributor’ means energy distributor as defined in point (20) of Article 2 of Directive 2012/27/EU;	
(54)‘distribution system operator’ means ‘distribution system 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;	
(55)‘retail energy sales company’ means retail energy sales company as defined in point (22) of Article 2 of Directive 2012/27/EU;	
(56)‘energy service provider’ means energy service provider as defined in point (24) of Article 2 of Directive 2012/27/EU;	
(57)‘energy performance contracting’ means energy performance contracting as defined in point (27) of Article 2 of Directive 2012/27/EU;	
(58)‘cogeneration’ means cogeneration as defined in point (30) of Article 2 of Directive 2012/27/EU;	
(59)‘building’ means a building as defined in point (1) of Article 2 of Directive 2010/31/EU;	
(60)‘nearly zero-energy building’ means a nearly zero-energy building as defined in point (2) of Article 2 of Directive 2010/31/EU;	
(61)‘heat pump’ means heat pump as defined in point (18) of Article 2 of Directive 2010/31/EU;	
(62)‘fossil fuel’ means non-renewable carbon-based energy sources such as solid fuels, natural gas and oil.	

Article 4

National objectives, targets and contributions for the five dimensions of the Energy Union

Each Member State shall set out in its integrated national energy and climate plan the following main objectives, targets and contributions, as specified in point 2 of section A of Annex I:

(a) as regards the dimension ‘Decarbonisation’:

- (1) with respect to greenhouse gas emissions and removals and with a view to contributing to the achievement of the economy wide Union greenhouse gas emission reduction target:
 - (i) the Member State's binding national target for greenhouse gas emissions and the annual binding national limits pursuant to Regulation (EU) 2018/842;
 - (ii) the Member State's commitments pursuant to Regulation (EU) 2018/841;
 - (iii) where applicable to meet the objectives and targets of the Energy Union and the long-term Union greenhouse gas emissions commitments consistent with the Paris Agreement, other objectives and targets, including sector targets and adaptation goals.

(2) with respect to renewable energy:

(2) with respect to renewable energy:

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With a view to achieving the Union's binding target **of at least 32 %** renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001, a contribution to that target in terms of the Member State's share of energy from renewable sources in gross final consumption of energy in 2030, with an indicative trajectory for that contribution from 2021 onwards. By 2022, the indicative trajectory shall reach a reference point of at least 18 % of the total increase in the share of energy from renewable sources between that Member State's binding 2020 national target, and its contribution to the 2030 target. By 2025, the indicative trajectory shall reach a reference point of at least 43 % of the total increase in the share of energy from renewable sources between that Member State's binding 2020 national target and its contribution to the 2030 target. By 2027, the indicative trajectory shall reach a reference point of at least 65 % of the total increase in the share of energy from renewable sources between that Member State's binding 2020 national target and its contribution to the 2030 target.

By 2030, the indicative trajectory shall reach at least the Member State's planned contribution. If a Member State expects to surpass its binding 2020 national target, its indicative trajectory may start at the level it is projected to achieve. The Member States' indicative trajectories, taken together, shall add up to the Union reference points in 2022, 2025 and 2027 and to the Union's binding target **of at least 32 %** renewable energy in 2030. Separately from its contribution to the Union target and its indicative trajectory for the purposes of this Regulation, a Member State shall be free to indicate higher ambitions for national policy purposes;

- (b) as regards the dimension 'Energy Efficiency':

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With a view to achieving the Union's binding target **for** renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001, a contribution to that target in terms of the Member State's share of energy from renewable sources in gross final consumption of energy in 2030, with an indicative trajectory for that contribution from 2021 onwards. By 2022, the indicative trajectory shall reach a reference point of at least 18 % of the total increase in the share of energy from renewable sources between that Member State's binding 2020 national target, and its contribution to the 2030 target. By 2025, the indicative trajectory shall reach a reference point of at least 43 % of the total increase in the share of energy from renewable sources between that Member State's binding 2020 national target and its contribution to the 2030 target. By 2027, the indicative trajectory shall reach a reference point of at least 65 % of the total increase in the share of energy from renewable sources between that Member State's binding 2020 national target and its contribution to the 2030 target.

By 2030, the indicative trajectory shall reach at least the Member State's planned contribution. If a Member State expects to surpass its binding 2020 national target, its indicative trajectory may start at the level it is projected to achieve. The Member States' indicative trajectories, taken together, shall add up to the Union reference points in 2022, 2025 and 2027 and to the Union's binding target **for** renewable energy in 2030 **as referred to in Article 3 of Directive (EU) 2018/2001**. Separately from its contribution to the Union target and its indicative trajectory for the purposes of this Regulation, a Member State shall be free to indicate higher ambitions for national policy purposes;

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(1) the indicative national energy efficiency contribution to achieving the Union's energy efficiency targets of at least 32,5 % in 2030 as referred to in Article 1(1) and Article 3(5) of Directive 2012/27/EU, based on either primary or final energy consumption, primary or final energy savings, or energy intensity.	Member States shall express their contribution in terms of absolute level of primary energy consumption and final energy consumption in 2020, and in terms of absolute level of primary energy consumption and final energy consumption in 2030, with an indicative trajectory for that contribution from 2021 onwards. They shall explain their underlying methodology and the conversion factors used;
(2) the cumulative amount of end-use energy savings to be achieved over the period 2021-2030 under point (b) of Article 7(1) on the energy saving obligations pursuant to Directive 2012/27/EU;	
(3) the indicative milestones of the long-term strategy for the renovation of the national stock of residential and non-residential buildings, both public and private, the roadmap with domestically established measurable progress indicators, an evidence-based estimate of expected energy savings and wider benefits, and the contributions to the Union's energy efficiency targets pursuant to Directive 2012/27/EU in accordance with Article 2a of Directive 2010/31/EU;	
(4) the total floor area to be renovated or equivalent annual energy savings to be achieved from 2021 to 2030 under Article 5 of Directive 2012/27/EU on the exemplary role of public bodies' buildings;	
(c) as regards the dimension 'Energy Security':	
(1) national objectives with regard to:	<ul style="list-style-type: none"> — increasing the diversification of energy sources and supply from third countries, the purpose of which may be to reduce energy import dependency, — increasing the flexibility of the national energy system, and — addressing constrained or interrupted supply of an energy source, for the purpose of improving the resilience of regional and national energy systems, including a timeframe for when the objectives should be met;
(d) as regards the dimension 'Internal Energy Market':	
(1) the level of electricity interconnectivity that the Member State aims for in 2030 in consideration of the electricity interconnection target for 2030 of at least 15 %, with a strategy with the level from 2021 onwards defined in close cooperation with the Member States affected, taking into account the 2020 interconnection target of 10 % and the indicators of the urgency of action based on price differential in the wholesale market, nominal transmission capacity of interconnectors in relation to peak load and to installed renewable generation capacity as set out in point 2.4.1 of Section A of Part I of Annex I. Each new interconnector shall be subject to a socioeconomic and environmental cost-benefit analysis and implemented only if the potential benefits outweigh the costs;	

Regulation (EU) 2018/1999	Proposal
	(2) key electricity and gas transmission infrastructure projects, and, where relevant, modernisation projects, that are necessary for the achievement of objectives and targets under the five dimensions of the Energy Union;
	(3) national objectives related to other aspects of the internal energy market such as: increasing system flexibility, in particular through policies and measures related to market-based price formation in compliance with applicable law; market integration and coupling, aiming to increase the tradeable capacity of existing interconnectors, smart grids, aggregation, demand response, storage, distributed generation, mechanisms for dispatching, re-dispatching and curtailment and real-time price signals, including a timeframe for when the objectives should be met, and other national objectives related to the internal energy market as set out in point 2.4.3 of Section A of Part 1 of Annex I;
(e)	as regards the dimension ‘Research, Innovation and Competitiveness’:
	(1) national objectives and funding targets for public and, where available, private research and innovation relating to the Energy Union, including, where appropriate, a timeframe for when the objectives should be met; reflecting the priorities of the Energy Union Strategy and, where relevant, of the SET-Plan. In setting out its objectives, targets and contributions, the Member State may build upon existing national strategies or plans that are compatible with Union law;
(2)	where available, national 2050 objectives related to the promotion of clean energy technologies.

Article 5

Member States' contribution setting process in the area of renewable energy

1. In its contribution for its share of energy from renewable sources in gross final consumption of energy in 2030 and the last year of the period covered for the subsequent national plans, pursuant to point (a)(2) of Article 4, each Member State shall take into account all of the following:
 - (a) the measures provided for in Directive (EU) 2018/2001;
 - (b) the measures adopted to reach the energy efficiency target adopted pursuant to Directive 2012/27/EU;
 - (c) any other existing measures to promote renewable energy within the Member State and, where relevant, at Union level;
 - (d) the binding 2020 national target of energy from renewable sources in its gross final consumption of energy set out in Annex I to Directive (EU) 2018/2001;
 - (e) any relevant circumstances affecting renewable energy deployment, such as:
 - (i) equitable distribution of deployment across the Union;
 - (ii) economic conditions and potential, including GDP per capita;
 - (iii) potential for cost-effective renewable energy deployment;
 - (iv) geographical, environmental and natural constraints, including those of non-interconnected areas and regions;
 - (v) the level of power interconnection between Member States;

