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2021/0218 (COD)

Proposal for a

**DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**amending Directive (EU) 2018/2001 of the European Parliament and of the Council, Regulation (EU) 2018/1999 of the European Parliament and of the Council and Directive 98/70/EC of the European Parliament and of the Council as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652**

{SEC(2021) 657 final} - {SWD(2021) 620 final} - {SWD(2021) 621 final} -  
{SWD(2021) 622 final}

## EXPLANATORY MEMORANDUM

### 1. CONTEXT OF THE PROPOSAL

#### • **Reasons for and objectives of the proposal**

The European Green Deal (EGD) establishes the objective of becoming climate neutral in 2050 in a manner that contributes to the European economy, growth and jobs. This objective requires a greenhouse as emissions reduction of 55% by 2030 as confirmed by the European Council in December 2020. This in turn requires significantly higher shares of renewable energy sources in an integrated energy system. The current EU target of at least 32% renewable energy by 2030, set in the Renewable Energy Directive (REDII), is not sufficient and needs to be increased to 38-40%, according to the Climate Target Plan (CTP). At the same time, new accompanying measures in different sectors in line with the Energy System Integration, the Hydrogen, the Offshore Renewable Energy and the Biodiversity Strategies are required to achieve this increased target.

The overall objectives of the revision of REDII are to achieve an increase in the use of energy from renewable sources by 2030, to foster better energy system integration and to contribute to climate and environmental objectives including the protection of biodiversity, thereby addressing the intergenerational concerns associated with global warming and biodiversity loss. This revision of REDII is essential to achieve the increased climate target as well as to protect our environment and health, reduce our energy dependency, and contribute to the EU's technological and industrial leadership along with the creation of jobs and economic growth.

#### • **Consistency with existing policy provisions in the policy area**

REDII is the main EU instrument dealing with the promotion of energy from renewable sources. The review of REDII does not stand alone. It is part of a broader exercise that affects other energy and climate legislation and policy initiatives, as announced in the EGD roadmap, and in the Commission work programme for 2021 under the title "Fit for 55 package". The proposal for the revision of REDII is consistent with:

- i. The EU Emission Trading Scheme, as carbon pricing works best hand in hand with regulatory measures.
- ii. The Energy Efficiency Directive, which contributes to the efficient use of renewable energy in end-use sectors.
- iii. The Energy Performance of Buildings Directive, which ensures appropriate energy performance requirements related to renewable energy.
- iv. The Ecodesign Directive, incentivising consumers to move away from fossil fuel appliances.
- v. The Land Use, Land Use Change and Forestry Regulation, which provides incentives for economic operators to deploy emission-absorbing projects that can be a source of biomass.
- vi. The Energy Taxation Directive, which ensures that prices promote sustainable practices and incentivises production and use.
- vii. The Effort Sharing legislation, which establishes binding greenhouse gas (GHG) emission reductions for sectors covered by REDII such as transport, buildings, agriculture and waste.

- viii. The Fuel Quality Directive, which supports the use of renewable and low-carbon fuels in transport.
- ix. The Alternative Fuel Infrastructure Directive, which supports the deployment of alternative fuels infrastructure, including recharging points for electric vehicles and refuelling points for natural gas and hydrogen.
- x. The proposal for a Regulation of the European Parliament and of the Council on guidelines for trans-European energy infrastructure and repealing Regulation (EU) No 347/2013<sup>1</sup>.

## 2. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

### • Legal basis

The proposal is based primarily on Article 194(2) of the Treaty on the Functioning of the European Union<sup>2</sup> (TFEU), which provides the legal basis for proposing measures to develop new and renewable forms of energy, one of the goals of the Union's energy policy, set out in Article 194(1)(c) TFEU. REDII, which will be amended by this proposal, was also adopted under Article 194(2) TFEU in 2018. Article 114 TFEU, the internal market legal base, is added in order to amend Directive 98/70/EC on fuel quality, which is based on that Article.

### • Subsidiarity (for non-exclusive competence)

#### *The need for EU action*

A cost-efficient accelerated development of sustainable renewable energy within a more integrated energy system cannot be sufficiently achieved by Member States alone. An EU approach is needed to provide the right incentives to Member States with different levels of ambition to accelerate, in a coordinated way, the energy transition from the traditional fossil fuel based energy system towards a more integrated and more energy-efficient energy system based on renewables-based generation. Taking into account the different energy policies and priorities among Member States, action at EU level is more likely to achieve the required increased deployment of renewables than national or local action alone.

#### *EU added value*

EU action on renewable energy brings added value because it is more efficient and effective than individual Member States' actions, avoiding a fragmented approach by addressing the transition of the European energy system in a coordinated way. It ensures net reduction of greenhouse gas emissions and pollution, protects biodiversity, harnesses the benefits of the internal market, fully exploits the advantages of economies of scale and technological cooperation in Europe, and it gives investors certainty in an EU-wide regulatory framework. The achievement of an increased share of renewable energy in final EU energy consumption depends on national contributions from each Member State. These will be more ambitious and cost-effective if driven by an agreed common legal and policy framework.

### • Proportionality

The preferred package of policy options is considered proportionate and builds to the extent possible on current policy design. Several options set a target or a benchmark to be achieved, but leave the means to achieve those targets up to the Member States. The balance between

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<sup>1</sup> COM/2020/824 final

<sup>2</sup> OJ C 326, 26/10/2012, p.1

obligations and the flexibility left to the Member States on how to achieve the objectives is considered appropriate given the imperative of achieving climate neutrality (see sections 3.3 and 7.5 of the Impact Assessment accompanying this proposal, SWD (2021) XXX).

- **Choice of the instrument**

This proposal is for an amending Directive. Given its relatively recent adoption, this review of REDII is limited to what is considered necessary to contribute in a cost-effective way to the Union's 2030 climate ambition, and is not a full revision of the Directive, so a recast is not considered appropriate.

### **3. RESULTS OF EX-POST EVALUATIONS, STAKEHOLDER CONSULTATIONS AND IMPACT ASSESSMENTS**

- **Stakeholder consultations**

*Consultation methods, main sectors targeted and general profile of respondents*

The Inception Impact Assessment (Roadmap) was published for feedback from 3 August to 21 September 2020 and 374 replies were received, from stakeholders from 21 Member States and 7 non-EU countries. Most responses came from companies or business associations, followed by NGOs, anonymous and citizens. In addition, the Commission launched an online public consultation (OPC) on 17 November 2020 for 12 weeks, in line with the Commission Better Regulation rules. It contains multiple choice and open questions covering a wide range of issues on the revision of REDII. 39,046 replies were received in total. Stakeholder views were also gathered in two workshops, the first one was held on 11 December 2020 (close to 400 participants) and the second one was on 22 March 2021 (close to 1000 participants).

*Summary of stakeholder views*

The majority (80%) of replies to the OPC showed a preference for an increased RES target in line with the CTP (43%) or higher (37%). 61% favoured a binding target both at EU and national level. Transport and heating and cooling were the two most popular sectors where additional efforts were considered necessary, with a majority supporting increased targets for both sectors at least at the level of the CTP. A coordinated response of more than 38,000 participants requested removing biomass from the list of renewable resources and limiting the use for bioenergy to locally available waste and residues, whereas representatives from trade unions, business and a majority of public authorities preferred not changing the current sustainability criteria for biomass.

The views of the stakeholders as expressed in the OPC and during the workshops were taken into account when elaborating the various policy options on the respective policy areas in the impact assessment.

- **Collection and use of expertise**

A study from external contractors Trinomics provided technical support for renewables policy development and implementation. The impact assessment carried out for the CTP and the Commission's assessment of the Member States' National Energy and Climate Plans (NECPs) and the 2020 Renewable Energy Progress Report also formed part of the evidence base.

In addition the following studies also fed into the impact assessment:

- Technical support for renewables policy development and implementation: enhanced efficiency through sector integration
- Renewable Cooling under the Revised Renewable Energy Directive

- Renewable Space Heating under the Revised Renewable Energy Directive
- Policy support for heating and cooling decarbonisation
- Regulatory and market conditions of District Heating and Cooling
- Potentials and levels for the electrification of space heating in buildings
- Renewable Heating and Cooling Pathways, Measures and Milestones for the implementation of the recast Renewable Energy Directive and full decarbonisation by 2050
- Technical assistance to assess the potential of renewable liquid and gaseous transport fuels of non-biological origin (RFNBOs) as well as recycled carbon fuels (RCFs), to establish a methodology to determine the share of renewable energy from RFNBOs as well as to develop a framework on additionality in the transport sector
- Simplification of Permission and Administrative Procedures for RES Installations
- Establishing technical requirements & facilitating the standardisation process for guarantees of origin on the basis of Directive (EU) 2018/2001
- Technical assistance for assessing options to establish an EU-wide green label with a view to promote the use of renewable energy coming from new installations
- Assessment of the potential for new feedstocks for the production of advanced biofuels (ENER C1 2019-412)
- Support for the implementation of the provisions on ILUC set out in the Renewable Energy Directive (ENER/C2/2018-462)
- The use of woody biomass for energy production in the EU (JRC report, 01/2021)
- Scoping study setting technical requirements and options for a Union Database for tracing liquid and gaseous transport fuels

### Impact assessment

The Impact Assessment (IA) accompanying the Proposal was elaborated based on modelling, stakeholder input and input from the Interservice Group. The report was submitted to the Regulatory Scrutiny Board on the 10 of March 2021. On 19 April 2021, the Regulatory Scrutiny Board delivered its first opinion on the Impact Assessment, and following the re-submission of the IA, the second was delivered on 19 May.

Against this background, the impact assessment analysed the various options through which a revision of the REDII could effectively and efficiently contribute to the delivery of the updated target as part of a wider “Fit for 55” policy package.

Regarding the **overall renewable energy target** level, option 0 (no change) would provide no means of ensuring that the EU-wide renewable energy target is deployed to reach at least 38-40% share in final energy consumption. Option 2 (a higher target than 40%) would potentially lead to overshooting the climate target and to a lack of coherence with other EU legislative instruments. Hence, option 1 (a minimum target in the range of 38-40%) has no drawbacks and is thus the preferred and effective option. Regarding the nature of the target, although option 1 (national binding targets) would imply the most effective achievement of an

increased RES share, this would create subsidiarity issues. The current Energy Union Governance process is an important foundation for achieving the renewables target. The first iteration of the review process of the national plans, completed in 2020, proved to be effective in that the national contributions were collectively sufficiently ambitious to reach the binding Union 2030 RES target. Under the Governance Regulation the Member States must submit their draft updates to their NECPs by June 2023, and can already show how they are planning to reach the higher target 2030 target. Given the effective nature and architecture of the current system, option 0 (maintaining the EU binding target and national voluntary contributions) is the preferred option.

Regarding **heating & cooling**, option 1 (non-regulatory measures) will not trigger Member States to increase efforts in the RES heating and cooling sector to at least 1.1% annual average percentage point (pp). Translating the EU RES heating and cooling figure from the CTP into a binding uniform increased annual average share across Member States equally as per option 3b is not considered proportionate, although it is the most effective. The level of renewables needed in 2030 could also be set as a target as proposed in option 3c but that would depart from the current model and could disrupt the already on-going implementation efforts, although it would have the added benefit of setting the end-goal in 2030 clearly. Option 3a combined with sector and EU RES buildings and industry benchmarks of appropriate design (option 3d) would be effective in providing the right mix of drivers for integrating further these sectors into the energy system. This option 3a would set a minimum flat rate of RES growth by making the current indicative annual increase target of 1.1 p.p. as the minimum required effort and complement it with Member State specific “top-ups” redistributing the additional efforts to the desired level of renewables in 2030 among Member States based on GDP and cost. The additional Member States specific increase rates could provide a means of assessing the relative level of ambition of each Member States in the heating and cooling sector but also as a potential gap filler measure to close the gap, if other sectors than heating and cooling would fail to deliver the 38-40% overall RES target. The option of a benchmark for the use of renewable energy in the building sector is also considered here.

