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Subject:	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 and Proposal for a Directive the European Parliament and of the Council amending Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources, Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency - Letter sent to the Chair of the European Parliament Committee on Industry, Research and Energy (ITRE)

Following the Permanent Representatives Committee meeting of 16 June 2023 which endorsed the final compromise texts on the abovementioned proposals with a view to agreement, delegations are informed that the Presidency sent the attached letter, together with its Annexes, to the Chair of the European Parliament Committee on Industry, Research and Energy (ITRE).

Council of the European Union

SGS 23 / 2110

Brussels, 16 June 2023

Mr Cristian-Silviu BUȘOI
Chair, European Parliament Committee on Industry, Research and Energy
B-1047 Brussels

Subject: **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 and Proposal for a Directive the European Parliament and of the Council amending Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources, Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency.**

Dear Mr Cristian-Silviu BUȘOI,

Following the outcome of the informal trilogue between the representatives of the three institutions held on 29 March 2023 in the European Parliament regarding the Directives in subject, the draft compromise text was agreed today by the Permanent Representatives Committee.

I am therefore now in a position to confirm that, should the European Parliament adopt its position at first reading, in accordance with Article 294 paragraph 3 of the Treaty, in the exact form as set out in the compromise text contained in the Annex to this letter, but subject to revision by the legal linguists of both institutions, the Council would, in accordance with Article 294, paragraph 4 of the Treaty, approve the European Parliament's position and the act shall be adopted in the wording which corresponds to the European Parliament's position.

Please note that the document in the annex contains also a new recital (22ab).

On behalf of the Council I also wish to thank you for your close cooperation and expert Chairship which should enable us to reach agreement on those dossiers at first reading.

Yours sincerly,

Mr Torbjörn HAAK
Chairman of the Permanent Representatives Committee (Part 1)

copy to: Ms Kadri Simson, Commissioner
Mr Markus Pieper, Rapporteur
Mr Nils Torvalds, Rapporteur

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ANNEX

2021/0218 (COD)

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of

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

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular ***Articles*** 114***, 192(1)*** 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 ***opinions*** of the European Economic and Social Committee[1],

Having regard to the opinion of the Committee of the Regions[2],

Acting in accordance with the ordinary legislative procedure,

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1 OJ C ***152***, ***6.4.2022***, p.***127 and OJ C 443, 22.11.2022, p. 145***.

2 OJ C ***301***, ***5.8.2022***, p. ***184***.

Whereas:

(1) ***In the context of the European Green Deal[3], Regulation (EU) 2021/1119 of the European Parliament and of the Council[4] established the objective of the Union becoming climate neutral in 2050 at the latest, as well as the target of at least 55% reduction in greenhouse gas emissions by 2030 compared to 1990 levels. This requires a just energy transition that leaves no territory or citizen behind, increased efficiency and significantly higher shares of renewable energy sources in an integrated energy system.***

(2) Renewable energy plays a fundamental role in delivering ***on these objectives***, given that the energy sector contributes ***today*** over 75% of total greenhouse gas emissions in the Union. By reducing those greenhouse gas emissions, renewable energy ***can*** also ***contribute*** to tackling environmental-related challenges such as biodiversity loss ***and to reducing pollution in line with the objectives of the Zero-Pollution Action Plan. The green transition to a renewable energy based economy will help achieve the objectives of the General Union Environment Action Programme to 2030 ('8th EAP'), the EU's climate and environment framework to 2030, which also aims to protect, restore and improve the state of the environment by, inter alia, halting and reversing biodiversity loss. The reduced exposure to price shocks compared to fossil fuels can give renewable energy a key role in tackling energy poverty. Renewables can also bring broad socio-economic benefits, creating new jobs and fostering local industries while catering for growing domestic and global demand for renewable technologies.***

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3 ***Communication from the Commission COM(2019) 640 final of 11.12.2019, The European Green Deal.***