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<p>(vi) other relevant circumstances, in particular early efforts.</p> <p>With regard to point (e) of the first subparagraph, each Member State shall indicate in its integrated national energy and climate plan which relevant circumstances affecting renewable energy deployment it has taken into account.</p> <p>2. Member States shall collectively ensure that the sum of their contributions amounts to at least 32 % of energy from renewable sources in gross final energy consumption at Union level by 2030.</p>	<p>2. Member States shall collectively ensure that the sum of their contributions amounts to at least the level of the Union's binding target for renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001.</p>
<i>Article 29</i>	
Assessment of progress	
<p>1. By 31 October 2021 and every two years thereafter, the Commission shall assess, in particular on the basis of the integrated national energy and climate progress reports, of other information reported under this Regulation, of the indicators and of European statistics and data where available:</p> <ul style="list-style-type: none"> (a) the progress made at Union level towards meeting the objectives of the Energy Union, including for the first ten-year period the Union's 2030 targets for energy and climate, in particular for the purpose of avoiding any gaps to the Union's 2030 targets for renewable energy and energy efficiency; (b) the progress made by each Member State towards meeting its objectives, targets and contributions and implementing the policies and measures set out in its integrated national energy and climate plan; (c) the overall impact of aviation on the global climate, including through non-CO₂ emissions or effects, based on the emission data provided by Member States pursuant to Article 26, and improve that assessment by reference to scientific advancements and air traffic data, as appropriate; (d) the overall impact of the policies and measures of the integrated national energy and climate plans on the operation of the Union climate and energy policy measures; (e) the overall impact of the policies and measures included in the integrated national energy and climate plans on the operation of the European Union's emission trading system (EU ETS) and on the supply-demand balance of allowances in the European carbon market. <p>2. In the area of renewable energy, as part of its assessment referred to in paragraph 1, the Commission shall assess the progress made in the share of energy from renewable sources in the Union's gross final consumption on the basis of an indicative Union trajectory that starts from 20 % in 2020, reaches reference points of at least 18 % in 2022, 43 % in 2025 and 65 % in 2027 of the total increase in the share of energy from renewable sources between the Union's 2020 renewable energy target and the Union's</p>	<p>2. Member States shall collectively ensure that the sum of their contributions amounts to at least the level of the Union's binding target for renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001.</p>

Regulation (EU) 2018/1999	Proposal
2030 renewable energy target, and reaches the Union's 2030 renewable energy target of at least 32 % in 2030.	2030 renewable energy target, and reaches the Union's binding target for renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001.
3. In the area of energy efficiency, as part of its assessment referred to in paragraph 1, the Commission shall assess progress towards collectively achieving a maximum energy consumption at Union level of 1 128 Mtoe of primary energy and 846 Mtoe of final energy in 2030 in accordance with Article 3(5) of Directive 2012/27/EU.	
In carrying out its assessment, the Commission shall take the following steps:	
(a) consider whether the Union's milestone of no more than 1 483 Mtoe of primary energy and no more than 1 086 Mtoe of final energy in 2020 is achieved;	
(b) assess whether Member States' progress indicates that the Union as a whole is on track towards the level of energy consumption in 2030 as referred to in the first subparagraph, taking into account the assessment of information provided by Member States in their integrated national energy and climate progress reports;	
(c) use results from modelling exercises in relation to future trends in energy consumption at Union level and national level and use other complementary analysis;	
(d) take due account of relevant circumstances affecting primary and final energy consumption indicated by the Member States in their integrated national energy and climate plans, in accordance with Article 6(2).	
4. In the area of the internal energy market, as part of its assessment referred to in paragraph 1, the Commission shall assess the progress made towards the level of electricity interconnectivity that the Member State aims for in 2030.	
5. By 31 October 2021 and every year thereafter, the Commission shall assess, in particular on the basis of the information reported pursuant to this Regulation, whether the Union and its Member States have made sufficient progress towards meeting the following requirements:	
(a) commitments under Article 4 of the UNFCCC and under Article 3 of the Paris Agreement as set out in decisions adopted by the Conference of the Parties to the UNFCCC, or by the Conference of the Parties to the UNFCCC serving as the meeting of the Parties to the Paris Agreement;	
(b) obligations set out in Article 4 of Regulation (EU) 2018/842 and in Article 4 of Regulation (EU) 2018/841;	
(c) the objectives set out in the integrated national energy and climate plan with a view to achieving the Energy Union objectives and for the first ten-year period with a view to fulfilling the 2030 targets for energy and climate.	
6. In its assessment the Commission should take into consideration the latest country-specific recommendations issued in the context of the European Semester.	
7. The Commission shall report on its assessment in accordance with this Article as part of the State of the Energy Union report referred to in Article 35.	

III. Amendments to Directive 98/70/EC (only changes displayed)

Directive 98/70/EC

Proposal

Article 1

Scope

This Directive sets, in respect of road vehicles, and non-road mobile machinery (including inland waterway vessels when not at sea), agricultural and forestry tractors, and recreational craft when not at sea:

(a) technical specifications on health and environmental grounds for fuels to be used with positive ignition and compression-ignition engines, taking account of the technical requirements of those engines; and

(b) a target for the reduction of life cycle green-house gas emissions.

Article 2

Definitions

For the purposes of this Directive:

1. ‘petrol’ means any volatile mineral oil intended for the operation of internal combustion positive-ignition engines for the propulsion of vehicles and falling within CN codes 2710 11 41, 2710 11 45, 2710 11 49, 2710 11 51 and 2710 11 59 (1);

2. ‘diesel fuels’ means gas oils falling within CN code 2710 19 41 and used for self-propelling vehicles as referred to in Directive 70/220/EEC and Directive 88/77/EEC;

3. ‘gas oils intended for use by non-road mobile machinery (including inland waterway vessels), agricultural and forestry tractors, and recreational craft’ means any petroleum-derived liquid, falling within CN codes 2710 19 41 and 2710 19 45, intended for use in compression ignition engines referred to in Directives 94/25/EC, 97/68/EC and 2000/25/EC;

4. ‘outermost regions’ means France with regard to the French overseas departments, Portugal with regard to the Azores and Madeira, and Spain with regard to the Canary Islands;

This Directive sets, in respect of road vehicles, and non-road mobile machinery (including inland waterway vessels when not at sea), agricultural and forestry tractors, and recreational craft when not at sea, technical specifications on health and environmental grounds for fuels to be used with positive ignition and compression-ignition engines, taking account of the technical requirements of those engines.

1. ‘petrol’ means any volatile mineral oil intended for the operation of internal combustion positive-ignition engines for the propulsion of vehicles and falling within CN codes 2710 12 41, 2710 12 45 and 2710 12 49;

2. ‘diesel fuels’ means gas oils falling within CN code 2710 19 43 as referred to in Regulation (EC) No 715/2007 of the European Parliament and the Council and Regulation (EC) 595/2009 of the European Parliament and of the Council and used for self-propelling vehicles;

3. ‘gas oils intended for use by non-road mobile machinery (including inland waterway vessels), agricultural and forestry tractors, and recreational craft’ means any petroleum-derived liquid, falling within CN codes 2710 19 43, referred to in Directive 2013/53/EU of the European Parliament and of the Council, Regulation (EU) 167/2013 of the European Parliament and of the Council and Regulation (EU) 2016/1628 of the European Parliament and of the Council and intended for use in compression ignition engines;

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5. ‘Member States with low ambient summer temperatures’ means Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Sweden and the United Kingdom;
6. ‘life cycle greenhouse gas emissions’ means all net emissions of CO₂, CH₄ and N₂O that can be assigned to the fuel (including any blended components) or energy supplied. This includes all relevant stages from extraction or cultivation, including land-use changes, transport and distribution, processing and combustion, irrespective of where those emissions occur;
7. ‘greenhouse gas emissions per unit of energy’ means the total mass of CO₂ equivalent greenhouse gas emissions associated with the fuel or energy supplied, divided by the total energy content of the fuel or energy supplied (for fuel, expressed as its low heating value);
8. ‘supplier’ means ~~the entity responsible for passing fuel or energy through an excise duty point or, if no excise is due, any other relevant entity designated by a Member State~~ 8. ‘supplier’ means ‘fuel supplier’ as defined in Article 2, first paragraph, point (38) of Directive (EU) 2018/2001 of the European Parliament and of the Council;
9. ‘biofuels’ ~~has the same meaning as in Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources~~ 9. ‘biofuels’ means ‘biofuels’ as defined in Article 2, first paragraph, point (33) of Directive 2018/2001;
10. ‘renewable liquid and gaseous transport fuels of non-biological origin’ means liquid or gaseous fuels other than biofuels whose energy content comes from renewable energy sources other than biomass, and which are used in transport;
11. ‘starch-rich crops’ means crops comprising mainly cereals (regardless of whether only the grains are used or the whole plant, such as in the case of green maize, is used), tubers and root crops (such as potatoes, Jerusalem artichokes, sweet potatoes, cassava and yams), and corm crops (such as taro and cocoyam);
12. ‘low indirect land-use change-risk biofuels’ means biofuels, the feedstocks of which were produced within schemes which reduce the displacement of production for purposes other than for making biofuels and which were produced in accordance with the sustainability criteria for biofuels set out in Article 7b;
13. ‘processing 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;
14. ‘agricultural, aquaculture, fisheries and forestry residues’ means residues that are directly generated by agriculture, aquaculture, fisheries and forestry; they do not include residues from related industries or processing.

*Article 4***Diesel fuel**

1. Member States shall ensure that diesel fuel may be placed on the market in their territory 1. Member States shall ensure that diesel fuel may be placed on the market in their territory

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only if it complies with the specifications set out in Annex II.

Notwithstanding the requirements of Annex II, Member States **may permit** the placing on the market of diesel with a fatty acid methyl ester (FAME) content **greater than** 7 %.

Member States shall ensure the provision of appropriate information to consumers concerning the biofuel, in particular FAME, content of diesel fuel.

2. Member States shall ensure that, **no later than from 1 January 2008**, gas oils intended for use by non-road mobile machinery (including inland waterway vessels), agricultural and forestry tractors and recreational craft **may be placed on the market within their territory only if the sulphur content of those gas oils does not exceed 1 000 mg/kg. From 1 January 2011, the maximum permissible sulphur content of those gas oils shall be** 10 mg/kg. Member States shall ensure that liquid fuels other than those gas oils may be used in inland waterway vessels and recreational craft only if the sulphur content of those liquid fuels does not exceed the maximum permissible content of those gas oils.

However, in order to accommodate minor contamination in the supply chain, Member States may, from 1 January 2011, permit gas oil intended for use by non-road mobile machinery (including inland waterway vessels), agricultural and forestry tractors and recreational craft to contain up to 20 mg/kg of sulphur at the point of final distribution to end users. Member States may also permit the continued placing on the market until 31 December 2011 of gas oil containing up to 1 000 mg/kg sulphur for rail vehicles and agricultural and forestry tractors, provided that they can ensure that the proper functioning of emissions control systems will not be compromised.