The extended list of measures as per option 2a allows flexibility at national level and ensures proportionality and gives the Member States a toolbox to choose from. The design respects national and local diversities in conditions and starting points, and provide a clear framework for actors at all levels (national, regional, local) and of all types (from utilities and companies to municipalities to citizen consumers/prosumers).

Regarding **district heating & cooling**, option 3c (increasing the indicative 1% annual increase percentage-point target to CTP levels of 2.1% without changing its nature) would steer district heating developments towards integrating more renewable energy in coherence with the CTP and carbon-neutrality goals, while respecting the wide variety of situations in Member States. Option 3b (indicative EU renewable target for renewables’ share in district heating & cooling could give similar benefits as option 3c but departs from the current provisions and could be disruptive for already ongoing implementation. Option 3d (increasing the 1% percentagepoint increase target and making it binding) would be the most effective target design, but is too stringent and leaves less room for Member States. Option 3a (no changes) would make it possible for district heating to indefinitely continue with the fossil fuels and thus is not coherent with the review’s objectives. Option 2 (list of measures) can be self-standing or complementary, as it gives a clearer enabling framework to transform district heating and cooling, make it into an enabler of renewable energy supply in buildings and to become a key heat decarbonisation instrument, while enhancing energy sector integration in national and EU energy systems. Combining option 2 on measures with the target design in

option 3c is the preferred option to ensure that district heating and cooling aligns with the EGD and becomes an enabler to deliver on the CTP and energy system integration goals. Together with the options on overall heating and cooling and buildings, this option would also set an enabling framework to develop and expand modern renewable based smart district heating and cooling systems.

Regarding **mainstreaming renewable electricity**, option 1.1 (availability of near-real-time information on the renewable share of electricity supplied by the grid) would provide effective market incentivising signals that relate directly to renewable penetration and carbon reduction, without any administrative burden and in coherence with existing legislation. Option 1.2 (information on the RES-share and GHG emission profile) would have some positive effects on consumer information, however it would otherwise bring limited added value. Options 2.1-2.3 cover different aspects of optimising the intelligent charging infrastructure, with varying levels of positive contribution to overall implementation costs and benefits to the economy. In order to provide flexibility to Member States, implementation based on national assessment was in each case selected as the preferred solution revolving around smart charging functionality, including bidirectional charging and deployment of additional smart charging points (2.1B, 2.2B and 2.3). Options 3.1-3.3 address various obstacles in the aggregation and mobility service provision market which hinder competition. Option 3.1 (ensuring that the treatment of electricity storage systems or devices by network and market operators is not discriminatory or disproportionate irrespective of their size (small-scale vs large-scale) or whether they are stationary or mobile, so that they are able to competitively offer flexibility and balancing services) is a no-regrets option. Option 3.2 (independent aggregators and mobility service providers to have access to basic battery information, such as state-of-health and state-of-charge) is necessary in setting a level playing field and its early implementation would bring positive long term effects in the availability, quality and cost of services provided to domestic battery owners and electric vehicle (EV) users. Option 3.3 (ensure open access to all publicly accessible charging infrastructure) is expected to become increasingly beneficial with the proliferation of EVs.

Of the options considered regarding the **increase of renewable energy in the transport sector**, a combination of option 1B (in addition to the increase of the target and the sub-target for advanced biofuels a dedicated sub-target for renewable fuels of non-biological origin is introduced) with options 2A (energy-based obligation fuel suppliers), 2C (the choice between the approaches described under 2A and 2B (emissions-based obligation fuel suppliers) is left to the Member States or 2D (emissions-based obligation fuel suppliers but operators are required to achieve minimum shares for advanced biofuels and renewable fuels of non-biological origin) would perform the best overall. While all options apart from option 1 deliver on the needed level of ambition, there are substantial differences. The energy-based options may have the advantage to promote the development and production of innovative renewable and recycled carbon fuels as they provide the most predictable and stable policy framework for investments into such technologies. The GHG-intensity based options can stimulate supply chain improvements and technology efficiency in renewable and low carbon fuels, where costs of production are higher and would have the advantage of ensuring consistency with the approach chosen under the Fuel Quality Directive. This, however, would require applying changes to the methodology applied to determine the GHG emission intensity.

**Promoting the use of renewable fuels of non-biological origin** is fully in line with the Energy System Integration Strategy and the Hydrogen Strategy as well as the CTP especially if considering the post-2030 perspective. This is in particular valid for option 1 (extension of the scope of accounting of RFNBOs beyond transport and improvement of the consistency of

accounting of RFNBOs) and option 3 (creation of specific sub-targets for RFNBOs in hard-to-decarbonise sectors). Specific but realistic sub-targets for RFNBOs for the transport and industry sectors in 2030 would be a first step for their larger scale development after 2030.

Regarding the **certification** of renewable and low carbon fuels, option 1a (adjustment of the scope and content of the current certification system to include all fuels covered by REDII including recycled carbon fuels) and option 2A (further development of the existing system of guarantees of origin as an alternative certification system) were assessed. Option 1a was considered to have good potential to strengthen the existing system, with the certification of low-carbon fuels to be addressed in a separate legislative proposal such as the Hydrogen and Decarbonised Gas Market Package. IT development choices will be subject to pre-approval by the European Commission Information Technology and Cybersecurity Board.

Regarding the options to ensure **bioenergy sustainability**, option 1 (non-regulatory measures) would facilitate the implementation of the REDII sustainability criteria, but would not include additional safeguards to address the identified risks. Option 2 (targeted strengthening of the current EU bioenergy sustainability criteria) would provide the most direct safeguard against the risks of production of forest biomass in high biodiversity areas. It would also introduce additional safeguards promoting optimal lifecycle GHG emissions saving and avoiding new inefficient biomass use in the power sector. Option 3 (regulation of small installations) would further add to the effectiveness of option 2 by regulating a larger amount of biomass use for energy in the EU. It would also help improve public monitoring of biomass production and use. Building on the preferred options 2, 3 and 4.2 (requiring Member States to design their support schemes for biomass fuels in a way to minimise market distortions in the raw materials market, with the aim to minimise the use of high quality roundwood), would contribute to minimising the use of whole trees for energy production as set out in the EU Biodiversity Strategy.

In addition to the core objectives of the revision of REDII to address the insufficient ambition in a 2030 and 2050 perspective, to address the insufficient system integration, and to update bioenergy sustainability provisions, a limited number of **additional “flanking” or enabling measures** could contribute to the cost-efficient deployment of renewables.

Regarding **Power Purchase Agreements (PPAs)**, option 1 (guidelines) will provide additional guidance to Member States without increasing administrative burden, although the effectiveness will depend on the uptake of these guidelines. Option 2 (financial support for the use of PPAs for small and medium-sized enterprises) will have a positive benefit for the uptake of renewables and the European economy. Option 3 (strengthening of regulatory measures on PPAs) would place additional burden upon Member States to remove any undue barriers, but could provide additional certainty for producers and consumers of renewable electricity. Options 1 and 2 are considered the preferred combination.

Regarding **cross-border cooperation**, option 1 (updated Commission guidance) would, by itself, not be very effective whereas option 2 (obligation for Member States to test cross-border cooperation within the next 3 years) has a moderate effectiveness. Although option 3 (mandatory partial opening of support schemes) and option 4 (enhanced use of the Union renewable energy financing mechanism) would be highly effective, option 2 is expected to be more politically acceptable and thus the preferred option.

Regarding the promotion of **offshore energy**, given the binding nature of option 1 (joint planning) it would be very effective to ensure target setting and implementation per sea basin. Option 2 (introduction of single contact points for the permitting per sea basin) can be expected to have good effectiveness of facilitating permitting of cross-border offshore renewables projects. A combination of both options is preferred.



Regarding **industry**, option 0 (no changes) is not expected to increase the share of renewable energy consumption in the industry sector, creating serious concerns regarding the objective to reduce greenhouse gas emission reductions by 2030, and to achieve climate neutrality in 2050. Option 1 (introduction of use of renewable energy in the audits required in the EED) would provide an effective means to introduce industrial actors to existing cost-effective solutions to switch to renewable energy, without any administrative burden and in coherence with existing legislation. Option 2 (labelling for industrial products in certain sectors claimed to be made from renewable energy) provides an effective means to create a uniform and coherent market for those companies that are placing products and services produced from renewable energy on the market. Any mandatory labelling would need to be carefully designed to ensure compatibility with WTO rules. Options 1 and 2 would be complementary and the most effective options, combined with an indicative target for the use of renewable energy in industry.

Overall the policy options have positive economic, environmental and societal benefits. A more secure EU energy system, less dependent on imports, would be achieved by the increase in renewable energy, in particular from offshore. The revision of REDII is likely to have positive impacts on economic growth and investments, by creating quality jobs, and reducing fossil fuel imports and energy costs for consumers and business. Many of the policy options are projected to create jobs, in line with the envisaged green digital recovery. Positive employment effects are expected, especially in sectors linked to renewable energy, with an increase in employment and skills in the construction and energy supply sectors and shift in employment between the sectors. Per euro of expenditure, renewable energy creates nearly 70 per cent more jobs than fossil fuels spending and solar PV creates more than twice the number of jobs per unit of electricity generation compared to coal or natural gas. Greater use of energy from sustainable renewable sources, including renewable hydrogen, would result in reduced GHG emissions. Replacing fossil fuels will also reduce air pollutants and have a beneficial impact on health. Renewable-based electrification of road transport would have positive impacts in particular on urban air pollution, whereas electrification of, for example, heating in buildings, would contribute substantially to reducing the GHG and other air pollutant emissions from the European building stock, which today relies heavily on fossil fuels. Air quality in cities will be improved by among others renewable heating, especially district heating in cities. Positive biodiversity impacts will follow from stronger sustainability criteria for bioenergy. It may reduce import from outside the EU of biomass fuels, as third countries choose not to comply with them and redirect their export away from the EU.

The revision of the REDII will mainly entail practical implications for Member States public administrations given the need to comply with higher (binding) targets which need to be worked towards to and monitored accordingly. Other actions required from the public administration include promotion and facilitation of the uptake of renewable energy across multiple carriers.

- Regulatory fitness and simplification

A regulatory fitness programme (REFIT) evaluation of the Renewable Energy Directive was carried out between 2014 and 2016. Given the relatively recent adoption of REDII, the proposed revision is limited to what is considered necessary to contribute in a cost-effective way to the Union's 2030 climate ambition, and is not a full revision of the Directive. The Impact Assessment identified possibilities for simplification of legislation and reduction of regulatory costs.

No changes in the compliance monitoring regime are foreseen.