4 ***Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1).***

(3) Directive (EU) 2018/2001 of the European Parliament and of the Council[5] 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. Under the ***2030*** 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[6]. ***In this context, the Commission proposed in July 2021, as part of the package delivering on the European Green Deal, to double the share of renewable energy in the energy mix in 2030 compared to 2020, to reach at least 40%.***

(3a) The general context created by Russia's invasion of Ukraine and the effects of the COVID-19 pandemic has led to a surge in energy prices across the Union, thus highlighting the need to accelerate energy efficiency and increase the use of renewable energy in the Union. In order to achieve the long-term objective of an energy system that is independent of third countries, the Union should focus on accelerating the green transition and ensuring an emission-reducing energy policy that reduces dependence on imported fossil fuels and establishes fair and affordable prices for Union citizens and enterprises in all sectors of the economy.

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5 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

6 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

(3b) The REPowerEU Communication outlined a plan to make the EU independent from Russian fossil fuels well before the end of this decade. The Communication foresees front-loading of wind and solar energy, increasing the average deployment rate as well as additional renewable energy capacity by 2030 to accommodate for higher production of renewable fuels of non-biological origin. It also invited the co-legislators to consider a higher or earlier target for renewable energy. In this context, it is appropriate to increase the Union renewable energy target up to 42.5% in order to significantly accelerate the current pace of deployment of renewable energy, thereby speeding up the phase-out of EU's dependence by increasing the availability of affordable, secure and sustainable energy in the Union. Beyond this mandatory level, Member States should endeavour to collectively achieve a Union renewable energy target of 45% outlined in the REPowerEU Communication.

(3c) The targets for renewable energy sources should go hand in hand with the complementary decarbonisation efforts based on other non-fossil sources towards reaching climate neutrality in 2050. Member States should be able to combine different non-fossil energy sources in order to achieve the objective of the Union to become climate neutral by 2050 in the context of their specific national circumstances and the structure of their energy supply. In order to achieve such objective, the deployment of renewable energy in the framework of the increased binding overall Union target should be integrated into complementary decarbonisation efforts involving the development of other non-fossil fuel sources that Member States may decide to pursue.

(3d) ***Innovation is a key for the competitiveness of renewable energy. The European Strategic Energy Technology Plan (SET-Plan) aims to boost the transition towards a climate neutral energy system through actions for research and innovation, which address the whole innovation chain, from research to market uptake. In their integrated National Energy and Climate Plans, Member States are asked to set national objectives and funding targets for public and, where available, private research and innovation relating to the Energy Union, including, where appropriate, a timeframe for when the objectives should be met; reflecting the priorities of the Energy Union Strategy and, where relevant, of the SET-Plan. As a complement and in order to promote the production of renewable energy from innovative renewable energy technologies and to safeguard the continued European leadership in research and development of innovative renewable technologies, each Member State should set an indicative target for innovative renewable energy technology of at least 5 % of new installed renewable energy capacity by 2030.***

(3e) ***In line with Article 3 [EED Recast], following the Commission recommendation of 28 September 2021 entitled "On Energy Efficiency First: from principles to practice. Guidelines and examples for its implementation in decision-making in the energy sector and beyond", Member States should take an integrated approach by promoting the most energy efficient renewable source for any given sector and application, as well as by promoting system efficiency, so that the least energy is required for different economic activities.***

(3f) ***This Directive will support also the achievement of the EU target of 35 bcm annual production of sustainable biomethane by 2030 set in the Biomethane Action Plan (SWD(2022) 230), thereby supporting security of supply and EU climate ambitions.***

(4) There is a growing recognition of the need ***to align*** bioenergy policies with the cascading principle of biomass use[7], 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[8]. ▌ . 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 ***2021*** report ***of the Joint Research Centre entitled*** 'The use of woody biomass for energy production in the EU'[9]. On the other hand, in ***implementing measures ensuring the application of*** the cascading principle, it is necessary to recognise the national specificities which guide Member States in the design of their support schemes***. Member States should be allowed to derogate from the cascading principle in duly justified circumstances, for example where required for security of energy supply purposes, such as in the case of a particularly severe cold conditions. Member States should also be allowed to derogate from the cascading principle where there are no industries or processing facilities that could make a higher added value use of certain feedstocks within a geographical perimeter. In such a case, transport beyond that perimeter for the purpose of such a use might not be justified from an economic or environmental point of view. Member States should notify those***

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7 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. ▌

8 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).