3. Member States may, for the outermost regions, make specific provision for the introduction of diesel fuel and gas oils with a maximum sulphur content of 10 mg/kg. Member States making use of this provision shall inform the Commission accordingly.

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only if it complies with the specifications set out in Annex II.

Member States **shall require suppliers to ensure** the placing on the market of diesel with a fatty acid methyl ester (FAME) content **of up to** 7%.

Member States shall ensure the provision of appropriate information to consumers concerning the biofuel, in particular FAME, content of diesel fuel.

2, Member States shall ensure that **the maximum permissible sulphur content of** gas oils intended for use by non-road mobile machinery (including inland waterway vessels), agricultural and forestry tractors and recreational craft **is** 10 mg/kg. Member States shall ensure that liquid fuels other than those gas oils may be used in inland waterway vessels and recreational craft only if the sulphur content of those liquid fuels does not exceed the maximum permissible content of those gas oils.

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4. For Member States with severe winter weather, the maximum distillation point of 65 % at 250 °C for diesel fuels and gas oils may be replaced by a maximum distillation point of 10 % (vol/vol) at 180 °C.

*Article 7a***Greenhouse gas emission reductions**

1. Member States shall designate the supplier or suppliers responsible for monitoring and reporting life cycle greenhouse gas emissions per unit of energy from fuel and energy supplied. In the case of providers of electricity for use in road vehicles, Member States shall ensure that such providers may choose to become a contributor to the reduction obligation laid down in paragraph 2 if they can demonstrate that they can adequately measure and monitor electricity supplied for use in those vehicles.

In the case of suppliers of biofuels for use in aviation, Member States may permit such suppliers to choose to become contributors to the reduction obligation laid down in paragraph 2 of this Article provided that those biofuels comply with the sustainability criteria set out in Article 7b.

With effect from 1 January 2011, suppliers shall report annually, to the authority designated by the Member State, on the greenhouse gas intensity of fuel and energy supplied within each Member State by providing, as a minimum, the following information:

(a) the total volume of each type of fuel or energy supplied; and

(b) life cycle greenhouse gas emissions per unit of energy.

Member States shall ensure that reports are subject to verification.

The Commission shall, where appropriate, establish guidelines for the implementation of this paragraph.

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~~2. Member States shall require suppliers to reduce as gradually as possible life cycle greenhouse gas emissions per unit of energy from fuel and energy supplied by up to 10 % by 31 December 2020, compared with the fuel baseline standard set out in Annex II to Council Directive (EU) 2015/652. That reduction shall consist of:~~

- ~~(a) 6 % by 31 December 2020. Member States may require suppliers, for this reduction, to comply with the following intermediate targets: 2 % by 31 December 2014 and 4 % by 31 December 2017;~~
- ~~(b) an indicative additional target of 2 % by 31 December 2020, subject to Article 9(1)(h), to be achieved through one or both of the following methods:~~
 - ~~(i) the supply of energy for transport supplied for use in any type of road vehicle, non-road mobile machinery (including inland waterway vessels), agricultural or forestry tractor or recreational craft;~~
 - ~~(ii) the use of any technology (including carbon capture and storage) capable of reducing life cycle greenhouse gas emissions per unit of energy from fuel or energy supplied;~~
- ~~(c) an indicative additional target of 2 % by 31 December 2020, subject to Article 9(1)(i), to be achieved through the use of credits purchased through the Clean Development Mechanism of the Kyoto Protocol, under the conditions set out in Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community (⁷), for reductions in the fuel supply sector.~~

~~Member States may provide that the maximum contribution of biofuels produced from cereal and other starch rich crops, sugars and oil crops and from crops grown as main crops primarily for energy purposes on agricultural land for the~~

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~~purpose of compliance with the target referred to in the first subparagraph of this paragraph shall not exceed the maximum contribution established in point (d) of the second subparagraph of Article 3(4) of Directive 2009/28/EC.~~

~~3. Life cycle greenhouse gas emissions from biofuels shall be calculated in accordance with Article 7d. Lifecycle greenhouse gas emissions from other fuels and energy shall be calculated using a methodology laid down in accordance with paragraph 5 of this Article.~~

~~4. Member States shall ensure that a group of suppliers may choose to meet the reduction obligations pursuant to paragraph 2 jointly. In such case they shall be considered as a single supplier for the purposes of paragraph 2.~~

~~5. The Commission shall adopt implementing acts in accordance with the examination procedure referred to in Article 11(3) to set out detailed rules for the uniform implementation, by Member States, of paragraph 4 of this Article.~~

~~6. The Commission shall be empowered to adopt no later than 31 December 2017 delegated acts in order to establish greenhouse gas emission default values, where such values have not already been established prior to 5 October 2015, as regards:~~

~~(a) renewable liquid and gaseous transport fuels of non-biological origin;~~

~~(b) carbon capture and utilisation for transport purposes.~~

~~7. As part of the reporting under paragraph 1, Member States shall ensure that fuel suppliers report annually to the authority designated by the Member State, on the biofuel production pathways, volumes of biofuels derived from the feedstocks as categorised in Part A of Annex V, and the life cycle greenhouse gas emissions per unit of energy, including the provisional mean values of the estimated indirect land-use change emissions from biofuels. Member States shall report those data to the Commission.~~

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1. Irrespective of whether the raw materials were cultivated inside or outside the territory of the Community, energy from biofuels shall be taken into account for the purposes of Article 7a only if they fulfil the sustainability criteria set out in paragraphs 2 to 6 of this Article.

However, biofuels produced from waste and residues, other than agricultural, aquaculture, fisheries and forestry residues, need only fulfil the sustainability criteria set out in paragraph 2 of this Article in order to be taken into account for the purposes referred to in Article 7a.

2. The greenhouse gas emission saving from the use of biofuels taken into account for the purposes referred to in paragraph 1 shall be at least 60 % for biofuels produced in installations starting operation after 5 October 2015. An installation shall be considered to be in operation if the physical production of biofuels has taken place.

In the case of installations that were in operation on or before 5 October 2015, for the purposes referred to in paragraph 1, biofuels shall achieve a greenhouse gas emission saving of at least 35 % until 31 December 2017 and at least 50 % from 1 January 2018.

The greenhouse gas emission saving from the use of biofuels shall be calculated in accordance with Article 7d(1).

3. Biofuels taken into account for the purposes referred to in paragraph 1 shall not be made from raw material obtained from land with 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 such a status:

(a) primary forest and other wooded land, that is 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;

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(b) 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 second subparagraph of Article 7e(4);

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

(e) highly biodiverse grassland that is:

(i) natural, namely, grassland that would remain grassland in the absence of human intervention and which 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 which is species rich and not degraded, unless evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status.

4. Biofuels taken into account for the purposes referred to in 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

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~~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 IV is applied, the conditions laid down in paragraph 2 of this Article would be fulfilled.~~

~~The provisions of 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 taken into account for the purposes referred to in 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. Agricultural raw materials cultivated in the Community and used for the production of biofuels taken into account for the purposes referred to in Article 7a shall be obtained in accordance with the requirements and standards under the provisions referred to under the heading ‘Environment’ in Part A and in point 9 of Annex II to Council Regulation (EC) No 73/2009 of 19 January 2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers (⁸) and in accordance with the minimum requirements for good agricultural and environmental condition defined pursuant to Article 6(1) of that Regulation.~~

~~7. The Commission shall, every two years, report to the European Parliament and the Council, in respect of both third countries and Member States that are a significant source of biofuels or of raw material for biofuels consumed within the Community, on national measures taken to respect the sustainability criteria set out~~

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~~in paragraphs 2 to 5 and for soil, water and air protection. The first report shall be submitted in 2012.~~

The Commission shall, every two years, report to the European Parliament and the Council on the impact on social sustainability in the Community and in third countries of increased demand for biofuel, on the impact of Community biofuel policy on the availability of foodstuffs at affordable prices, in particular for people living in developing countries, and on wider development issues. Reports shall address the respect of land-use rights. They shall state, both for third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, whether the country has ratified and implemented each of the following Conventions of the International Labour Organisation:

— Convention concerning Forced or Compulsory Labour (No 29),

— Convention concerning Freedom of Association and Protection of the Right to Organise (No 87),

— Convention concerning the Application of the Principles of the Right to Organise and to Bargain Collectively (No 98),

— Convention concerning Equal Remuneration of Men and Women Workers for Work of Equal Value (No 100),

— Convention concerning the Abolition of Forced Labour (No 105),

— Convention concerning Discrimination in Respect of Employment and Occupation (No 111),

— Convention concerning Minimum Age for Admission to Employment (No 138),

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~~— Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour (No 182).~~

~~Those reports shall state, both for third countries and Member States that are a significant source of raw material for biofuel consumed within the Community, whether the country has ratified and implemented:~~

~~— the Carthagena Protocol on biosafety,~~

~~— the Convention on International Trade in Endangered Species of Wild Fauna and Flora.~~

~~The first report shall be submitted in 2012. The Commission shall, if appropriate, propose corrective action, in particular if evidence shows that biofuel production has a significant impact on food prices.~~

~~8. For the purposes referred to in paragraph 1, Member States shall not refuse to take into account, on other sustainability grounds, biofuels obtained in compliance with this Article.~~

*Article 7c***Verification of compliance with the sustainability criteria for biofuels**

~~1. Where biofuels are to be taken into account for the purposes of Article 7a, Member States shall require economic operators to show that the sustainability criteria set out in Article 7b(2) to (5) have been fulfilled. For that purpose they shall require economic operators to use a mass balance system which:~~

~~(a) allows consignments of raw material or biofuel with differing sustainability characteristics to be mixed;~~

~~(b) requires information about the sustainability characteristics and sizes of the consignments referred to in point (a) to remain assigned to the mixture; and~~

~~(c) provides for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics,~~

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in the same quantities, as the sum of all consignments added to the mixture.