Increasing renewable energy use in heating and cooling and in buildings will require building works/renovation, leading to an increase in employment in the sector. Up to 95% of construction, architecture and civil engineering firms are small and medium sized enterprises (SMEs), so there is a likely positive economic effect on SMEs. Guidance and financial support on power purchase agreements will help SMEs who do not have the resources to deal with complex contracts. More stringent forest biomass criteria may create increased administrative costs and burden for small and medium-sized economic operators.

To ensure fair competition in the single market the same rules should apply to all economic operators. As such, the proposal does not exempt SMEs or micro-enterprises except for providing simplified verification mechanisms for small energy producing installations. However, the envisaged economic impacts also likely to benefit SMEs as most of the value chain of deploying renewable energy technology, in particular solar PV, is operated by SMEs.

### **Fundamental rights**

In terms of consistency with the Charter for fundamental rights, the overarching aim of this review is to increase the use of renewable energy and reduce GHG emissions, and this is entirely in line with Article 37 of the Charter under which a high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development.

## **4. BUDGETARY IMPLICATIONS**

This proposal amends an existing Directive on the use of renewable energy, and the administrative impact and costs are therefore estimated to be moderate, as most of the necessary structures and rules are in place. The proposal does not entail any additional costs for the EU budget.

## **5. OTHER ELEMENTS**

### **• Implementation plans and monitoring, evaluation and reporting arrangements**

After the adoption of this amending Directive by the co-legislators, during the transposition period, the Commission will undertake the following actions to facilitate its transposition:

- Drafting of a correlation table that serves as transposition check-list for both Member States and the Commission.
- Organisation of meetings with Member States' experts in charge of transposing the different parts of the Directive to discuss how to transpose them and solve doubts, either in the context of the Concerted Action for Renewable Energy Sources (CA-RES) or in a committee format.
- Availability for bilateral meetings and calls with Member States in case of specific question on the transposition of the Directive.

After the transposition deadline, the Commission will carry out a comprehensive assessment of whether Member States have completely and correctly transposed the Directive.

Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action established an integrated energy and climate planning, monitoring and reporting framework, to monitor progress towards the climate and energy targets in line with the transparency

requirements of the Paris Agreement. Member States had to submit to the Commission their integrated national energy and climate plans by the end of 2019, covering the five dimensions of the Energy Union for the period 2021-2030. From 2023, Member States must report biennially on the progress made in implementing the plans and in addition, by 30 June 2023 they must notify the Commission of their draft updates of the plans, with the final updates due on 30 June 2024. This update, due in 2024, would cover planning obligations related to any new targets agreed in the revision of REDII. Any additional planning and reporting requirements set in this proposal will not create a new planning and reporting system, but would be subject to the existing planning and reporting framework under Regulation (EU) 2018/1999. The future revision of the Governance Regulation would allow a consolidation of these reporting requirements.

- **Explanatory documents (for directives)**

Following the ruling of the European Court of Justice in *Commission vs Belgium* (case C-543/17), Member States must accompany their notifications of national transposition measures with sufficiently clear and precise information, indicating which provisions of national law transpose which provisions of a directive. This must be provided for each obligation, not only at “article level”. If Member States comply with this obligation, they would not need, in principle, to send explanatory documents on the transposition to the Commission.

- **Detailed explanation of the specific provisions of the proposal**

The main provisions which substantially change Directive (EC) 2018/2001 or add new elements are the following:

Article 1(1) amends Article 2 REDII by modifying the definition of renewable fuels of non-biological origin and default value, and adding new definitions of quality roundwood, renewable fuels, bidding zone, smart metering system, recharging point, market participant, electricity market, domestic battery, electric vehicle battery, industrial battery, state of health, state of charge, power set point, smart charging, regulatory authority, bidirectional charging, normal power recharging point, industry, non-energy purposes, plantation forest and planted forest.

Article 1(2) amends Article 3(1) REDII with the updated 2030 EU target of at least a 40% share of energy from renewable sources in the Union’s gross final consumption of energy in 2030. It also modifies Article 3(3) to strengthen the obligation to minimise the risks of unnecessary market distortions resulting from support schemes and to avoid supporting certain raw materials for energy production in line with the cascading principle. It also introduces the obligation to phase out, with some exceptions, support for electricity production from biomass from 2026. Furthermore, Article 1(2) adds a new paragraph on electrification, to help Member States reach their national contributions.

Article 1(3) amends Article 7 REDII with the updated calculation method of the share of energy from renewable energy sources so that (i) energy from renewable fuels of non-biological origin must be accounted in the sector in which it is consumed (electricity, heating and cooling or transport), and (ii) the renewable electricity used to produce renewable fuels of non-biological origin is not included in the calculation of the gross final consumption of electricity from renewable sources in the Member State.

Article 1(4) amends Article 9(1) REDII with an additional paragraph on the Member States' obligation to have a cross border pilot project within 3 years and it amends Article 9(7) REDII with an additional paragraph on joint offshore energy planning per sea basin, under which Member States must jointly define and agree to cooperate on the amount of offshore renewable generation to be deployed within each sea basin by 2050, with intermediate steps in 2030 and 2040.

Article 1(5) amends Article 15 REDII by deleting paragraphs 4 to 7 regarding buildings, which have been moved to a new Article (15a), updating the references to standards, strengthening the provision on renewables power purchase agreements, and adding a clause to review the administrative procedures one year after the entry into force of this amending Directive.

Article 1(6) inserts a new Article 15a on mainstreaming renewable energy and enabling measures to mainstream heating & cooling in buildings. This new Article includes a new indicative Union target of renewables in buildings by 2030 of 49% and a reference to the new definition of 'efficient district heating and cooling' that will be added to the recast Energy Efficiency Directive, which is one of the ways the minimum level of RES in new buildings and buildings undergoing major renovation can be satisfied. It adjusts the text of the paragraphs on buildings of Article 15 REDII to link them to the achievement of the indicative RES targets and to promote the switch from fossil fuel heating systems to RES, as well as to be coherent with the Energy Performance of Buildings Directive.

Article 1(7) amends Article 18(3) REDII with adjusted paragraphs on the qualification and certification requirements of installers to deal with the fact that there is a shortage of installers of renewable heating systems, which is a 'brake' on phasing out fossil fuel systems. It also deletes list of specific types of renewable heating technologies and replaces it by a generic reference to RES heating systems. It amends Article 18(4) REDII by obliging Member States to put in place measures to support participation in training programmes. The previous possibility for Member States to make the list of qualified installers public becomes a requirement.

Article 1(8) amends Article 19(2) and (8) REDII to remove Member States' ability not to issue guarantees of origin to a producer that receives financial support, linking to the changes related to power purchase agreements in Article 15.

Article 1(9) amends Article 20(3) REDII with a new and additional paragraph to enhance energy system integration between DHC systems and other energy networks, by requiring Member States, where relevant, to develop efficient DHC to promote heating and cooling from RES.

Article 1(10) inserts a new Article 20a in REDII facilitating system integration of renewable electricity by the following measures:

- TSO and DSOs are required to make available information on the share of RES and the GHG content of the electricity they supply, in order to increase transparency and give more information to electricity market players, aggregators, consumers and end-users;

- Battery manufacturers must enable access to information on battery capacity, state of health, state of charge and power set point, to battery owners as well as third parties acting on their behalf;
- Member States shall ensure smart charging capability for non-publicly accessible normal power recharging points, due to their relevance to energy system integration;
- Member States shall ensure that regulatory provisions concerning the use of storage and balancing assets do not discriminate against participation of small and/or mobile storage systems in the flexibility, balancing and storage services market.

Article 1(11) inserts a new Article 22a in REDII on mainstreaming renewable energy in industry with an indicative target of an annual average increase of renewable energy of 1.1 percentage points and a binding target of 50 percent for renewable fuels of non-biological origin used as feedstock or as an energy carrier. It also introduces a requirement that the labelling of green industrial products indicates the percentage of renewable energy used following a common EU-wide methodology.

Article 1(12) amends Article 23(1) REDII so that the 1.1 ppt annual increase in heating and cooling becomes a binding baseline and adds an additional paragraph obliging the Member States to 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. It also amends Article 23(4) REDII with an extended menu of measures to help them implement the heating and cooling target. It also strengthens this paragraph so that Member States must ensure, rather than 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.

Article 1(13) amends Article 24(1) REDII with an updated paragraph on information of the renewable energy share in district heating and cooling systems. Article 1(13) amends Article 24(4) REDII with an updated paragraph on increased target share, from 1 ppt to 2.1 ppt of energy from renewable sources and from waste heat and cold in district heating and cooling and a new paragraph is added expanding third party access to apply to district heating or cooling systems above 25 MWth where this makes sense. Article 1(13) amends Article 24(5) REDII with an updated paragraph adding a reference to the new definition of efficient district heating (to be added to the recast Energy Efficiency Directive) and requiring Member States to put in place a mechanism to deal with unjustified refusals of third party access. Article 24(6) REDII is amended with a new paragraph on a framework to facilitate coordination among actors having a role in the use of waste heat and cold. Article 1(13) amends Article 24(8) REDII with updated paragraphs requiring DSOs to make an assessment every 4 years of the potential for district heating or cooling systems to provide balancing and other system services. Article 24(9) REDII is amended with an updated paragraph on Member States' obligation to ensure that the rights of consumers and the rules for operating district heating and cooling systems in accordance with the revised rules, that they are clearly defined, publicly available and enforced by the competent authority. Article 24(10) REDII is amended with an updated paragraph correcting the cross references and adding the new definition of efficient district heating (to be added to the recast Energy Efficiency Directive)

Article 1(14) amends Article 25(1) REDII by increasing the ambition level of renewables in transport by setting a 13% greenhouse gas intensity reduction target, increasing the subtarget for advanced biofuels from at least 0.2 % in 2022 to 0.5% in 2025 and 2.2 % in 2030, and introducing a 2.6% sub-target for RFNBOs. Article 1(14) also introduces a credit mechanism to promote electromobility, under which economic operators that supply renewable electricity to electric vehicles via public charging stations will receive credits they can sell to fuel suppliers who can use them to satisfy the fuel supplier obligation.

Article 1(15) amends Article 26 REDII to reflect the greenhouse gas intensity target set in transport.

Article 1(16) amends Article 27(1) REDII by setting out rules to calculate both the reduction of the greenhouse gas intensity of fuels achieved by the use of renewables in transport and the targets for advanced biofuels and biogas and renewable fuels of non-biological origin. Article 1(16) deletes Article 27(2) REDII to remove the multipliers associated to certain renewable fuels and to renewable electricity used in transport. Article 1(16) amends Article 27(3) REDII to delete the additionality framework for electricity in transport and to make the provisions on the calculation of renewable fuels of non-biological origin produced from electricity apply regardless of the sector in which such fuels are consumed.

Article 1(17) amends Article 28 by deleting the paragraphs on the Union database, which is now regulated in Article 31(a), and by deleting the empowerment in paragraph 5 to adopt a delegated act specifying the methodology for assessing greenhouse gas emissions savings from renewable fuels of non-biological origin and from recycled carbon fuels, which is now regulated in Article 1(20).

Article 1(18) amends Article 29(1), (3), (4), (5) and (6) REDII with updated paragraphs with targeted strengthening of the current sustainability criteria by applying the existing land criteria (e.g. no-go areas) for agricultural biomass also to forest biomass (including primary, highly diverse forests and peatlands). Those strengthened criteria are applied to small-scale biomass-based heat and power installations below a total rated thermal capacity of 5 MW. Article 1(18) amends Article 29(10) REDII with an updated paragraph applying the existing greenhouse gas saving thresholds for electricity, heating and cooling production from biomass fuels to existing installations (not only new installations). Article 1(18) adds further elements to Article 29(6) to minimise the negative impact of harvesting on soil quality and biodiversity.