9 https://publications.jrc.ec.europa.eu/repository/handle/JRC122719

derogations to the Commission. Member States should grant no direct financial support to the production of energy from saw logs, veneer logs, industrial grade roundwood, stumps and roots. The notion of direct financial support should be interpreted as excluding tax benefits. 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, Member States should not give ***new*** support ***or renew support for*** electricity-only plants, unless the installations are in regions with a specific use status as regards their transition away from fossil fuels ***or in outermost regions*** or if the installations use carbon capture and storage.

(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 ***should*** 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. ***Member States may agree, via a specific cooperation agreement, to account the renewable fuels of non-biological origin consumed in one Member State towards the share of gross final consumption of energy from renewable sources in the Member State where they were produced. Whenever such agreements are put in place, unless agreed otherwise, Member States are encouraged to count the renewable fuels of non-biological origin that are produced in a Member State different than the Member States where they are consumed as follows: up to 70 % of their volume in the country where it is consumed and up to 30% of their volume in the country where it is produced. Agreements between Member States may be in the form of a specific cooperation agreement made via the Union Renewable Development Platform (URDP).***

(7) ***Cooperation between*** Member ***States*** 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 ***between Member States*** has been very limited, thus leading to suboptimal results in terms of efficiency in increasing renewable energy. Member States should therefore be obliged ***to establish a framework for cooperation on joint projects by 2025. Within such framework, Member States should aim to establish at least two joint projects by 2030. In addition, Member States whose annual consumption of electricity exceeds 100 TWh should aim to establish a third joint project by 2033***. Projects financed by national contributions under the Union renewable energy financing mechanism established by Commission Implementing Regulation (EU) 2020/1294[10] would meet this obligation for the Member States involved.

10 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).

(8) ***In its Communication of 19 November 2020, entitled "An EU Strategy to harness the potential of renewable energy for a climate neutral future", the Commission introduced*** 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. ***Regulation (EU) 2022/869 of the European Parliament and of the Council[11] requires the Member States to conclude non-binding agreements to cooperate on goals for offshore renewable generation to be deployed within each sea basin by 2050, with intermediate steps in 2030 and 2040. Publishing information on the volumes that the Member States intend to achieve through tenders increases transparency and predictability for investors and supports the achievement of the offshore deployment goals. Maritime spatial planning is an essential tool to ensure the coexistence of different uses of the sea. Allocating space for offshore renewable energy projects in maritime spatial plans is needed to enable long-term planning, the assessment of their impacts and ensuring public acceptance of the planned deployment. Enabling the participation of renewable energy communities in joint cooperation projects on offshore renewable energy provides further means to enhance public acceptance.***

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[11] ***Regulation (EU) 2022/869 of the European Parliament and of the Council of 30 May 2022 on guidelines for trans-European energy infrastructure, amending Regulations (EC) No 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, and repealing Regulation (EU) No 347/2013 (OJ L 152, 3.6.2022., p. 45).***

(9) The market for renewable power purchase agreements is rapidly growing and provides a complementary route to the market of renewable ▌ 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. ***In addition, measures in support of renewable power purchase agreements should be extended to other forms of renewable energy purchase agreements, where relevant, including renewable heating and cooling purchase agreements. In this context, the Commission should analyse the barriers to long-term energy purchase agreements and in particular to the deployment of cross-border renewable energy purchase agreements and issue guidance on the removal of these barriers.***

(10) ***Further streamlining of administrative and permit-granting procedures may be needed to eliminate unnecessary*** administrative ***burden for both*** renewable energy ***projects and the related grid infrastructure projects. Within two years after the entry into force of this Directive and on the basis of the*** integrated national energy and climate progress reports pursuant to Regulation (EU) 2018/1999 of the European Parliament and of the Council▌, the Commission should ***consider if additional measures are needed to further support the Member States in the implementation of the articles regulating permit-granting*** procedures***, also in view of the task of the contact point defined in Article 16 to ensure fulfilment of the deadlines for the permit-granting procedures set out in this Directive. The*** measures ***may include indicative key performance indicators on, inter alia, the length of permit-granting*** procedures ***inside and outside renewables acceleration areas***.