2. The Commission shall report to the European Parliament and the Council in 2010 and 2012 on the operation of the mass balance verification method described in paragraph 1 and on the potential for allowing for other verification methods in relation to some or all types of raw material or biofuels. In its assessment the Commission shall consider those verification methods in which information about sustainability characteristics need not remain physically assigned to particular consignments or mixtures. The assessment shall take into account the need to maintain the integrity and effectiveness of the verification system while avoiding the imposition of an unreasonable burden on industry. The report shall be accompanied, where appropriate, by proposals to the European Parliament and the Council, concerning the use of other verification methods.

3. Member States shall take measures to ensure that economic operators submit reliable information and make available to the Member State, on 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. The auditing shall verify that the systems used by economic operators are accurate, reliable and protected against fraud. It shall evaluate the frequency and methodology of sampling and the robustness of the data.

The information referred to in the first subparagraph shall include in particular information on compliance with the sustainability criteria set out in Article 7b(2) to (5), appropriate and relevant information on measures taken for soil, water and air protection, the restoration of degraded land, the avoidance of excessive water consumption in areas where water is scarce, and appropriate and relevant information concerning measures taken in order to take into account the issues referred to in the second subparagraph of Article 7b(7).

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The Commission shall adopt implementing acts in accordance with the examination procedure referred to in Article 11(3), to establish the list of appropriate and relevant information referred to in the first two subparagraphs of this paragraph. The Commission shall ensure, in particular, that the provision of that information does not represent an excessive administrative burden for operators in general or for smallholder farmers, producer organisations and cooperatives in particular.

The obligations laid down in this paragraph shall apply whether the biofuels are produced within the Community or imported.

Member States shall submit to the Commission in aggregated form, the information referred to in the first subparagraph. The Commission shall publish that information on the transparency platform referred to in Article 24 of Directive 2009/28/EC in summary form preserving the confidentiality of commercially sensitive information.

4. The Community shall endeavour to conclude bilateral or multilateral agreements with third countries containing provisions on sustainability criteria that correspond to those in this Directive. Where the Community has concluded agreements containing provisions relating to matters covered by the sustainability criteria set out in Article 7b(2) to (5), the Commission may decide that those agreements demonstrate that biofuels produced from raw materials cultivated in those countries comply with the sustainability criteria in question. When those agreements are concluded, due consideration shall be given to measures taken for the conservation of areas that provide, in critical situations, basic ecosystem services (such as watershed protection and erosion control), for soil, water and air protection, indirect land use changes, the restoration of degraded land, the avoidance of excessive water consumption in areas where water is scarce and to the issues referred to in the second subparagraph of Article 7b(7).

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	<p>The Commission may decide that voluntary national or international schemes setting standards for the production of biomass products contain accurate data for the purposes of Article 7b(2) or demonstrate that consignments of biofuel comply with the sustainability criteria set out in Article 7b(3) to (5). The Commission may decide that those schemes contain accurate data for the purposes of information on measures taken for the conservation of areas that provide, in critical situations, basic ecosystem services (such as watershed protection and erosion control), for soil, water and air protection, the restoration of degraded land, the avoidance of excessive water consumption in areas where water is scarce and on the issues referred to in the second subparagraph of Article 7b(7). The Commission may also 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 Article 7b(3)(b)(ii).</p>
	<p>The Commission may decide that voluntary national or international schemes to measure greenhouse gas savings contain accurate data for the purposes of Article 7b(2).</p>
	<p>The Commission may decide that land that falls within the scope of a national or regional recovery programme aimed at improving severely degraded or heavily contaminated land fulfils the criteria referred to in point 9 of Part C of Annex IV.</p>
	<p>5. The Commission shall adopt decisions under paragraph 4 only if the agreement or scheme in question meets adequate standards of reliability, transparency and independent auditing. Schemes to measure greenhouse gas savings shall also comply with the methodological requirements in Annex IV. Lists of areas of high biodiversity value as referred to in Article 7b(3)(b)(ii) shall meet adequate standards of objectivity and coherence with internationally</p>

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recognised standards and provide for appropriate appeal procedures.

The voluntary schemes referred to in paragraph 4 ('the voluntary schemes') shall regularly, and at least once per year, 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.

In order in particular to prevent fraud, the Commission may, on the basis of a risk analysis or the reports referred to in the second subparagraph of paragraph 6 of this Article, specify the standards of independent auditing and require all voluntary schemes to apply those standards. This shall be done by means of implementing acts adopted in accordance with the examination procedure referred to in Article 11(3). Such acts shall set a time frame by which voluntary schemes need to implement the standards. The Commission may repeal decisions recognising voluntary schemes in the event that those schemes fail to implement such standards in the time frame provided for.

6. Decisions under paragraph 4 of this Article shall be adopted in accordance with the examination procedure referred to in Article 11(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 by 6 October 2016 and annually thereafter by 30 April, a report to the Commission covering each of the points set out in the third subparagraph of this paragraph. Generally, the report shall cover the preceding calendar year. The first report shall cover at least six months from 9 September 2015. The requirement to submit a report shall apply only to voluntary schemes that have operated for at least 12 months.

By 6 April 2017, the Commission shall submit a report to the European Parliament and to the

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Council analysing the reports referred to in the second subparagraph of this paragraph, reviewing the operation of the agreements referred to in paragraph 4 or voluntary schemes in respect of which a decision has been adopted in accordance with this Article, and identifying best practices. The report shall be based on the best information available, including following consultations with stakeholders, and on practical experience in the application of the agreements or schemes concerned. The report shall analyse the following:

in general:

(a) the independence, modality and frequency of audits, both in relation to what is stated on those aspects in the scheme documentation, at the time the scheme concerned was approved by the Commission, and in relation to industry best practice;

(b) the availability of, and experience and transparency in the application of, methods for identifying and dealing with non-compliance, with particular regard to dealing with situations or allegations of serious wrongdoing on the part of members of the scheme;

(c) transparency, particularly in relation to the accessibility of the scheme, the availability of translations in the applicable languages of the countries and regions from which raw materials originate, the accessibility of a list of certified operators and relevant certificates, and the accessibility of auditor reports;

(d) stakeholder involvement, particularly as regards the consultation of indigenous and local communities prior to decision-making during the drafting and reviewing of the scheme as well as during audits and the response given to their contributions;

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(e) the overall robustness of the scheme, particularly in light of rules on the accreditation, qualification and independence of auditors and relevant scheme bodies;

(f) market updates of the scheme, the amount of feedstocks and biofuels certified, by country of origin and type, the number of participants;

(g) the ease and effectiveness of implementing a system that tracks the proofs of conformity with the sustainability criteria that the scheme gives to its member(s), such a system intended to serve as a means of preventing fraudulent activity with a view, in particular, to the detection, treatment and follow-up of suspected fraud and other irregularities and where appropriate, the number of cases of fraud or irregularities detected;

and in particular:

(h) options for entities to be authorised to recognise and monitor certification bodies;

(i) criteria for the recognition or accreditation of certification bodies;

(j) rules on how the monitoring of the certification bodies is to be conducted;

(k) ways to facilitate or improve the promotion of best practice.

A Member State may notify its national scheme to the Commission. The Commission shall give priority to the assessment of such a scheme. A decision on the compliance of such a notified national scheme with the conditions set out in this Directive shall be adopted in accordance with the examination procedure referred to in Article 11(3), in order to facilitate mutual bilateral and multilateral recognition of schemes for verification of compliance with the sustainability criteria for biofuels. Where the decision is positive, schemes established in accordance

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with this Article shall not refuse mutual recognition with that Member State's scheme as regards the verification of compliance with the sustainability criteria set out in Article 7b(2) to (5).

7. When an economic operator provides proof or data obtained in accordance with an agreement or scheme that has been the subject of a decision under paragraph 4, to the extent covered by that decision, a Member State shall not require the supplier to provide further evidence of compliance with the sustainability criteria set out in Article 7b(2) to (5) nor information on measures referred to in the second subparagraph of paragraph 3 of this Article.

8. At the request of a Member State or on its own initiative, the Commission shall examine the application of Article 7b in relation to a source of biofuel and, within six months of receipt of a request decide, in accordance with the examination procedure referred to in Article 11(3), whether the Member State concerned may take biofuel from that source into account for the purposes of Article 7a.

9. By 31 December 2012, the Commission shall report to the European Parliament and to the Council on:

(a) the effectiveness of the system in place for the provision of information on sustainability criteria; and

(b) whether it is feasible and appropriate to introduce mandatory requirements in relation to air, soil or water protection, taking into account the latest scientific evidence and the Community's international obligations.

The Commission shall, if appropriate, propose corrective action.

Article 7d**Calculation of life cycle greenhouse gas emissions from biofuels**

1. For the purposes of Article 7a and Article 7b(2), life cycle greenhouse gas emissions from biofuels shall be calculated as follows:

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(a) where a default value for greenhouse gas emission savings for the biofuel production pathway is laid down in Part A or B of Annex IV and where the el value for those biofuels calculated in accordance with point 7 of Part C of Annex IV 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 IV; or

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

2. By 31 March 2010, Member States shall submit to the Commission a report, including a list of those 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 of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS) (⁹) where the typical greenhouse gas emissions from cultivation of agricultural raw materials can be expected to be lower than or equal to the emissions reported under the heading ‘Disaggregated default values for cultivation’ in Part D of Annex IV to this Directive, accompanied by a description of the method and data used to establish that list. That method shall take into account soil characteristics, climate and expected raw material yields.

3. The typical greenhouse gas emissions from cultivation of agricultural raw materials included in the reports referred to in paragraph 2 in the case of Member States, and, in the case of territories outside the Union, in reports equivalent to those referred to in paragraph 2 and

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drawn up by competent bodies, may be reported to the Commission.

4. The Commission may decide, by means of an implementing act adopted in accordance with the examination procedure referred to in Article 11(3), that the reports referred to in paragraph 3 of this Article contain accurate data for the purposes of measuring the greenhouse gas emissions associated with the cultivation of bio-fuel feedstocks typically produced in those areas for the purposes of Article 7b(2).