Article 1(19) inserts a new Article 29a on greenhouse gas emissions saving criteria for renewable fuels of non-biological origin (RFNBOs) and recycled carbon fuels, so that energy from RFNBOs can only be counted towards the targets set in this Directive if its GHG emissions savings are at least 70% and energy from recycled carbon fuels can only be counted towards the transport target if its GHG emissions savings are at least 70%.

Article 1(20) modifies Article 30 REDII to adjust it to the changes introduced in Articles 29a and 31a. It also introduces a simplified verification mechanism for installations of between 5 and 10MW.

Article 1(21) deletes paragraphs 2, 3 and 4 of Article 31 REDII, which regulated the possibility to use of regional cultivation values, in order to better promote producers' individual efforts to reduce the greenhouse gas emission intensity of raw materials

Article 1(22) inserts a new Article 31a, which regulates the Union database, extending its scope so that it can cover fuels not only in the transport sector. It will enable the tracing of liquid and gaseous renewable fuels and recycled carbon fuels as well as their life-cycle greenhouse gas emissions. The database is the monitoring and reporting tool where fuel suppliers must enter the information necessary to verify their compliance with the fuel suppliers' obligation in Article 25.

Article 2 amends Regulation (EU) 2018/1999 in order to change the Union-level binding target of at least 32% for the share of renewable energy consumed in the Union in 2030 therein to 'the Union's binding target for renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001'. It does not amend other key elements of Regulation (EU) 2018/1999 such as the 15 % electricity interconnection target which remains crucial for renewables integration.

Article 3 amends Directive 98/70/EC to avoid a duplication of regulatory requirements with regards to transport fuel decarbonisation objectives and align with Directive (EU) 2018/2001, among others regarding obligations regarding the greenhouse gas emission reduction and the use of biofuels.

Article 4 contains transitional provisions related to reporting obligations under Directive 98/70/EC to ensure that the data collected and reported in accordance with articles of Directive 98/70/EC, which are deleted by Article 3(4) of this Directive, are submitted to the Commission.

Article 5 contains the stipulations regarding transposition.

Article 6 repeals Council Directive (EU) 2015/652.

Article 7 concerns entry into force.

Proposal for a

**DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**amending Directive (EU) 2018/2001 of the European Parliament and of the Council, Regulation (EU) 2018/1999 of the European Parliament and of the Council and Directive 98/70/EC of the European Parliament and of the Council as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652**

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 114 and 194(2) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee<sup>3</sup>,

Having regard to the opinion of the Committee of the Regions<sup>4</sup>,

Acting in accordance with the ordinary legislative procedure,

Whereas:

- (1) The European Green Deal<sup>5</sup> establishes the objective of the Union becoming climate neutral in 2050 in a manner that contributes to the European economy, growth and job creation. That objective, and the objective of a 55% reduction in greenhouse gas emissions by 2030 as set out in the 2030 Climate Target Plan<sup>6</sup> that was endorsed both by the European Parliament<sup>7</sup> and by the European Council<sup>8</sup>, requires an energy transition and significantly higher shares of renewable energy sources in an integrated energy system.
- (2) Renewable energy plays a fundamental role in delivering the European Green Deal and for achieving climate neutrality by 2050, given that the energy sector contributes over 75% of total greenhouse gas emissions in the Union. By reducing those greenhouse gas emissions, renewable energy also contributes to tackling environmental-related challenges such as biodiversity loss.
- (3) Directive (EU) 2018/2001 of the European Parliament and of the Council<sup>9</sup> sets a binding Union target to reach a share of at least 32 % of energy from renewable sources in the Union's gross final consumption of energy by 2030.

<sup>3</sup> OJ C , , p. .

<sup>4</sup> OJ C , , p. .

<sup>5</sup> Communication from the Commission COM(2019) 640 final of 11.12.2019, The European Green Deal.

<sup>6</sup> Communication from the Commission COM(2020) 562 final of 17.9.2020, Stepping up Europe's 2030 climate ambition Investing in a climate-neutral future for the benefit of our people

<sup>7</sup> European Parliament resolution of 15 January 2020 on the European Green Deal (2019/2956(RSP))

<sup>8</sup> European Council conclusions of 11 December 2020, <https://www.consilium.europa.eu/media/47296/1011-12-20-euco-conclusions-en.pdf>

<sup>9</sup> Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources, OJ L 328, 21.12.2018, p. 82–209



Under the Climate Target Plan, the share of renewable energy in gross final energy consumption would need to increase to 40% by 2030 in order to achieve the Union's greenhouse gas emissions reduction target<sup>10</sup>. Therefore, the target set out in Article 3 of that Directive needs to be increased.

- (4) There is a growing recognition of the need for alignment of bioenergy policies with the cascading principle of biomass use<sup>11</sup>, with a view to ensuring fair access to the biomass raw material market for the development of innovative, high value-added bio-based solutions and a sustainable circular bioeconomy. When developing support schemes for bioenergy, Member States should therefore take into consideration the available sustainable supply of biomass for energy and non-energy uses and the maintenance of the national forest carbon sinks and ecosystems as well as the principles of the circular economy and the biomass cascading use, and the waste hierarchy established in Directive 2008/98/EC of the European Parliament and of the Council<sup>12</sup>. For this, they should grant no support to the production of energy from saw logs, veneer logs, stumps and roots and avoid promoting the use of quality roundwood for energy except in well-defined circumstances. In line with the cascading principle, woody biomass should be used according to its highest economic and environmental added value in the following order of priorities: 1) wood-based products, 2) extending their service life, 3) re-use, 4) recycling, 5) bio-energy and 6) disposal. Where no other use for woody biomass is economically viable or environmentally appropriate, energy recovery helps to reduce energy generation from non-renewable sources. Member States' support schemes for bioenergy should therefore be directed to such feedstocks for which little market competition exists with the material sectors, and whose sourcing is considered positive for both climate and biodiversity, in order to avoid negative incentives for unsustainable bioenergy pathways, as identified in the JRC report 'The use of woody biomass for energy production in the EU'<sup>13</sup>. On the other hand, in defining the further implications of the cascading principle, it is necessary to recognise the national specificities which guide Member States in the design of their support schemes. Waste prevention, reuse and recycling of waste should be the priority option. Member States should avoid creating support schemes which would be counter to targets on treatment of waste and which would lead to the inefficient use of recyclable waste. Moreover, in order to ensure a more efficient use of bioenergy, from 2026 on Member States should not give support anymore to electricity-only plants, unless the installations are in regions with a specific use status as regards their transition away from fossil fuels or if the installations use carbon capture and storage.

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<sup>10</sup> Point 3 of the Communication from the Commission COM(2020) 562 final of 17.9.2020, Stepping up Europe's 2030 climate ambition Investing in a climate-neutral future for the benefit of our people

<sup>11</sup> The cascading principle aims to achieve resource efficiency of biomass use through prioritising biomass material use to energy use wherever possible, increasing thus the amount of biomass available within the system. In line with the cascading principle, woody biomass should be used according to its highest economic and environmental added value in the following order of priorities: 1) wood-based products, 2) extending their service life, 3) re-use, 4) recycling, 5) bio-energy and 6) disposal.

<sup>12</sup> Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312, 22.11.2008, p. 3).

<sup>13</sup> <https://publications.jrc.ec.europa.eu/repository/handle/JRC122719>

- (5) The rapid growth and increasing cost-competitiveness of renewable electricity production can be used to satisfy a growing share of energy demand, for instance using heat pumps for space heating or low-temperature industrial processes, electric vehicles for transport, or electric furnaces in certain industries. Renewable electricity can also be used to produce synthetic fuels for consumption in hard-to-decarbonise transport sectors such as aviation and maritime transport. A framework for electrification needs to enable robust and efficient coordination and expand market mechanisms to match both supply and demand in space and time, stimulate investments in flexibility, and help integrate large shares of variable renewable generation. Member States should therefore ensure that the deployment of renewable electricity continues to increase at an adequate pace to meet growing demand. For this, Member States should establish a framework that includes market-compatible mechanisms to tackle remaining barriers to have secure and adequate electricity systems fit for a high level of renewable energy, as well as storage facilities, fully integrated into the electricity system. In particular, this framework shall tackle remaining barriers, including non-financial ones such as insufficient digital and human resources of authorities to process a growing number of permitting applications.
- (6) When calculating the share of renewables in a Member State, renewable fuels of non-biological origin should be counted in the sector where they are consumed (electricity, heating and cooling, or transport). To avoid double-counting, the renewable electricity used to produce these fuels should not be counted. This would result in a harmonisation of the accounting rules for these fuels throughout the Directive, regardless of whether they are counted for the overall renewable energy target or for any sub-target. It would also allow to count the real energy consumed, taking account of energy losses in the process to produce those fuels. Moreover, it would allow for the accounting of renewable fuels of non-biological origin imported into and consumed in the Union.
- (7) Member States' cooperation to promote renewable energy can take the form of statistical transfers, support schemes or joint projects. It allows for a cost-efficient deployment of renewable energy across Europe and contributes to market integration. Despite its potential, cooperation has been very limited, thus leading to suboptimal results in terms of efficiency in increasing renewable energy. Member States should therefore be obliged to test cooperation through implementing a pilot project. Projects financed by national contributions under the Union renewable energy financing mechanism established by Commission Implementing Regulation (EU) 2020/1294<sup>14</sup> would meet this obligation for the Member States involved.
- (8) The Offshore Renewable Energy Strategy introduces an ambitious objective of 300 GW of offshore wind and 40 GW of ocean energy across all the Union's sea basins by 2050. To ensure this step change, Member States will need to work together across borders at sea-basin level. Member States should therefore jointly define the amount of offshore renewable generation to be

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<sup>14</sup> Commission Implementing Regulation (EU) 2020/1294 of 15 September 2020 on the Union renewable energy financing mechanism (OJ L 303, 17.9.2020, p. 1).

deployed within each sea basin by 2050, with intermediate steps in 2030 and 2040. These objectives should be reflected in the updated national energy and climate plans that will be submitted in 2023 and 2024 pursuant to Regulation (EU) 2018/1999. In defining the amount, Member States should take into account the offshore renewable energy potential of each sea basin, environmental protection, climate adaptation and other uses of the sea, as well as the Union's decarbonisation targets. In addition, Member States should increasingly consider the possibility of combining offshore renewable energy generation with transmission lines interconnecting several Member States, in the form of hybrid projects or, at a later stage, a more meshed grid. This would allow electricity to flow in different directions, thus maximising socio-economic welfare, optimising infrastructure expenditure and enabling a more sustainable usage of the sea.