(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 buildings*** through an increased share in production and use of renewable energy will be needed to meet the ambition set in the ***European Climate Law*** to achieve the Union objective of climate neutrality. However, progress on the use of ***renewable energy*** for heating and cooling has been stagnant in the last decade, largely relying on increased use of biomass. Without the establishment of ***indicative shares*** of renewable energy in buildings, ***it will not be possible*** to track progress and identify bottlenecks in the uptake of ***renewable energy***. ***The*** creation of ***indicative shares*** will provide a long-term signal to investors, including for the period immediately after 2030. ▌ Therefore, indicative ***shares*** for the use of renewable energy in buildings***, produced on site or nearby and from the grid,*** 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 ▌ technologies which produce renewable energy ***and help their efficient integration in the energy system,*** while providing certainty for investors and local level engagement ***as well as contributing to system efficiency***. ***Smart and innovative technologies that contribute to system efficiency should also be promoted when appropriate. For the calculation of those shares, when determining the share of renewable electricity from the grid used in buildings, Member States should use the average share of renewable electricity supplied in their territory in the two previous years.***

(11a) The indicative EU renewable energy share in the building sector to be reached by 2030 constitutes a necessary minimum milestone for ensuring the decarbonisation of the EU building stock by 2050 and complements the regulatory framework related to energy efficiency and the energy performance in buildings. It is key to enable a seamless, cost-effective phase out of fossil fuels from buildings to ensure their replacement with renewables. The indicative share of renewable energy in the building sector complements the regulatory framework for buildings under the Union's legislation on the energy performance of buildings by ensuring that renewable energy technologies, appliances and infrastructures, including efficient district heating and cooling, are sufficiently scaled-up in a timely manner to replace fossil fuels in buildings and to ensure the availability of safe and reliable renewable energy supply for nearly zero-energy buildings until 2030. The indicative renewable energy share in the buildings sector also promotes the renewable energy investments in long-term national building renovation strategies and plans enabling the achievement of the decarbonisation of buildings. Furthermore, the indicative renewable energy share in the buildings sector provides an important additional indicator to promote the development or modernisation of efficient district heating and cooling networks, thereby complementing both the indicative district heating and cooling target under Article 24 of this Directive and the requirement to ensure that renewable energy and waste heat and cold from efficient district heating and cooling system are available to help cover the total annual primary energy use of new or renovated buildings. Finally, this indicative renewable energy share in the buildings sector is also necessary to cost-effectively ensure the delivery of the annual increase in renewable heating and cooling under Article 23 of this Directive.

(11b) Given the large energy consumption in residential, commercial and public building, existing definitions provided for in Regulation (EC) No 1099/2008 of the European Parliament and of the Council[12] could be used in the calculation of the national share of energy from renewable sources in buildings as to minimise administrative burden whilst ensuring the progress in realising the indicative EU renewable energy share for the building sector in 2030.

(11c) Lengthy administrative procedures are one of the key barriers for investments in renewables and their related infrastructure. These barriers include the complexity of the applicable rules for site selection and administrative authorisations for projects the complexity and duration of the assessment of the environmental impacts of the projects, and related energy networks, grid connection issues, constraints on adapting technology specifications during the permit-granting procedure, or staffing issues of the permit-granting authorities or grid operators. In order to accelerate the pace of deployment of renewable energy projects it is necessary to adopt rules which would simplify and shorten permit-granting processes, taking into account the social acceptance of the renewable energy deployment.