5. By 31 December 2012 at the latest and every two years thereafter, the Commission shall draw up and publish a report on the estimated typical and default values in Parts B and E of Annex IV, paying special attention to greenhouse gas emissions from transport and processing.

In the event that the reports referred to in the first subparagraph indicate that the estimated typical and default values in Parts B and E of Annex IV might need to be adjusted on the basis of the latest scientific evidence, the Commission shall, as appropriate, submit a legislative proposal to the European Parliament and to the Council.

7. The Commission shall keep Annex IV under review, with a view, where justified, to the addition of values for further biofuel production pathways for the same or for other raw materials. That review shall also consider the modification of the methodology laid down in Part C of Annex IV, particularly with regard to:

— the method of accounting for wastes and residues;

— the method of accounting for co-products;

— the method of accounting for cogeneration; and

— the status given to agricultural crop residues as co-products.

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The default values for waste vegetable or animal oil biodiesel shall be reviewed as soon as possible. In the event that the Commission's review concludes that additions to Annex IV should be made, the Commission shall be empowered to adopt delegated acts pursuant to Article 10a to add, but not to remove or amend, estimated typical and default values in Parts A, B, D and E of Annex IV for biofuel pathways for which specific values are not yet included in that Annex.

Any adaptation of or addition to the list of default values in Annex IV shall comply with the following:

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

(b) in all other cases default values must be conservative compared to normal production processes.

8. Where necessary in order to ensure the uniform application of point 9 of Part C of Annex IV, the Commission may adopt implementing acts setting out detailed technical specifications and definitions. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 11(3).

Article 7e**Implementing measures and reports concerning the sustainability of biofuels**

1. The implementing measures referred to in the second subparagraph of Article 7b(3), the third subparagraph of Article 7c(3), Article 7c(6), Article 7c(8), Article 7d(5), the first subparagraph of Article 7d(7) and Article 7d(8) shall also take full account of the purposes of Directive 2009/28/EC.

2. The reports by the Commission to the European Parliament and to the Council referred to in Article 7b(7), Article 7c(2), Article 7c(9) and Article 7d(4) and (5), as well as the reports and information submitted pursuant to the first and

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fifth subparagraphs of Article 7e(3) and Article 7d(2), shall be prepared and transmitted for the purposes of both Directive 2009/28/EC and this Directive.

Article 9
Reporting

1. The Commission shall submit by 31 December 2012, and every three years thereafter, a report to the European Parliament and the Council accompanied, where appropriate, by a proposal for amendments to this Directive. That report shall in particular take account of the following:

(a) the use and evolution of automotive technology and, in particular, the feasibility of increasing the maximum permitted biofuel content of petrol and diesel and the need to review the date referred to in Article 3(3);

(b) Community policy on CO₂ emissions from road transport vehicles;

(c) the possibility of applying the requirements of Annex II, and in particular the limit value for polycyclic aromatic hydrocarbons, to non-road mobile machinery (including inland waterways vessels), agricultural and forestry tractors and recreational craft;

(d) the increase in the use of detergents in fuels;

(e) the use of metallic additives other than MMT in fuels;

(f) the total volume of components used in petrol and diesel having regard to Community environmental legislation, including the objectives of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (10) and its daughter directives;

(g) the consequences of the greenhouse gas reduction target set in Article 7a(2) for the emissions trading scheme;

(h) the potential need for adjustments to Articles 2(6), 2(7) and 7a(2)(b) in order to assess possible contributions for reaching a greenhouse gas reduction target of up to 10 % by 2020. These considerations shall be based on the potential for life cycle greenhouse gas emission reductions from fuels and energy within the Community, taking into account in particular any developments in environmentally safe carbon capture and storage technologies and in electric road vehicles, and the cost effectiveness of means of reducing those emissions, as referred to in Article 7a(2)(b);

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(i) the possibility of introducing additional measures for suppliers to reduce by 2 % life cycle greenhouse gas emissions per unit of energy, in comparison with the fuel baseline standard referred to in Article 7a(5)(b), through the use of credits purchased through the Clean Development Mechanism of the Kyoto Protocol under the conditions set out in Directive 2003/87/EC, in order to assess further possible contributions for reaching a greenhouse gas reduction target of up to 10 % by 2020, as referred to in Article 7a(2)(c) of this Directive;

(j) an updated cost-benefit and impact analysis of a reduction in the maximum permitted vapour pressure for petrol for the summer period below 60 kPa;

(k) the production pathways, volumes and the life cycle greenhouse gas emissions per unit of energy, including the provisional mean values of the estimated indirect land-use change emissions and the associated range derived from the sensitivity analysis as set out in Annex V, of the biofuels consumed in the Union. The Commission shall make data on the provisional mean values of the estimated indirect land-use change emissions and the associated range derived from the sensitivity analysis publicly available.

2. At the latest in 2014, the Commission shall submit a report to the European Parliament and the Council relating to the achievement of the greenhouse gas emission target for 2020 referred to in Article 7a, taking into account the need for consistency between this target and the target referred to in Article 3(3) of Directive 2009/28/EC, concerning the share of energy from renewable sources in transport, in the light of the reports referred to in Articles 23(8) and 23(9) of that Directive.

The Commission shall, if appropriate, accompany its report by a proposal for modification of the target.

IV. Amendments to Council Directive (EU) 2015/652

Council Directive (EU) 2015/652 is repealed.

Annexes to the Proposal (only changes displayed)

Amendments to Directive (EU) 2018/2001

ANNEX I

NATIONAL OVERALL TARGETS FOR THE SHARE OF ENERGY FROM RENEWABLE SOURCES IN GROSS FINAL CONSUMPTION OF ENERGY IN 2020

A. National overall targets

	Share of energy from renewable sources in gross final consumption of energy, 2005 (S ₂₀₀₅)	Target for share of energy from renewable sources in gross final consumption of energy, 2020 (S ₂₀₂₀)
Belgium	2,2 %	13 %
Bulgaria	9,4 %	16 %
Czech Republic	6,1 %	13 %
Denmark	17,0 %	30 %
Germany	5,8 %	18 %
Estonia	18,0 %	25 %
Ireland	3,1 %	16 %
Greece	6,9 %	18 %
Spain	8,7 %	20 %
France	10,3 %	23 %
Croatia	12,6 %	20 %
Italy	5,2 %	17 %
Cyprus	2,9 %	13 %
Latvia	32,6 %	40 %
Lithuania	15,0 %	23 %
Luxembourg	0,9 %	11 %
Hungary	4,3 %	13 %
Malta	0,0 %	10 %
Netherlands	2,4 %	14 %
Austria	23,3 %	34 %
Poland	7,2 %	15 %
Portugal	20,5 %	31 %
Romania	17,8 %	24 %

	Share of energy from renewable sources in gross final consumption of energy, 2005 (S₂₀₀₅)	Target for share of energy from renewable sources in gross final consumption of energy, 2020 (S₂₀₂₀)
Slovenia	16,0 %	25 %
Slovak Republic	6,7 %	14 %
Finland	28,5 %	38 %
Sweden	39,8 %	49 %
United Kingdom	1,3 %	15 %

ANNEX 1a**NATIONAL HEATING AND COOLING SHARES OF ENERGY FROM RENEWABLE SOURCES IN GROSS FINAL CONSUMPTION OF ENERGY FOR 2020-2030**

	Baseline shares increase (in percentage points) (REF20/NECPs)	Resulting renewable heating and cooling shares in 2030 in percentage points including top ups (at least)
Belgium	0,3%	1,4 %
Bulgaria	0,9%	1,4 %
Czech Republic	0,5%	1,4 %
Denmark	0,9%	1,4 %
Germany	0,9 %	1,5 %
Estonia	1,2 %	1,5 %
Ireland	2,1 %	2,9 %
Greece	1,6 %	2,0 %
Spain	1,1 %	1,4 %
France	1,4 %	1,8 %
Croatia	0,7 %	1,4 %
Italy	1,2 %	1,6 %
Cyprus	0,5 %	1,6 %
Latvia	0,8 %	1,0 %
Lithuania	1,6 %	2,0 %
Luxembourg	2,0 %	2,7 %
Hungary	0,9 %	1,5 %
Malta	0,5 %	1,5 %
Netherlands	0,7 %	1,4 %
Austria	0,7 %	1,5 %
Poland	1,0 %	1,5 %
Portugal	1,0 %	1,4 %
Romania	0,6 %	1,4 %
Slovenia	0,7 %	1,4 %
Slovakia	0,3 %	1,4 %
Finland	0,5 %	0,8 %
Sweden	0,4 %	0,6 %

ANNEX III

ENERGY CONTENT OF FUELS

Fuel	Energy content by weight (lower calorific value, MJ/kg)	Energy content by volume (lower calorific value, MJ/l)
FUELS FROM BIOMASS AND/OR BIOMASS PROCESSING OPERATIONS		
Bio-Propane	46	24
Pure vegetable oil (oil produced from oil plants through pressing, extraction or comparable procedures, crude or refined but chemically unmodified)	37	34
Biodiesel - fatty acid methyl ester (methyl-ester produced from oil of biomass origin)	37	33
Biodiesel - fatty acid ethyl ester (ethyl-ester produced from oil of biomass origin)	38	34
Biogas that can be purified to natural gas quality	50	-
Hydrotreated (thermochemically treated with hydrogen) oil of biomass origin, to be used for replacement of diesel	44	34
Hydrotreated (thermochemically treated with hydrogen) oil of biomass origin, to be used for replacement of petrol	45	30
Hydrotreated (thermochemically treated with hydrogen) oil of biomass origin, to be used for replacement of jet fuel	44	34
Hydrotreated oil (thermochemically treated with hydrogen) of biomass origin, to be used for replacement of liquefied petroleum gas	46	24
Co-processed oil (processed in a refinery simultaneously with fossil fuel) of biomass or pyrolysed biomass origin to be used for replacement of diesel	43	36
Co-processed oil (processed in a refinery simultaneously with fossil fuel) of biomass or pyrolysed biomass origin, to be used to replace petrol	44	32
Co-processed oil (processed in a refinery simultaneously with fossil fuel) of biomass or pyrolysed biomass origin, to be used to replace jet fuel	43	33