- (9) The market for renewable power purchase agreements is rapidly growing and provides a complementary route to the market of renewable power generation in addition to support schemes by Member States or to selling directly on the wholesale electricity market. At the same time, the market for renewable power purchase agreements is still limited to a small number of Member States and large companies, with significant administrative, technical and financial barriers remaining in large parts of the Union's market. The existing measures in Article 15 to encourage the uptake of renewable power purchase agreements should therefore be strengthened further, by exploring the use of credit guarantees to reduce these agreements' financial risks, taking into account that these guarantees, where public, should not crowd out private financing.
- (10) Overly complex and excessively long administrative procedures constitute a major barrier for the deployment of renewable energy. On the basis of the measures to improve administrative procedures for renewable energy installations that Member States are to report on by 15 March 2023 in their first integrated national energy and climate progress reports pursuant to Regulation (EU) 2018/1999 of the European Parliament and of the Council<sup>15</sup>, the Commission should assess whether the provisions included in this Directive to streamline these procedures have resulted in smooth and proportionate procedures. If that assessment reveals significant scope for improvement, the Commission should take appropriate measures to ensure Member States have streamlined and efficient administrative procedures in place.
- (11) Buildings have a large untapped potential to contribute effectively to the reduction in greenhouse gas emissions in the Union. The decarbonisation of heating and cooling in this sector through an increased share in production and use of renewable energy will be needed to meet the ambition set in the Climate Target Plan to achieve the Union objective of climate neutrality. However, progress on the use of renewables for heating and cooling has been stagnant in

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<sup>15</sup> Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1).

the last decade, largely relying on increased use of biomass. Without the establishment of targets to increase the production and use of renewable energy in buildings, there will be no ability to track progress and identify bottlenecks in the uptake of renewables. Furthermore, the creation of targets will provide a long-term signal to investors, including for the period immediately after 2030. This will complement obligations related to energy efficiency and the energy performance of buildings. Therefore, indicative targets for the use of renewable energy in buildings should be set to guide and incentivise Member States' efforts to exploit the potential of using and producing renewable energy in buildings, encourage the development of and integration of technologies which produce renewable energy while providing certainty for investors and local level engagement.

- (12) Insufficient numbers of skilled workers, in particular installers and designers of renewable heating and cooling systems, slow down the replacement of fossil fuel heating systems by renewable energy based systems and is a major barrier to integrating renewables in buildings, industry and agriculture. Member States should cooperate with social partners and renewable energy communities to anticipate the skills that will be needed. A sufficient number of high-quality training programmes and certification possibilities ensuring proper installation and reliable operation of a wide range of renewable heating and cooling systems should be made available and designed in a way to attract participation in such training programmes and certification systems. Member States should consider what actions should be taken to attract groups currently under-represented in the occupational areas in question. The list of trained and certified installers should be made public to ensure consumer trust and easy access to tailored designer and installer skills guaranteeing proper installation and operation of renewable heating and cooling.
- (13) Guarantees of origin are a key tool for consumer information as well as for the further uptake of renewable power purchase agreements. In order to establish a coherent Union base for the use of guarantees of origin and to provide access to appropriate supporting evidence for persons concluding renewable power purchase agreements, all renewable energy producers should be able to receive a guarantee of origin without prejudice to Member States' obligation to take into account the market value of the guarantees of origin if the energy producers receive financial support.
- (14) Infrastructure development for district heating and cooling networks should be stepped up and steered towards harnessing a wider range of renewable heat and cold sources in an efficient and flexible way in order to increase the deployment of renewable energy and deepen energy system integration. It is therefore appropriate to update the list of renewable energy sources that district heating and cooling networks should increasingly accommodate and require the integration of thermal energy storage as a source of flexibility, greater energy efficiency and more cost-effective operation.
- (15) With more than 30 million electric vehicles expected in the Union by 2030 it is necessary to ensure that they can fully contribute to the system integration of renewable electricity, and thus allow reaching higher shares of renewable electricity in a cost-optimal manner. The potential of electric vehicles to absorb renewable electricity at times when it is abundant and feed it back into a grid when there is scarcity has to be fully utilised. It is therefore appropriate to

introduce specific measures on electric vehicles and information about renewable energy and how and when to access it which complement those in Directive (EU) 2014/94 of the European Parliament and of the Council<sup>16</sup> and the [proposed Regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020].

- (16) In order for flexibility and balancing services from the aggregation of distributed storage assets to be developed in a competitive manner, real-time access to basic battery information such as state of health, state of charge, capacity and power set point should be provided under non-discriminatory terms and free of charge to the owners or users of the batteries and the entities acting on their behalf, such as building energy system managers, mobility service providers and other electricity market participants. It is therefore appropriate to introduce measures addressing the need of access to such data for facilitating the integration-related operations of domestic batteries and electric vehicles, complementing the provisions on access to battery data related to facilitating the repurposing of batteries in [the proposed Commission regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020]. The provisions on access to battery data of electric vehicles should apply in addition to any laid down in Union law on type approval of vehicles.
- (17) The increasing number of electric vehicles in road, rail, maritime and other transport modes will require that recharging operations are optimised and managed in a way that does not cause congestion and takes full advantage of the availability of renewable electricity and low electricity prices in the system. In situations where bidirectional charging would assist further penetration of renewable electricity by electric vehicle fleets in transport and the electricity system in general, such functionality should also be made available. In view of the long life span of recharging points, requirements for charging infrastructure should be kept updated in a way that would cater for future needs and would not result in negative lock-in effects to the development of technology and services.
- (18) Electric vehicle users entering into contractual agreements with electromobility service providers and electricity market participants should have the right to receive information and explanations on how the terms of the agreement will affect the use of their vehicle and the state of health of its battery. Electromobility service providers and electricity market participants should explain clearly to electric vehicle users how they will be remunerated for the flexibility, balancing and storage services provided to the electricity system and market by the use of their electric vehicle. Electric vehicle users also need to have their consumer rights secured when entering into such agreements, in particular regarding the protection of their personal data such as location and driving habits, in connection to the use of their vehicle. Electric vehicle users' preference regarding the type of electricity purchased for use in their electric vehicle, as well as other preferences, can also be part of such agreements. For

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<sup>16</sup> Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure (OJ L 307, 28.10.2014, p. 1)

the above reasons, it is important that electric vehicle users can use their subscription at multiple recharging points. This will also allow the electric vehicle user's service provider of choice to optimally integrate the electric vehicle in the electricity system, through predictable planning and incentives based on the electric vehicle user preferences. This is also in line with the principles of a consumer-centric and prosumer-based energy system, and the right of supplier choice of electric vehicle users as final customers as per the provisions of Directive (EU) 2019/944.

- (19) Distributed storage assets, such as domestic batteries and batteries of electric vehicles have the potential to offer considerable flexibility and balancing services to the grid through aggregation. In order to facilitate the development of such services, the regulatory provisions concerning connection and operation of the storage assets, such as tariffs, commitment times and connection specifications, should be designed in a way that does not hamper the potential of all storage assets, including small and mobile ones, to offer flexibility and balancing services to the system and to contribute to the further penetration renewable electricity, in comparison with larger, stationary storage assets.
- (20) Recharging points where electric vehicles typically park for extended periods of time, such as where people park for reasons of residence or employment, are highly relevant to energy system integration, therefore smart charging functionalities need to be ensured. In this regard, the operation of non-publicly accessible normal charging infrastructure is particularly important for the integration of electric vehicles in the electricity system as it is located where electric vehicles are parked repeatedly for long periods of time, such as in buildings with restricted access, employee parking or parking facilities rented out to natural or legal persons.
- (21) Industry accounts for 25% of the Union's energy consumption, and is a major consumer of heating and cooling, which is currently supplied 91% by fossil fuels. However, 50% of heating and cooling demand is low-temperature (<200 °C) for which there are cost-effective renewable energy options, including through electrification. In addition, industry uses non-renewable sources as raw materials to produce products such as steel or chemicals. Industrial investment decisions today will determine the future industrial processes and energy options that can be considered by industry, so it is important that those investments decisions are future-proof. Therefore, benchmarks should be put in place to incentivise industry to switch to a renewables-based production processes that not only are fueled by renewable energy, but also use renewable-based raw materials such as renewable hydrogen. Moreover, a common methodology for products that are labelled as having been produced partially or fully using renewable energy or using renewable fuels of non-biological origin as feedstock is required, taking into account existing Union product labelling methodologies and sustainable product initiatives. This would avoid deceptive practices and increase consumers trust. Furthermore, given consumer preference for products that contribute to environmental and climate change objectives, it would stimulate a market demand for those products.
- (22) Renewable fuels of non-biological origin can be used for energy purposes, but also for non-energy purposes as feedstock or raw material in industries such as steel or chemicals. The use of renewable fuels of non-biological origin for both

purposes exploits their full potential to replace fossil fuels used as feedstock and to reduce greenhouse gas emissions in industry and should therefore be included in a target for the use of renewable fuels of non-biological origin. National measures to support the uptake of renewable fuels of non-biological origin in industry should not result in net pollution increases due to an increased demand for electricity generation that is satisfied by the most polluting fossil fuels, such as coal, diesel, lignite, oil peat and oil shale.

- (23) Increasing ambition in the heating and cooling sector is key to delivering the overall renewable energy target given that heating and cooling constitutes around half of the Union's energy consumption, covering a wide range of end uses and technologies in buildings, industry and district heating and cooling. To accelerate the increase of renewables in heating and cooling, an annual 1.1 percentage point increase at Member State level should be made binding as a minimum for all Member States. For those Member States, which already have renewable shares above 50% in the heating and cooling sector, it should remain possible to only apply half of the binding annual increase rate and Member States with 60% or above may count any such share as fulfilling the average annual increase rate in accordance with points b) and c) of paragraph 2 of Article 23. In addition, Member State-specific top-ups should be set, redistributing the additional efforts to the desired level of renewables in 2030 among Member States based on GDP and cost-effectiveness. A longer list of different measures should also be included in Directive (EU) 2018/2001 to facilitate increasing the share of renewables in heating and cooling. Member States may implement one or more measures from the list of measures.
- (24) To ensure that a greater role of district heating and cooling is accompanied by better information for consumers, it is appropriate to clarify and strengthen the disclosure of the renewables share and energy efficiency of these systems.
- (25) Modern renewable-based efficient district heating and cooling systems have demonstrated their potential to provide cost-effective solutions for integrating renewable energy, increased energy efficiency and energy system integration, facilitating the overall decarbonisation of the heating and cooling sector. To ensure this potential is harnessed, the annual increase of renewable energy and/or waste heat in district heating and cooling should be raised from 1 percentage point to 2.1 without changing the indicative nature of this increase, reflecting the uneven development of this type of network across the Union.
- (26) To reflect the increased importance of district heating and cooling and the need to steer the development of these networks towards the integration of more renewable energy, it is appropriate to set requirements to ensure the connection of third party suppliers of renewable energy and waste heat and cold with district heating or cooling networks systems above 25MW.
- (27) Waste heat and cold are underused despite their wide availability, leading to a waste of resources, lower energy efficiency in national energy systems and higher than necessary energy consumption in the Union. Requirements for closer coordination between district heating and cooling operators, industrial and tertiary sectors, and local authorities could facilitate the dialogue and cooperation necessary to harness cost-effective waste heat and cold potentials via district heating and cooling systems.