Fuel	Energy content by weight (lower calorific value, MJ/kg)	Energy content by volume (lower calorific value, MJ/l)
Co-processed oil (processed in a refinery simultaneously with fossil fuel) of biomass or pyrolysed biomass origin, to be used to replace liquefied petroleum gas	46	23
RENEWABLE FUELS THAT CAN BE PRODUCED FROM VARIOUS RENEWABLE SOURCES, INCLUDING BIOMASS		
Methanol from renewable sources	20	16
Ethanol from renewable sources	27	21
Propanol from renewable sources	31	25
Butanol from renewable sources	33	27
Fischer-Tropsch diesel (a synthetic hydrocarbon or mixture of synthetic hydrocarbons to be used for replacement of diesel)	44	34
Fischer-Tropsch petrol (a synthetic hydrocarbon or mixture of synthetic hydrocarbons produced from biomass, to be used for replacement of petrol)	44	33
Fischer-Tropsch jet fuel (a synthetic hydrocarbon or mixture of synthetic hydrocarbons produced from biomass, to be used for replacement of jet fuel)	44	33
Fischer-Tropsch liquefied petroleum gas (a synthetic hydrocarbon or mixture of synthetic hydrocarbons, to be used for replacement of liquefied petroleum gas)	46	24
DME (dimethylether)	28	19
Hydrogen from renewable sources	120	-
ETBE (ethyl-tertio-butyl-ether produced on the basis of ethanol)	36 (of which 37 % from renewable sources)	27 (of which 37 % from renewable sources)
MTBE (methyl-tertio-butyl-ether produced on the basis of methanol)	35 (of which 22 % from renewable sources)	26 (of which 22 % from renewable sources)
TAME (tertiary-amyl-ethyl-ether produced on the basis of ethanol)	38 (of which 29 % from renewable sources)	29 (of which 29 % from renewable sources)
THxEE (tertiary-hexyl-ethyl-ether produced on the basis of ethanol)	38 (of which 25 % from renewable sources)	30 (of which 25 % from renewable sources)
THxME (tertiary-hexyl-methyl-ether produced on the basis of methanol)	38 (of which 14 % from renewable sources)	30 (of which 14 % from renewable sources)
NON-RENEWABLE FUELS		
Petrol	43	32
Diesel	43	36

Fuel	Energy content by weight (lower calorific value, MJ/kg)	Energy content by volume (lower calorific value, MJ/l)
Hydrogen from non-renewable sources	120	-

ANNEX IV

Directive (EU) 2018/2001

CERTIFICATION OF INSTALLERS

The certification schemes ~~or equivalent qualification schemes~~ referred to in Article 18(3) shall be based on the following criteria:

1. The certification ~~or qualification~~ process shall be transparent and clearly defined by the Member States or by the administrative body that they appoint.
2. Installers of biomass, heat pump, shallow geothermal ~~and~~ solar photovoltaic and solar thermal energy shall be certified by an accredited training programme or training provider.
3. The accreditation of the training programme or provider shall be effected by Member States or by the administrative body that they appoint. The accrediting body shall ensure that the training programme offered by the training provider has continuity and regional or national coverage. The training provider shall have adequate technical facilities to provide practical training, including some laboratory equipment or corresponding facilities to provide practical training. The training provider shall ~~also~~ offer in addition to the basic training, shorter refresher courses ~~on topical issues, including on new technologies~~, to enable life-long learning in installations. The training provider may be the manufacturer of the equipment or system, institutes or associations.

Proposal

TRAINING AND CERTIFICATION OF INSTALLERS ~~AND DESIGNERS~~ OF RENEWABLE INSTALLATIONS

The certification schemes ~~and training programmes~~ referred to in Article 18(3) shall be based on the following criteria:

1. The certification process shall be transparent and clearly defined by the Member States or by the administrative body that they appoint.
 - 1a. The certificates issued by certification bodies shall be clearly defined and easy to identify for workers and professionals seeking certification.
 - 1b. The certification process shall enable installers to put in place high quality installations that operate reliably.
2. Installers of biomass, heat pump, shallow geothermal, solar photovoltaic and solar thermal energy shall be certified by an accredited training programme or training provider.
3. The accreditation of the training programme or provider shall be effected by Member States or by the administrative body that they appoint. The accrediting body shall ensure that the training programme offered by the training provider has continuity and regional or national coverage. The training provider shall have adequate technical facilities to provide practical training, including sufficient laboratory equipment or corresponding facilities to provide practical training. The training provider shall offer, in addition to the basic training, shorter refresher ~~and upskilling~~ courses ~~organised in training modules allowing installers and designers to add new competences, widen and diversify their skills across several technologies and their combinations~~. The training provider shall ensure adaptation of training to new renewable technologies in the context of buildings, industry and agriculture. Training providers shall recognise acquired relevant skills. The training programmes

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and modules shall be designed to enable life-long learning in renewable installations and be compatible with vocational training for first time job seekers and adults seeking reskilling or new employment. The training programmes shall be designed in order to facilitate acquiring qualification in different technologies and solutions and avoid limited specialisation in a specific brand or technology. The training provider may be the manufacturer of the equipment or system, institutes or associations.

4. The training leading to certification or qualification of an installer shall include theoretical and practical parts. At the end of the training, the installer must have the skills required to install the relevant equipment and systems to meet the performance and reliability needs of the customer, incorporate quality craftsmanship, and comply with all applicable codes and standards, including energy and eco-labelling.

5. The training course shall end with an examination leading to a certificate or qualification. The examination shall include a practical assessment of successfully installing biomass boilers or stoves, heat pumps, shallow geothermal installations, solar photovoltaic or solar thermal installations.

6. The certification schemes or equivalent qualification schemes referred to in Article 18(3) shall take due account of the following guidelines:

(a) Accredited training programmes should be offered to installers with work experience, who have undergone, or are undergoing, the following types of training:

(i) in the case of biomass boiler and stove installers: training as a plumber, pipe fitter, heating engineer or technician of sanitary and heating or cooling equipment as a prerequisite;

(ii) in the case of heat pump installers: training as a plumber or refrigeration engineer and have basic electrical and plumbing skills (cutting pipe, soldering pipe joints, gluing pipe joints, lagging, sealing fittings, testing for leaks and installation of heating or cooling systems) as a prerequisite;

(iii) in the case of a solar photovoltaic or solar thermal installer: training as a plumber or electrician and have plumbing, electrical and roofing skills, including knowledge of soldering pipe joints, gluing pipe joints, sealing fittings, testing for plumbing leaks, ability to connect wiring, familiar with basic roof materials, flashing and sealing methods as a prerequisite; or

(iv) a vocational training scheme to provide an installer with adequate skills corresponding to a three years education in the skills referred to in point (a), (b) or (c), including both classroom and workplace learning.

(b) The theoretical part of the biomass stove and boiler installer training should give an overview of the market situation of biomass and cover ecological aspects, biomass fuels, logistics, fire protection, related subsidies, combustion techniques, firing systems, optimal hydraulic solutions, cost and profitability comparison as well as the design, installation and maintenance of biomass boilers

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<p>and stoves. The training should also provide good knowledge of any European standards for technology and biomass fuels, such as pellets, and biomass related national and Union law.</p> <p>(c) The theoretical part of the heat pump installer training should give an overview of the market situation for heat pumps and cover geothermal resources and ground source temperatures of different regions, soil and rock identification for thermal conductivity, regulations on using geothermal resources, feasibility of using heat pumps in buildings and determining the most suitable heat pump system, and knowledge about their technical requirements, safety, air filtering, connection with the heat source and system layout. The training should also provide good knowledge of any European standards for heat pumps, and of relevant national and Union law. The installer should demonstrate the following key competences:</p> <ul style="list-style-type: none"> (i) a basic understanding of the physical and operation principles of a heat pump, including characteristics of the heat pump circle: context between low temperatures of the heat sink, high temperatures of the heat source, and the efficiency of the system, determination of the coefficient of performance and seasonal performance factor (SPF); (ii) an understanding of the components and their function within a heat pump circle, including the compressor, expansion valve, evaporator, condenser, fixtures and fittings, lubricating oil, refrigerant, superheating and sub-cooling and cooling possibilities with heat pumps; and (iii) the ability to choose and size the components in typical installation situations, including determining the typical values of the heat load of different buildings and for hot water production based on energy consumption, determining the capacity of the heat pump on the heat load for hot water production, on the storage mass of the building and on interruptible current supply; determine the buffer tank component and its volume and integration of a second heating system. 	<p>(c) The theoretical part of the heat pump installer training should give an overview of the market situation for heat pumps and cover geothermal resources and ground source temperatures of different regions, soil and rock identification for thermal conductivity, regulations on using geothermal resources, feasibility of using heat pumps in buildings and determining the most suitable heat pump system, and knowledge about their technical requirements, safety, air filtering, connection with the heat source and system layout. The training should also provide good knowledge of any European standards for heat pumps, and of relevant national and Union law. The installer should demonstrate the following key competences:</p> <ul style="list-style-type: none"> (i) a basic understanding of the physical and operation principles of a heat pump, including characteristics of the heat pump circle: context between low temperatures of the heat sink, high temperatures of the heat source, and the efficiency of the system, determination of the coefficient of performance and seasonal performance factor (SPF); (ii) an understanding of the components and their function within a heat pump circle, including the compressor, expansion valve, evaporator, condenser, fixtures and fittings, lubricating oil, refrigerant, superheating and sub-cooling and cooling possibilities with heat pumps; and (iii) the ability to choose and size the components in typical installation situations, including determining the typical values of the heat load of different buildings and for hot water production based on energy consumption, determining the capacity of the heat pump on the heat load for hot water production, on the storage mass of the building and on interruptible current supply; determine the buffer tank component and its volume and integration of a second heating system.

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(iv) an understanding of feasibility and design studies;

(v) an understanding of drilling, in the case of geothermal heat pumps.

(d) The theoretical part of the solar photovoltaic and solar thermal installer training should give an overview of the market situation of solar products and cost and profitability comparisons, and cover ecological aspects, components, characteristics and dimensioning of solar systems, selection of accurate systems and dimensioning of components, determination of the heat demand, fire protection, related subsidies, as well as the design, installation and maintenance of solar photovoltaic and solar thermal installations. The training should also provide good knowledge of any European standards for technology, and certification such as Solar Keymark, and related national and Union law. The installer should demonstrate the following key competences:

(i) the ability to work safely using the required tools and equipment and implementing safety codes and standards and to identify plumbing, electrical and other hazards associated with solar installations;

(ii) the ability to identify systems and their components specific to active and passive systems, including the mechanical design, and to determine the components' location and system layout and configuration;

(iii) the ability to determine the required installation area, orientation and tilt for the solar photovoltaic and solar water heater, taking account of shading, solar access, structural integrity, the appropriateness of the installation for the building or the climate and to identify different installation methods suitable for roof types and the balance of system equipment required for the installation; and

(iv) for solar photovoltaic systems in particular, the ability to adapt the electrical design, including determining design currents, selecting appropriate conductor types and ratings for each electrical circuit, determining appropriate size, ratings and locations for all associated equipment and subsystems and selecting an appropriate interconnection point.

(e) The installer certification should be time restricted, so that a refresher seminar or event would be necessary for continued certification.

ANNEX V

RULES FOR CALCULATING THE GREENHOUSE GAS IMPACT OF BIOFUELS, BIOLIQUIDS AND THEIR FOSSIL FUEL COMPARATORS

C. METHODOLOGY

Directive (EU) 2018/2001

5. Emissions from the extraction or cultivation of raw materials, eec, shall include emissions from the extraction or cultivation process itself; from the collection, drying and storage of raw materials; from waste and leakages; and from the production of chemicals or products used in extraction or cultivation. Capture of CO₂ in the cultivation of raw materials shall be excluded. ~~Estimates of emissions from agriculture bio-mass cultivation may be derived from the use of regional averages for cultivation emissions included in the reports referred to in Article 31(4) or the information on the disaggregated default values for cultivation emissions included in this Annex, as an alternative to using actual values. In the absence of relevant information in those reports it is allowed to calculate averages based on local farming practises based for instance on data of a group of farms, as an alternative to using actual values.~~

6. For the purposes of the calculation referred to in point 1(a), greenhouse gas emissions savings from improved agriculture management, esca, such as shifting to reduced or zero-tillage, improved crop/rotation, the use of cover crops, including crop residue management, and the use of organic soil improver (e.g. compost, manure fermentation digestate), shall be taken into account only if solid and verifiable evidence ~~is~~ provided that the soil carbon has increased or that it is reasonable to expect to have increased over the period in which the raw materials concerned were cultivated while taking into account the emissions where such practices lead to increased fertiliser and herbicide use.

~~15. Emission savings from CO₂ capture and replacement, eee, shall be related directly to the production of biofuel or bioliquid they are attributed to, and shall be limited to emissions avoided through the capture of CO₂ of which the~~

Proposal

5. Emissions from the extraction or cultivation of raw materials, eec, shall include emissions from the extraction or cultivation process itself; from the collection, drying and storage of raw materials; from waste and leakages; and from the production of chemicals or products used in extraction or cultivation. Capture of CO₂ in the cultivation of raw materials shall be excluded. If available, the disaggregated default values for soil N₂O emissions set out in Part D shall be applied in the calculation. It is allowed to calculate averages based on local farming practices based on data of a group of farms, as an alternative to using actual values.

6. For the purposes of the calculation referred to in point 1(a), greenhouse gas emissions savings from improved agriculture management, esca, such as shifting to reduced or zero-tillage, improved crop/rotation, the use of cover crops, including crop residue management, and the use of organic soil improver (e.g. compost, manure fermentation digestate), shall be taken into account only if ~~they do not risk to negatively affect biodiversity. Further,~~ solid and verifiable evidence ~~shall be~~ provided that the soil carbon has increased or that it is reasonable to expect to have increased over the period in which the raw materials concerned were cultivated while taking into account the emissions where such practices lead to increased fertiliser and herbicide use.

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<p>carbon originates from biomass and which is used to replace fossil-derived CO₂ in production of commercial products and services.</p> <p>18. For the purposes of the calculation referred to in point 17, the emissions to be divided shall be eec + el + esca + those fractions of ep, etd, eccs, and eccr that take place up to and including the process step at which a co-product is produced. If any allocation to co-products has taken place at an earlier process step in the life-cycle, the fraction of those emissions assigned in the last such process step to the intermediate fuel product shall be used for those purposes instead of the total of those emissions.</p> <p>In the case of biofuels and bioliquids, all co-products shall be taken into account for the purposes of that calculation. No emissions shall be allocated to wastes and residues. Co-products that have a negative energy content shall be considered to have an energy content of zero for the purposes of the calculation.</p> <p>Wastes and residues, including tree tops and branches, straw, husks, cobs and nut shells, and residues from processing, including crude glycerine (glycerine that is not refined) and bagasse, shall be considered to have zero life-cycle greenhouse gas emissions up to the process of collection of those materials irrespectively of whether they are processed to interim products before being transformed into the final product.</p> <p>In the case of fuels produced in refineries, other than the combination of processing plants with boilers or cogeneration units providing heat and/or electricity to the processing plant, the unit of analysis for the purposes of the calculation referred to in point 17 shall be the refinery.</p>	<p>18. For the purposes of the calculations referred to in point 17, the emissions to be divided shall be eec + el + esca + those fractions of ep, etd, eccs and eccr that take place up to and including the process step at which a co-product is produced. If any allocation to co-products has taken place at an earlier process step in the life-cycle, the fraction of those emissions assigned in the last such process step to the intermediate fuel product shall be used for those purposes instead of the total of those emissions. In the case of biogas and biomethane, all co-products that do not fall under the scope of point 7 shall be taken into account for the purposes of that calculation. No emissions shall be allocated to wastes and residues. Coproducts that have a negative energy content shall be considered to have an energy content of zero for the purposes of the calculation. Wastes and residues including all wastes and residues included in Annex IX shall be considered to have zero life-cycle greenhouse gas emissions up to the process of collection of those materials irrespectively of whether they are processed to interim products before being transformed into the final product. Residues that are not included in Annex IX and fit for use in the food or feed market shall be considered to have the same amount of emissions from the extraction, harvesting or cultivation of raw materials, eec as their closest substitute in the food and feed market that is included in the table in part D. In the case of biomass fuels produced in refineries, other than the combination of processing plants with boilers or co-generation units providing heat and/or electricity to the processing plant, the unit of analysis for the purposes of the calculation referred to in point 17 shall be the refinery.</p>

ANNEX VI

RULES FOR CALCULATING THE GREENHOUSE GAS IMPACT OF BIOMASS FUELS AND THEIR FOSSIL FUEL COMPARATORS

B. METHODOLOGY

Directive (EU) 2018/2001

5. Emissions from the extraction, harvesting or cultivation of raw materials, eec, shall include emissions from the extraction, harvesting or cultivation process itself; from the collection, drying and storage of raw materials; from waste and leakages; and from the production of chemicals or products used in extraction or cultivation. Capture of CO₂ in the cultivation of raw materials shall be excluded. ~~Estimates of emissions from agriculture biomass cultivation may be derived from the regional averages for cultivation emissions included in the reports referred to in Article 31(4) of this Directive or the information on the disaggregated default values for cultivation emissions included in this Annex, as an alternative to using actual values. In the absence of relevant information in those reports~~ it is allowed to calculate averages based on local farming practises based for instance on data of a group of farms, as an alternative to using actual values.

~~Estimates of emissions from cultivation and harvesting of forestry biomass may be derived from the use of averages for cultivation and harvesting emissions calculated for geographical areas at national level, as an alternative to using actual values.~~

6. For the purposes of the calculation referred to in point 1(a), emission savings from improved agriculture management, esca, such as shifting to reduced or zero-tillage, improved crop/rotation, the use of cover crops, including crop residue management, and the use of organic soil improver (e.g. compost, manure fermentation digestate), shall be taken into account only if solid and verifiable evidence is provided that the soil carbon has increased or that it is reasonable to expect to have increased over the period in which the raw materials concerned were cultivated while taking into account the emissions

Proposal

5. Emissions from the extraction or cultivation of raw materials, eec, shall, include emissions from the extraction or cultivation process itself; from the collection, drying and storage of raw materials; from waste and leakages; and from the production of chemicals or products used in extraction or cultivation. Capture of CO₂ in the cultivation of raw materials shall be excluded. If available, the disaggregated default values for soil N₂O emissions set out in Part D shall be applied in the calculation. It is allowed to calculate averages based on local farming practises based on data of a group of farms, as an alternative to using actual values.

6. For the purposes of the calculation referred to in point 1(a), greenhouse gas emissions savings from improved agriculture management, esca, such as shifting to reduced or zero-tillage, improved crop/rotation, the use of cover crops, including crop residue management, and the use of organic soil improver (e.g. compost, manure fermentation digestate), shall be taken into account only if they do not risk to negatively affect biodiversity. Further, solid and verifiable evidence shall be provided that the soil carbon has increased or that it is reasonable to expect to have increased over the period in which the raw materials concerned were cultivated while

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where such practices lead to increased fertiliser and herbicide use.

15. Emission savings from CO₂ capture and replacement, e_{er}, shall be related directly to the production of biomass fuel they are attributed to, and shall be limited to emissions avoided through the capture of CO₂ of which the carbon originates from biomass and which is used to replace fossil derived CO₂ in production of commercial products and services.

18. For the purposes of the calculations referred to in point 17, the emissions to be divided shall be eec + el + esca + those fractions of ep, etd, eccs and eccr that take place up to and including the process step at which a co-product is produced. If any allocation to co-products has taken place at an earlier process step in the life-cycle, the fraction of those emissions assigned in the last such process step to the intermediate fuel product shall be used for those purposes instead of the total of those emissions.

In the case of biogas and biomethane, all co-products shall be taken into account for the purposes of that calculation. No emissions shall be allocated to wastes and residues. Co-products that have a negative energy content shall be considered to have an energy content of zero for the purposes of the calculation.