- (28) To ensure district heating and cooling participate fully in energy sector integration, it is necessary to extend the cooperation with electricity distribution system operators to electricity transmission system operators and widen the scope of cooperation to grid investment planning and markets to better utilise the potential of district heating and cooling for providing flexibility services in electricity markets. Further cooperation with gas network operators, including hydrogen and other energy networks, should also be made possible to ensure a wider integration across energy carriers and their most cost-effective use.
- (29) The use of renewable fuels and renewable electricity in transport can contribute to the decarbonisation of the Union transport sector in a cost-effective manner, and improve, amongst other, energy diversification in that sector while promoting innovation, growth and jobs in the Union economy and reducing reliance on energy imports. With a view to achieving the increased target for greenhouse gas emission savings defined by the Union, the level of renewable energy supplied to all transport modes in the Union should be increased. Expressing the transport target as a greenhouse gas intensity reduction target would stimulate an increasing use of the most cost-effective and performing fuels, in terms of greenhouse gas savings, in transport. In addition, a greenhouse gas intensity reduction target would stimulate innovation and set out a clear benchmark to compare across fuel types and renewable electricity depending on their greenhouse gas intensity. Complementary to this, increasing the level of the energy-based target on advanced biofuels and biogas and introducing a target for renewable fuels of non-biological origin would ensure an increased use of the renewable fuels with smallest environmental impact in transport modes that are difficult to electrify. The achievement of those targets should be ensured by obligations on fuel suppliers as well as by other measures included in [Regulation (EU) 2021/XXX on the use of renewable and low-carbon fuels in maritime transport - FuelEU Maritime and Regulation (EU) 2021/XXX on ensuring a level playing field for sustainable air transport]. Dedicated obligations on aviation fuel suppliers should be set only pursuant to [Regulation (EU) 2021/XXX on ensuring a level playing field for sustainable air transport].
- (30) Electromobility will play an essential role in decarbonising the transport sector. To foster the further development of electromobility, Member States should establish a credit mechanism enabling operators of charging points accessible to the public to contribute, by supplying renewable electricity, towards the fulfilment of the obligation set up by Member States on fuel suppliers. While supporting electricity in transport through such a mechanism, it is important that Member States continue setting a high level of ambition for the decarbonisation of their liquid fuel mix in transport.
- (31) The Union's renewable energy policy aims to contribute to achieving the climate change mitigation objectives of the European Union in terms of the reduction of greenhouse gas emissions. In the pursuit of this goal, it is essential to also contribute to wider environmental objectives, and in particular the prevention of biodiversity loss, which is negatively impacted by the indirect land use change associated to the production of certain biofuels, bioliquids and biomass fuels. Contributing to these climate and environmental objectives constitutes a deep and longstanding intergenerational concern for Union



citizens and the Union legislator. As a consequence, the changes in the way the transport target is calculated should not affect the limits established on how to account toward that target certain fuels produced from food and feed crops on the one hand and high indirect land-use change-risk fuels on the other hand. In addition, in order not to create an incentive to use biofuels and biogas produced from food and feed crops in transport, Member States should continue to be able to choose whether count them or not towards the transport target. If they do not count them, they may reduce the greenhouse gas intensity reduction target accordingly, assuming that food and feed crop-based biofuels save 50% greenhouse gas emissions, which corresponds to the typical values set out in an annex to this Directive for the greenhouse gas emission savings of the most relevant production pathways of food and feed crop-based biofuels as well as the minimum savings threshold applying to most installations producing such biofuels.

- (32) Expressing the transport target as a greenhouse gas intensity reduction target makes it unnecessary to use multipliers to promote certain renewable energy sources. This is because different renewable energy sources save different amounts of greenhouse gas emissions and, therefore, contribute differently to a target. Renewable electricity should be considered to have zero emissions, meaning it saves 100% emissions compared to electricity produced from fossil fuels. This will create an incentive for the use of renewable electricity since renewable fuels and recycled carbon fuels are unlikely to achieve such a high percentage of savings. Electrification relying on renewable energy sources would therefore become the most efficient way to decarbonise road transport. In addition, in order to promote the use of advanced biofuels and biogas and renewable fuels of non-biological origin in the aviation and maritime modes, which are difficult to electrify, it is appropriate to keep the multiplier for those fuels supplied in those modes when counted towards the specific targets set for those fuels.
- (33) Direct electrification of end-use sectors, including the transport sector, contributes to the efficiency and facilitates the transition to an energy system based on renewable energy. It is therefore in itself an effective means to reduce greenhouse gas emissions. The creation of a framework on additionality applying specifically to renewable electricity supplied to electric vehicles in the transport is therefore not required.
- (34) Since renewable fuels of non-biological origin are to be counted as renewable energy regardless of the sector in which they are consumed, the rules to determine their renewable nature when produced from electricity, which were applicable only to those fuels when consumed in the transport sector, should be extended to all renewable fuels of non-biological origin, regardless of the sector where they are consumed.
- (35) To ensure higher environmental effectiveness of the Union sustainability and greenhouse emissions saving criteria for solid biomass fuels in installations producing heating, electricity and cooling, the minimum threshold for the applicability of such criteria should be lowered from the current 20 MW to 5 MW.
- (36) Directive (EU) 2018/2001 strengthened the bioenergy sustainability and greenhouse gas savings framework by setting criteria for all end-use sectors. It

set out specific rules for biofuels, bioliquids and biomass fuels produced from forest biomass, requiring the sustainability of harvesting operations and the accounting of land-use change emissions. To achieve an enhanced protection of especially biodiverse and carbon-rich habitats, such as primary forests, highly biodiverse forests, grasslands and peat lands, exclusions and limitations to source forest biomass from those areas should be introduced, in line with the approach for biofuels, bioliquids and biomass fuels produced from agricultural biomass. In addition, the greenhouse gas emission saving criteria should also apply to existing biomass-based installations to ensure that bioenergy production in all such installations leads to greenhouse gas emission reductions compared to energy produced from fossil fuels.

- (37) In order to reduce the administrative burden for producers of renewable fuels and recycled carbon fuels and for Member States, where voluntary or national schemes have been recognised by the Commission through an implementing act as giving evidence or providing accurate data regarding the compliance with sustainability and greenhouse gas emissions saving criteria as well as other requirements set in this Directive, Member States should accept the results of the certification issued by such schemes within the scope of the Commission's recognition. In order to reduce the burden on small installations, Member States should establish a simplified verification mechanism for installations of between 5 and 10MW.
- (38) The Union database to be set up by the Commission aims at enabling the tracing of liquid and gaseous renewable fuels and recycled carbon fuels. Its scope should be extended from transport to all other end-use sectors in which such fuels are consumed. This should make a vital contribution to the comprehensive monitoring of the production and consumption of those fuels, mitigating risks of double-counting or irregularities along the supply chains covered by the Union database. In addition, to avoid any risk of double claims on the same renewable gas, a guarantee of origin issued for any consignment of renewable gas registered in the database should be cancelled.
- (39) The Governance Regulation (EU) 2018/1999 makes several references in a number of places to the Union-level binding target of at least 32 % for the share of renewable energy consumed in the Union in 2030. As that target needs to be increased in order to contribute effectively to the ambition to decrease greenhouse gas emissions by 55 % by 2030, those references should be amended. Any additional planning and reporting requirements set will not create a new planning and reporting system, but should be subject to the existing planning and reporting framework under Regulation (EU) 2018/1999.
- (40) The scope of Directive 98/70/EC of the European Parliament and of the Council<sup>17</sup> should be amended in order to avoid a duplication of regulatory requirements with regard to transport fuel decarbonisation objectives and align with Directive (EU) 2018/2001.
- (41) The definitions of Directive 98/70/EC should be amended in order to align them with Directive (EU) 2018/2001 and thereby avoid different definitions being applied in those two acts.

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<sup>17</sup> Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998 relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC (OJ L 350, 28.12.1998, p. 58).

- (42) The obligations regarding the greenhouse gas emissions reduction and the use of biofuels in Directive 98/70/EC should be deleted in order to streamline and avoid double regulation with regards to the strengthened transport fuel decarbonisation obligations which are provided for in Directive (EU) 2018/2001.
- (43) The obligations regarding the monitoring of and reporting on the greenhouse gas emission reductions set out in Directive 98/70/EC should be deleted to avoid regulating reporting obligations twice.
- (44) Council Directive (EU) 2015/652, which provides the detailed rules for the uniform implementation of Article 7a of Directive 98/70/EC, should be repealed as it becomes obsolete with the repeal of Article 7a of Directive 98/70/EC by this Directive.
- (45) As regards bio-based components in diesel fuel, the reference in Directive 98/70/EC to diesel fuel B7, that is diesel fuel containing up to 7 % fatty acid methyl esters (FAME), limits available options to attain higher biofuel incorporation targets as set out in Directive (EU) 2018/2001. That is due to the fact that almost the entire Union supply of diesel fuel is already B7. For that reason the maximum share of bio-based components should be increased from 7% to 10%. Sustaining the market uptake of B10, that is diesel fuel containing up to 10 % fatty acid methyl esters (FAME), requires a Union-wide B7 protection grade for 7% FAME in diesel fuel due to the sizeable proportion of vehicles not compatible with B10 expected to be present in the fleet by 2030. This should be reflected in Article 4, paragraph 1, second subparagraph of Directive 98/70/EC as amended by this act.
- (46) The transitional provisions should allow for an ordered continuation of data collection and the fulfilment of reporting obligations with respect to the articles of Directive 98/70/EC deleted by this Directive.
- (47) In accordance with the Joint Political Declaration of 28 September 2011 of Member States and the Commission on explanatory documents<sup>18</sup>, Member States have undertaken to accompany, in justified cases, the notification of their transposition measures with one or more documents explaining the relationship between the components of a directive and the corresponding parts of national transposition instruments. With regard to this Directive, the legislator considers the transmission of such documents to be justified, in particular following the judgment of the European Court of Justice in Case Commission vs Belgium<sup>19</sup> (case C-543/17).

HAVE ADOPTED THIS DIRECTIVE:

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<sup>18</sup> OJ C 369, 17.12.2011, p. 14.

<sup>19</sup> Judgment of the Court of Justice of 8 July 2019, Commission v Belgium, C-543/17, ECLI: EU: C:2019:573.

## Article 1

### *Amendments to Directive (EU) 2018/2001*

Directive (EU) 2018/2001 is amended as follows:

(1) in Article 2, the second paragraph is amended as follows:

(a) point (36) is replaced by the following:

‘(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;’;

(b) point (47) is replaced by the following:

‘(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;’;

(c) the following points are added:

‘(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 ;

(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<sup>20</sup>;

(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<sup>21</sup>;

(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;

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<sup>20</sup> Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (OJ L 158, 14.6.2019, p. 54).

<sup>21</sup> Directive Regulation (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (OJ L 158, 14.6.2019, p. 125).

- (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<sup>22</sup>];
- (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 (25) of [the proposal for a Regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020<sup>23</sup>];
- (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];
- (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)<sup>24</sup>;

<sup>22</sup> COM(2020) 798 final

<sup>23</sup> the proposal for a Commission Regulation ‘concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) 2019/1020 (xxxx).

<sup>24</sup> Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No 3037/90 as well as certain EC Regulations on specific statistical domains (OJ L 393, 30.12.2006, p. 1).’;

- (18b) ‘non-energy purpose’ means the use of fuels as raw materials in an industrial process, instead of being used to produce energy;
- (22a) ‘renewable fuels’ means biofuels, bioliquids, biomass fuels and renewable fuels of non-biological origin;
- (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, 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;’;

(2) Article 3 is amended as follows:

(a) paragraph 1 is replaced by the following:

‘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%.’;

(b) paragraph 3 is replaced by the following:

‘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 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);

(ii) it is produced applying Biomass CO<sub>2</sub> Capture and Storage and meets the requirements set in Article 29(11), second subparagraph.

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.';

(c) the following paragraph 4a is inserted:

'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 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 non-biological origin.';

(3) Article 7 is amended as follows:

(a) in paragraph 1, the second subparagraph is replaced by the following:

'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.'

- (b) in paragraph 2, the first subparagraph is replaced by the following:

'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 non-biological 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.';

- (c) in paragraph 4, point (a) is replaced by the following:

'(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.';

- (4) Article 9 is amended as follows:

- (a) the following paragraph 1a is inserted:

'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) 2020/1294<sup>25</sup> shall be deemed to satisfy this obligation for the Member States involved.';

- (b) the following paragraph is inserted:

'7a. Member States bordering a sea basin shall cooperate to jointly define the amount of offshore 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

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<sup>25</sup> Commission Implementing Regulation (EU) 2020/1294 of 15 September 2020 on the Union renewable energy financing mechanism (OJ L 303, 17.9.2020, p. 1).



integrated national energy and climate plans submitted pursuant to Article 14 of Regulation (EU) 2018/1999.’;

(5) Article 15 is amended as follows:

(a) paragraph 2 is replaced as follows:

‘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 harmonised standards or European standards exist, including technical reference systems established by the European standardisation organisations, such technical specifications shall be expressed in terms of those standards. Precedence 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. 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’;

(b) paragraphs 4, 5, 6 and 7 are deleted:

(c) paragraph 8 is replaced by the following:

‘8. Member States shall assess the regulatory and administrative barriers to long-term renewables power purchase agreements, and shall remove unjustified barriers to, and promote the uptake of, such agreements, including by exploring how to reduce the financial risks associated with them, in particular by using credit guarantees. Member States shall ensure that those agreements are not subject to disproportionate or discriminatory procedures or charges, and that any associated guarantees of origin can be transferred to the buyer of the renewable energy under the renewable power purchase agreement.

Member States shall describe their policies and measures promoting the uptake of renewables power purchase agreements in their integrated 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.’;

(d) the following paragraph 9 is added:

‘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.’;

(6) the following Article is inserted:

### **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 local energy storage, in combination with energy efficiency improvements relating to cogeneration and passive, nearly zero-energy and zero-energy 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<sup>26</sup>, energy performance certificates pursuant to Directive 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.’;

(7) in Article 18, paragraphs 3 and 4 are replaced by the following:

‘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 the certification schemes referred to in paragraph 3 available to the public. Member States shall ensure that the list of installers who are qualified or certified in accordance with paragraph 3 is regularly updated and made available to the public.’;

(8) Article 19 is amended as follows:

(a) paragraph 2 is amended as follows:

(i) the first subparagraph is replaced by the following:

‘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

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<sup>26</sup> Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU (OJ L 198, 28.7.2017, p. 1).

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.’;

(ii) the fifth subparagraph is deleted;

(b) in paragraph 8, the first subparagraph is replaced by the following:

‘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.’;

(9) in Article 20, paragraph 3 is replaced by the following:

‘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.’;

(10) the following Article 20a is inserted:

*‘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 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 end-users, 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 this amending Directive] can support smart charging functionalities and, where appropriate based on assessment by the regulatory authority, bidirectional charging functionalities.

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.';

(11) the following Article 22a is inserted:

#### ‘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.

(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 non-energy purposes shall be taken into account, excluding renewable fuels of non-biological 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 non-biological 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/EU<sup>27</sup> or, alternatively, ISO 14067:2018.’;

(12) Article 23 is amended as follows:

(a) paragraph 1 is replaced by the following:

‘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 the share of renewable energy in their heating and cooling sector by the amount set out in Annex 1a.’;

(b) the following paragraph 1a is inserted:

‘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.’;

(c) in paragraph 2, first subparagraph, point (a) is deleted.

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<sup>27</sup> 2013/179/EU: Commission Recommendation of 9 April 2013 on the use of common methods to measure and communicate the life cycle environmental performance of products and organisations, OJ L 124, 4.5.2013, p. 1–210

(d) paragraph 4 is replaced by the following:

‘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;
- (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;
- (i) other policy measures, with an equivalent effect, including fiscal measures, support schemes or other financial incentives.

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.’;

(13) Article 24 is amended as follows:

(a) paragraph 1 is replaced by the following:

‘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.’;

(b) paragraph 4 is replaced by the following:

‘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.

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.

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.’;

(c) the following paragraph 4a is inserted:

‘4a. Member States shall ensure that operators of district heating or cooling systems above 25 MWth 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:

- (a) meet demand from new customers;
- (b) replace existing heat or cold generation capacity;
- (c) expand existing heat or cold generation capacity.’;

(d) paragraphs 5 and 6 are replaced by the following:

‘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:

- (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 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. Member States shall ensure that an appropriate process is in place to remedy unjustified refusals.

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) district heating and cooling system operators;

(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) local authorities responsible for planning and approving energy infrastructures.';

(e) paragraphs 8, 9 and 10 are replaced by the following:

'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 areas, 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, publicly available and enforced by the competent authority.

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 was less than or equal to 2 % of the gross final energy consumption in heating and cooling on 24 December 2018;

(b) its share of district heating and cooling is increased above 2 % of the gross final energy consumption in heating and cooling on 24 December 2018 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) 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].’;

(14) Article 25 is replaced by the following:

‘Article 25

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

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;

(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 non-biological 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, 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.’;

(15) Article 26 is amended as follows:

(a) paragraph 1 is amended as follows:

(i) the first subparagraph is replaced by the following:

‘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.’;

(ii) the fourth subparagraph is replaced by the following:

‘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.’;

(b) in paragraph 2, first and fifth subparagraphs, ‘the minimum share referred to in the first subparagraph of Article 25(1)’ is replaced by ‘the greenhouse gas emission reduction target referred to in Article 25(1), first subparagraph, point (a)’;

(16) Article 27 is amended as follows:

- (a) the title is replaced by the following:  
‘Calculation rules in the transport sector and with regard to renewable fuels of non-biological origin regardless of their end use’;
- (b) paragraph 1 is replaced by the following:  
‘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) the greenhouse gas emissions savings shall be calculated as follows:
- (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;
  - (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  $EC_{F(e)}$  set out in 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  $E_{F(t)}$  set out in Annex V;
- (c) for the calculation of the relevant amounts of energy, the following rules shall apply:
- (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;
  - (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;
  - (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;
  - (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 %;
- (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.

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;’;

(c) the following paragraph 1a is inserted:

‘1a. For the calculation of the targets referred to in Article 25(1), first subparagraph, point (b), the following rules shall apply:

(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.’;

(d) paragraph 2 is deleted.

(d) paragraph 3 is amended as follows:

(i) the first, second and third subparagraphs are deleted;

(ii) the fourth subparagraph is replaced by the following:

‘Where electricity is used for the production of renewable 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.’;

(iii) in the fifth subparagraph, the introductory phrase is replaced by the following:

‘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 non-biological origin, provided that the installation:’;

(17) Article 28 is amended as follows:

(a) paragraphs 2, 3 and 4 are deleted.

(b) paragraph 5 is replaced by the following:

‘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.’;

- (c) in paragraph 7, ‘laid down in the fourth subparagraph of Article 25(1)’ is replaced by ‘laid down in Article 25(1), first subparagraph, point (b)’;

(18) Article 29 is amended as follows:

- (a) paragraph 1 is amended as follows:

(i) in the first subparagraph, point (a) is replaced by the following:

‘(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;’;

(ii) the fourth subparagraph is replaced by the following:

‘Biomass fuels shall fulfil the sustainability and greenhouse gas emissions saving criteria laid down in paragraphs 2 to 7 and 10 if used,

- (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,
- (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,
- (c) in the case of installations producing gaseous biomass fuels with the following average biomethane flow rate:
  - (i) above 200 m<sup>3</sup> 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;

(iii) the following subparagraph is inserted after the fourth subparagraph:

‘Member States may apply the sustainability and greenhouse gas emissions saving criteria to installations with lower total rated thermal input or biomethane flow rate.’;

- (b) in paragraph 3, the following subparagraph is inserted after the first subparagraph:

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

- (c) in paragraph 4, the following subparagraph is added:

‘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.’;

(d) paragraph 5 is replaced by the following:

‘5. Biofuels, bioliquids and biomass fuels produced from agricultural or forest biomass taken into account for the purposes referred to in paragraph 1, first subparagraph, 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.’;

(e) in paragraph 6, first subparagraph, point (a), point (iv) is replaced by the following:

‘(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.’;

(f) in paragraph 6, first subparagraph, point (b), point (iv) is replaced by the following:

‘(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.’;

(g) in paragraph 10, first subparagraph, point (d) is replaced by the following:

‘(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.’;

(19) the following Article 29a is inserted:

‘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 %.

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 CO<sub>2</sub> the capture of which has already received an emission credit under other provisions of law.’;

(20) Article 30 is amended as follows:

- (a) in paragraph 1, first subparagraph, the introductory phrase is replaced by the following:

‘Where renewable fuels and recycled carbon fuels are to be counted towards the targets referred to in Articles 3(1), 15a(1), 22a(1), 23(1), 24(4) and 25(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.’;

- (b) in paragraph 3, the first and second subparagraphs are replaced by the following:

‘Member States shall take measures to ensure that economic operators submit reliable information regarding the 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), 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.’;

- (c) in paragraph 4, the first subparagraph is replaced by the following:

‘The Commission may decide that voluntary national or international schemes setting standards for the production of renewable fuels and recycled carbon fuels,



provide accurate data on greenhouse gas emission savings for the purposes of Articles 29(10) and 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).’;

(d) paragraph 6 is replaced by the following:

‘6. 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 methodology 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.

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).

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.

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.’;

(e) in paragraph 9, the first subparagraph is replaced by the following:

‘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.’;

(f) paragraph 10 is replaced by the following:

‘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) and Article 29a(1) and (2) in relation to a source of renewable fuels and recycled carbon fuels 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 the renewable fuels and recycled carbon fuels 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 renewable fuels and recycled carbon fuels to provide further evidence of compliance with those sustainability and greenhouse gas emissions saving criteria and those greenhouse gas emissions savings thresholds.’;

(21) in Article 31, paragraphs 2, 3 and 4 are deleted:

(22) the following Article is inserted:

#### ‘Article 31a

##### **Union database**

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.
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.

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.

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.

3. Member States shall have access to the Union database for the purposes of monitoring and data verification.
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.

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.

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.

- (23) Article 35 is amended as follows:

- (a) paragraph 2 is replaced by the following:

‘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), 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.’;

- (b) paragraph 4 is replaced by the following:

‘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.’;

- (c) paragraph 7 is replaced by the following:

‘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 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, 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.’;

- (24) the Annexes are amended in accordance with the Annexes to this Directive.