Wastes and residues, including tree tops and branches, straw, husks, cobs and nut shells, and residues from processing, including crude glycerine (glycerine that is not refined) and bagasse, shall be considered to have zero life-cycle greenhouse gas emissions up to the process of collection of those materials irrespectively of whether they are processed to interim products before being transformed into the final product.

In the case of biomass fuels produced in refineries, other than the combination of processing plants with boilers or cogeneration units providing heat and/or electricity to the processing plant, the unit of analysis for the purposes of the calculation referred to in point 17 shall be the refinery.

Proposal

taking into account the emissions where such practices lead to increased fertiliser and herbicide use.

In the case of biogas and biomethane, all co-products that do not fall under the scope of point 7 shall be taken into account for the purposes of that calculation. No emissions shall be allocated to wastes and residues. Co-products that have a negative energy content shall be considered to have an energy content of zero for the purposes of the calculation.

Wastes and residues including all wastes and residues included in Annex IX shall be considered to have zero life-cycle greenhouse gas emissions up to the process of collection of those materials irrespectively of whether they are processed to interim products before being transformed into the final product. Residues that are not included in Annex IX and fit for use in the food or feed market shall be considered to have the same amount of emissions from the extraction, harvesting or cultivation of raw materials, eec as their closest substitute in the food and feed market that is included in the table in part D of Annex V.

ANNEX VII

ACCOUNTING OF ENERGY FROM HEAT PUMPS

Directive (EU) 2018/2001

The amount of aerothalic, geothermal or hydrothermal energy captured by heat pumps to be considered to be energy from renewable sources for the purposes of this Directive, ERES, shall be calculated in accordance with the following formula:

$$\text{ERES} = \text{Qusable} * (1 - 1/\text{SPF})$$

where

Qusable = the estimated total usable heat delivered by heat pumps fulfilling the criteria referred to in Article 7(4), implemented as follows: Only heat pumps for which $\text{SPF} > 1,15 * 1/\eta$ shall be taken into account,

SPF = the estimated average seasonal performance factor for those heat pumps,

H = the ratio between total gross production of electricity and the primary energy consumption for the production of electricity and shall be calculated as an EU average based on Eurostat data.

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The amount of aerothalic, geothermal or hydrothermal energy captured by heat pumps to be considered to be energy from renewable sources for the purposes of this Directive, ERES, shall be calculated in accordance with the following formula:

$$\text{ERES} = \text{Qusable} * (1 - 1/\text{SPF})$$

where

Qusable = the estimated total usable heat delivered by heat pumps fulfilling the criteria referred to in Article 7(3), implemented as follows: Only heat pumps for which $\text{SPF} > 1,15 * 1/\eta$ shall be taken into account,

SPF = the estimated average seasonal performance factor for those heat pumps,

H = the ratio between total gross production of electricity and the primary energy consumption for the production of electricity and shall be calculated as an EU average based on Eurostat data.

ANNEX IX

Directive (EU) 2018/2001

Part A. Feedstocks for the production of biogas for transport and advanced biofuels, ~~the contribution of which towards the minimum shares referred to in the first and fourth subparagraphs of Article 25(1) may be considered to be twice their energy content~~:

(a) Algae if cultivated on land in ponds or photobioreactors;

(b) Biomass fraction of mixed municipal waste, but not separated household waste subject to recycling targets under point (a) of Article 11(2) of Directive 2008/98/EC;

(c) Biowaste as defined in point (4) of Article 3 of Directive 2008/98/EC from private households subject to separate collection as defined in point (11) of Article 3 of that Directive;

(d) Biomass fraction of industrial waste not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in part B of this Annex;

(e) Straw;

(f) Animal manure and sewage sludge;

(g) Palm oil mill effluent and empty palm fruit bunches;

(h) Tall oil pitch;

(i) Crude glycerine;

(j) Bagasse;

(k) Grape marcs and wine lees;

(l) Nut shells;

(m) Husks;

Proposal

Part A. Feedstocks for the production of biogas for transport and advanced biofuels:

(a) Algae if cultivated on land in ponds or photobioreactors;

(b) Biomass fraction of mixed municipal waste, but not separated household waste subject to recycling targets under point (a) of Article 11(2) of Directive 2008/98/EC;

(c) Biowaste as defined in point (4) of Article 3 of Directive 2008/98/EC from private households subject to separate collection as defined in point (11) of Article 3 of that Directive;

(d) Biomass fraction of industrial waste not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in part B of this Annex;

(e) Straw;

(f) Animal manure and sewage sludge;

(g) Palm oil mill effluent and empty palm fruit bunches;

(h) Tall oil pitch;

(i) Crude glycerine;

(j) Bagasse;

(k) Grape marcs and wine lees;

(l) Nut shells;

(m) Husks;

(n) Cobs cleaned of kernels of corn;

(o) Biomass fraction of wastes and residues from forestry and forest-based industries, namely, bark, branches, pre-commercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil;

(p) Other non-food cellulosic material;

(q) Other ligno-cellulosic material except saw logs and veneer logs.

Part B. Feedstocks for the production of biofuels and biogas for transport, the contribution of which towards the ~~minimum share established in the first subparagraph of Article 25(1) shall be limited and may be considered to be twice their energy content~~:

(a) Used cooking oil;

(b) Animal fats classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009.

(n) Cobs cleaned of kernels of corn;

(o) Biomass fraction of wastes and residues from forestry and forest-based industries, namely, bark, branches, pre-commercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil;

(p) Other non-food cellulosic material;

(q) Other ligno-cellulosic material except saw logs and veneer logs.

Part B. Feedstocks for the production of biofuels and biogas for transport, the contribution of which towards the greenhouse gas emissions reduction target established in Article 25(1), first subparagraph, point (a), shall be limited:

Amendments to Directive 98/70/EC (only changes displayed)

ANNEX I

ENVIRONMENTAL SPECIFICATIONS FOR MARKET FUELS TO BE USED FOR VEHICLES EQUIPPED WITH POSITIVE-IGNITION ENGINES

Type: Petrol

Parameter ⁽¹⁾	Unit	Limits ⁽²⁾	
		Minimum	Maximum
Research octane number		95 ⁽³⁾	—
Motor octane number		85	—
Vapour pressure, summer period ⁽⁴⁾	kPa	—	60,0 ⁽⁵⁾
Distillation:			
— percentage evaporated at 100 °C	% v/v	46,0	—
— percentage evaporated at 150 °C	% v/v	75,0	—
Hydrocarbon analysis:			
— olefins	% v/v	—	18,0
— aromatics	% v/v	—	35,0
— benzene	% v/v	—	1,0
Oxygen content	% m/m		3,7
Oxygenates			
— Methanol	% v/v		3,0
— Ethanol (stabilising agents may be necessary)	% v/v		10,0
— Iso-propyl alcohol	% v/v	—	12,0
— Tert-butyl alcohol	% v/v	—	15,0
— Iso-butyl alcohol	% v/v	—	15,0
— Ethers containing five or more carbon atoms per molecule	% v/v	—	22,0
— Other oxygenates ⁽⁶⁾	% v/v	—	15,0
Sulphur content	mg/kg	—	10,0
Lead content	g/l	—	0,005

⁽¹⁾ Test methods shall be those specified in EN 228:2012+A1:2017. Member States may adopt the analytical method specified in replacement EN 228:2012+A1:2017 standard if it can be shown to give at least the same accuracy and at least the same level of precision as the analytical method it replaces.

⁽²⁾ the values quoted in the specification are ‘true values’. In the establishment of their limit values, the terms of EN ISO 4259-1:2017/A1:2021 ‘Petroleum and related products — Precision of measurement methods and results – Part 1: Determination of precision data in relation to methods of test’

have been applied and in fixing a minimum value, a minimum difference of 2R above zero has been taken into account (R = reproducibility). The results of individual measurements shall be interpreted on the basis of the criteria described in EN ISO 4259-2:2017/A1:2019.

(³) Member States may decide to continue to permit the placing on the market of unleaded regular grade petrol with a minimum motor octane number (MON) of 81 and a minimum research octane number (RON) of 91.

(⁴) The summer period shall begin no later than 1 May and shall not end before 30 September. For Member States with low ambient summer temperatures the summer period shall begin no later than 1 June and shall not end before 31 August.

(⁵) In the case of Member States with low ambient summer temperatures and for which a derogation is in effect in accordance with Article 3(4) and (5), the maximum vapour pressure shall be 70 kPa. In the case of Member States for which a derogation is in effect in accordance with Article 3(4) and (5) for petrol containing ethanol, the maximum vapour pressure shall be 60 kPa plus the vapour pressure waiver specified in Annex III.

(⁶) Other mono-alcohols and ethers with a final boiling point no higher than that stated in EN 228:2012 +A1:2017.

ANNEX II

Parameter ⁽¹⁾	Unit	Limits ⁽²⁾	
		Minimum	Maximum
Cetane number		51,0	—
Density at 15 °C	kg/m ⁽³⁾	—	845,0
Distillation:			
— 95 % v/v recovered at:	°C	—	360,0
Polycyclic aromatic hydrocarbons	% m/m	—	8,0
Sulphur content	mg/kg	—	10,0
FAME content — EN 14078	% v/v	—	10,0 ⁽³⁾

(¹) Test methods shall be those specified in EN 590:2013+A1:2017. Member States may adopt the analytical method specified in replacement EN 590:2013+A1:2017 standard if it can be shown to give at least the same accuracy and at least the same level of precision as the analytical method it replaces.

(²) The values quoted in the specification are ‘true values’. In the establishment of their limit values, the terms of EN ISO 4259-1:2017/A1:2021 ‘Petroleum and related products — Precision or measurement methods and results – Part 1: Determination of precision data in relation to methods of test’ have been applied and in fixing a minimum value, a minimum difference of 2R above zero has been taken into account (R = reproducibility). The results of individual measurements shall be interpreted on the basis of the criteria described in EN ISO 4259-2:2017/A1:2019.

(³) FAME shall comply with EN 14214.

ANNEX IV

Annex IV is deleted.

ANNEX V

Annex V is deleted

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