## *Article 2*

### **Amendments to Regulation (EU) 2018/1999**

- (1) Article 2 is amended as follows:

- (a) point 11 is replaced by the following:

‘(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.’;

- (b) in point 20, point (b) is replaced by the following:

‘(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.’;

- (2) In Article 4, point (a)(2) is replaced by the following:

‘(2) with respect to renewable energy:

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.’;

(3) In Article 5, paragraph 2 is replaced by the following:

‘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.’;

(4) In Article 29, paragraph 2 is replaced by the following:

‘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 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.’;

### *Article 3*

#### **Amendments to Directive 98/70/EC**

Directive 98/70/EC is amended as follows:

(1) Article 1 is replaced by the following:

‘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, 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.’;

(2) Article 2 is amended as follows:

(a) points 1, 2 and 3 are replaced by the following:

‘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<sup>28</sup> as referred to in Regulation (EC) No 715/2007 of the European Parliament and the Council<sup>29</sup> and Regulation (EC) 595/2009 of the European Parliament and of the Council<sup>30</sup> 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 27101943<sup>31</sup>, referred to in Directive 2013/53/EU of the European Parliament and of the Council<sup>32</sup>, Regulation (EU) 167/2013 of the European Parliament and of the Council<sup>33</sup> and Regulation (EU) 2016/1628 of the European Parliament and of the Council<sup>34</sup> and intended for use in compression ignition engines.’;

(b) points 8 and 9 are replaced by the following:

‘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<sup>35</sup>;

‘9. ‘biofuels’ means ‘biofuels’ as defined in Article 2, first paragraph, point (33) of Directive 2018/2001;’;

(3) Article 4 is amended as follows:

(a) In paragraph 1, the second subparagraph is replaced by the following:

‘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%.’

(b) Paragraph 2 is replaced by the following:

‘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

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<sup>28</sup> The numbering of these CN codes as specified in the Common Customs Tariff, Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff (OJ L 256 7.9.1987, p. 1).

<sup>29</sup> Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information (OJ L 171, 29.6.2007, p. 1).

<sup>30</sup> Regulation (EC) No 595/2009 of the European Parliament and of the Council of 18 June 2009 on type-approval of motor vehicles and engines with respect to emissions from heavy duty vehicles (Euro VI) and on access to vehicle repair and maintenance information and amending Regulation (EC) No 715/2007 and Directive 2007/46/EC and repealing Directives 80/1269/EEC, 2005/55/EC and 2005/78/EC (OJ L 188, 18.7.2009, p. 1);

<sup>31</sup> The numbering of these CN codes as specified in the Common Customs Tariff, Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff (OJ L 256 7.9.1987, p. 1).

<sup>32</sup> Directive 2013/53/EU of the European Parliament and of the Council of 20 November 2013 on recreational craft and personal watercraft and repealing Directive 94/25/EC (OJ L 354, 28.12.2013, p.90).

<sup>33</sup> Regulation (EU) No 167/2013 of the European Parliament and of the Council of 5.02.2013 on the approval and market surveillance of agricultural and forestry vehicles, (OJ L 060 of 2.3.2013, p. 1).

<sup>34</sup> Regulation (EU) 2016/1628 of the European Parliament and of the Council of 14 September 2016 on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending Regulations (EU) No 1024/2012 and (EU) No 167/2013, and amending and repealing Directive 97/68/EC, (OJ L 354 of 28.12.2013, p.53).

<sup>35</sup> Directive (EU) 2018/2001 of the European Parliament and of the Council on the promotion of the use of energy from renewable sources, (OJ L 328 of 21.12.2018, p. 82.)

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.’;

- (4) Articles 7a to 7e are deleted.
- (5) Article 9 is amended as follows:
  - (a) in paragraph 1, points (g), (h), (i) and (k) are deleted;
  - (b) paragraph 2 is deleted;
- (6) Annexes I, II, IV and V are amended in accordance with Annex I to this Directive.

#### *Article 4*

##### **Transitional provisions**

- (1) Member States shall ensure that the data collected and reported to the authority designated by the Member State with respect to the year [OJ: replace by calendar year during which the repeal takes effect] or a part thereof in accordance with Article 7a(1), third subparagraph, and Article 7a(7) of Directive 98/70/EC, which are deleted by Article 3(4) of this Directive, are submitted to the Commission.
- (2) The Commission shall include the data referred to in paragraph 1 of this Article in any report it is obliged to submit under Directive 98/70/EC.

#### *Article 5*

##### **Transposition**

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 2024 at the latest. They shall forthwith communicate to the Commission the text of those provisions.

When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.
2. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

#### *Article 6*

##### **Repeal**

Council Directive (EU) 2015/652<sup>36</sup> is repealed with effect from [OJ: replace by calendar year during which the repeal takes effect].

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<sup>36</sup> Council Directive (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels, OJ L 107, 25.4.2015, p. 26–67

*Article 7*

**Entry into force**

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

This Directive is addressed to the Member States.

Done at Brussels,

*For the European Parliament*  
*The President*

*For the Council*  
*The President*





Brussels, 14.7.2021  
COM(2021) 557 final

ANNEXES 1 to 2

## ANNEXES

to the

**Proposal for a**

**DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
amending Directive (EU) 2018/2001 of the European Parliament and of the Council,  
Regulation (EU) 2018/1999 of the European Parliament and of the Council and Directive  
98/70/EC of the European Parliament and of the Council as regards the promotion of  
energy from renewable sources, and repealing Council Directive (EU) 2015/652**

{SEC(2021) 657 final} - {SWD(2021) 620 final} - {SWD(2021) 621 final} -  
{SWD(2021) 622 final}

## ANNEX I

The Annexes to Directive (EU) 2018/2001 are amended as follows:

- (1) in Annex I, the final row in the table is deleted;
- (2) the following Annex 1a is inserted:

*‘ANNEX 1a*

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

	<b>Baseline shares increase (in percentage. points) (REF20/NECPs)</b>	<b>Resulting renewable heating and cooling shares in 2030 in percentage points including top ups (at least)</b>
<b>Belgium</b>	0,3%	1,4%
<b>Bulgaria</b>	0,9%	1,4%
<b>Czech Republic</b>	0,5%	1,4%
<b>Denmark</b>	0,9%	1,4%
<b>Germany</b>	0,9%	1,5%
<b>Estonia</b>	1,2%	1,5%
<b>Ireland</b>	2,1%	2,9%
<b>Greece</b>	1,6%	2,0%
<b>Spain</b>	1,1%	1,4%
<b>France</b>	1,4%	1,8%
<b>Croatia</b>	0,7%	1,4%
<b>Italy</b>	1,2%	1,6%
<b>Cyprus</b>	0,5%	1,6%
<b>Latvia</b>	0,8%	1,0%
<b>Lithuania</b>	1,6%	2,0%
<b>Luxembourg</b>	2,0%	2,7%
<b>Hungary</b>	0,9%	1,5%

<b>Malta</b>	0,5%	1,5%
<b>Netherlands</b>	0,7%	1,4%
<b>Austria</b>	0,7%	1,5%
<b>Poland</b>	1,0%	1,5%
<b>Portugal</b>	1,0%	1,4%
<b>Romania</b>	0,6%	1,4%
<b>Slovenia</b>	0,7%	1,4%
<b>Slovakia</b>	0,3%	1,4%
<b>Finland</b>	0,5%	0,8%
<b>Sweden</b>	0,3%	0,6%

(3) Annex III is replaced by the following:

#### ENERGY CONTENT OF FUELS

Fuel	Energy content by weight (lower calorific value, MJ/kg)	Energy content by volume (lower calorific value, MJ/l)
<b>FUELS FROM BIOMASS AND/OR BIOMASS PROCESSING OPERATIONS</b>		
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
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
<b>RENEWABLE FUELS THAT CAN BE PRODUCED FROM VARIOUS RENEWABLE SOURCES, INCLUDING BIOMASS</b>		
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	44	33

petrol)		
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)
TAAE (tertiary-amyl-ethyl-ether produced on the basis of ethanol)	38 (of which 29 % from renewable sources)	29 (of which 29 % from renewable sources)
TAME (tertiary-amyl-methyl-ether produced on the basis of methanol)	36 (of which 18 % from renewable sources)	28 (of which 18 % 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
Hydrogen from non-renewable sources	120	—

(4) Annex IV is amended as follows:

a) the title is replaced by the following:

**‘TRAINING AND CERTIFICATION OF INSTALLERS AND DESIGNERS OF RENEWABLE INSTALLATIONS’**

- b) the introductory sentence and the first point are replaced by the following:

‘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.’;

- c) The following points 1a and 1b are inserted:

‘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.’;

- d) Points 2 and 3 are replaced by the following:

‘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 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.’;

- e) In point 6(c) the following points (iv) and (v) are added :

‘(iv) an understanding of feasibility and design studies;

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

- (5) In Annex V, part C is amended as follows:

- a) points 5 and 6 are replaced by the following:

‘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 CO<sub>2</sub> in the cultivation of raw materials shall be excluded. If available, the disaggregated default values for soil N<sub>2</sub>O 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<sup>1</sup>.’;

b) point 15 is deleted:

c) point 18 is replaced by the following:

‘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. 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. In the case of biomass fuels produced in refineries, other than the combination of processing plants with boilers or cogeneration units

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<sup>1</sup> Measurements of soil carbon can constitute such evidence, e.g. by a first measurement in advance of the cultivation and subsequent ones at regular intervals several years apart. In such a case, before the second measurement is available, increase in soil carbon would be estimated on the basis of representative experiments or soil models. From the second measurement onwards, the measurements would constitute the basis for determining the existence of an increase in soil carbon and its magnitude.

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’;

(6) In Annex VI, part B is amended as follows:

a) points 5 and 6 are replaced by the following:

‘5. Emissions from the extraction or cultivation of raw materials,  $e_{ec}$ , 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 CO<sub>2</sub> in the cultivation of raw materials shall be excluded. If available, the disaggregated default values for soil N<sub>2</sub>O 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,  $e_{sca}$ , 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<sup>2</sup>’;

b) point 15 is deleted:

c) point 18 is replaced by the following:

‘18. For the purposes of the calculations referred to in point 17, the emissions to be divided shall be  $e_{ec} + e_l + e_{sca}$  + those fractions of  $e_p$ ,  $e_{td}$ ,  $e_{ccs}$  and  $e_{ccr}$  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. 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

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<sup>2</sup> Measurements of soil carbon can constitute such evidence, e.g. by a first measurement in advance of the cultivation and subsequent ones at regular intervals several years apart. In such a case, before the second measurement is available, increase in soil carbon would be estimated on the basis of representative experiments or soil models. From the second measurement onwards, the measurements would constitute the basis for determining the existence of an increase in soil carbon and its magnitude.



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,  $e_{ec}$  as their closest substitute in the food and feed market that is included in the table in part D of Annex V.

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'

- (7) in Annex VII, in the definition of ' $Q_{usable}$ ', the reference to Article 7(4) is replaced by a reference to Article 7(3).
- (8) Annex IX is amended as follows:
  - (a) in Part A, the introductory phrase is replaced by the following:  
'Feedstocks for the production of biogas for transport and advanced biofuels:'
  - (b) In Part B, the introductory phrase is replaced by the following:  
'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:';

## ANNEX II

Annexes I, II, IV and V to Directive 98/70/EC are amended as follows:

- (1) Annex I is amended as follows:
  - (a) the text of footnote 1 is replaced by the following:

‘(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.’;
  - (b) the text of footnote 2 is replaced by the following:

‘(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.’;
  - (c) the text of footnote 6 is replaced by the following:

‘(6) Other mono-alcohols and ethers with a final boiling point no higher than that stated in EN 228:2012 +A1:2017.’
- (2) Annex II is amended as follows:
  - (a) in the last line of the table, ‘FAME content – EN 14078, the entry in the last column ‘Limits’ ‘Maximum’, ‘7,0’ is replaced by ‘10.0’;
  - (b) the text of footnote 1 is replaced by the following:

‘(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.’;
  - (c) the text of footnote 2 is replaced by the following:

‘(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) Annexes IV and V are deleted.