(11d) The Directive (EU) 2018/2001 streamlines the requirements to simplify the administrative procedures for authorising renewable energy plants by introducing rules on the organisation and maximum duration of the administrative part of the permit-granting process for renewable energy projects, covering all relevant permits to build, repower and operate plants, and for their grid connection.

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[12] Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics (OJ L 304, 14.11.2008, p. 1).

(11e) A further simplification and shortening of the administrative permit-granting processes for renewable energy plants, including those combining different renewable energy sources; heat pumps; co-located energy storage, including power and thermal facilities, as well as assets necessary for their connection to the grid, and to integrate renewables into heating and cooling networks in a coordinated and harmonised manner is necessary in order to ensure that the Union reaches its ambitious climate and energy targets for 2030 and the objective of climate-neutrality by 2050, while taking into account the "do no harm" principle of the European Green Deal and without prejudice to the internal division of competence within Member States.

(11f) The introduction of shorter and clear deadlines for decisions to be taken by the authorities competent for issuing the authorisation for the renewable energy installations on the basis of a complete application, will accelerate the deployment of renewable energy projects. The time during which the plants and their grid connection are built should not be counted within these deadlines except if it is covered by a decision period by the competent authorities. It is appropriate however to make a distinction between projects in areas particularly suitable for the deployment of renewable energy projects, for which deadlines can be particularly streamlined (renewables acceleration areas), and projects located outside those areas. The particularities of offshore renewable energy projects should be taken into account when setting the deadlines.

(11g) Some of the most common issues faced by renewable energy project developers relate to complex and lengthy administrative, permitting and grid connection procedures established at national or regional level and a lack of sufficient staffing and technical expertise in permitting authorities to assess the environmental impact of the proposed projects. Therefore, it is appropriate to streamline certain environmental-related aspects of the permit-granting procedures and processes for renewable energy projects.

(11h) A faster roll-out of renewable energy projects should be supported by coordinated mapping for the deployment of renewable energy in their territory and their related infrastructure carried out by Member States in coordination with local and regional authorities. Member States should identify the land, surface, sub-surface and sea or inland water areas necessary for the installation of plants for the production of energy from renewable sources and their related infrastructure in order to meet at least their national contributions towards the revised 2030 renewable energy target set out in Article 3(1) of Directive (EU) 2018/2001 and in support of reaching the objective of climate neutrality by 2050 at the latest, in accordance with the European Climate Law [Regulation (EU) 2021/1119]. Member States should be allowed to use existing spatial planning documents for the purpose of identifying these areas. Such areas should reflect their estimated trajectories and total planned installed capacity and should be identified by renewable energy technology set in the Member States' national energy and climate plans submitted pursuant to Articles 3 and 14 of Regulation (EU) 2018/1999. The identification of the required land, surface, sub-surface, and sea or inland water areas should take into consideration in particular the availability of the renewable energy resources and the potential offered by the different land and sea areas for renewable energy production of the different technologies, the projected energy demand, taking into account energy and system efficiency, overall and in the different regions of the Member State, and the availability of relevant energy infrastructure, storage, and other flexibility tools bearing in mind the capacity needed to cater for the increasing amount of renewable energy, as well as environmental sensitivity in accordance with Annex III of Directive 2011/92/EC.

(11i) Member States should designate as a sub-set of those areas, specific land (including surfaces and subsurfaces) and sea or inland water areas as renewable acceleration areas. These areas should be particularly suitable to develop renewable energy projects, differentiating between technologies, and where the deployment of the specific type of renewable energy is not expected to have a significant environmental impact. In the designation of renewables acceleration areas, Member States should avoid protected areas and consider restoration plans and appropriate mitigation measures. Member States may designate renewables acceleration areas specific for one or more types of renewable energy plants and should indicate the type or types of renewable energy that are suitable to be produced in each renewables acceleration area. Member States should designate such renewables acceleration areas for at least one technology and should decide the size of such renewables acceleration areas, in view of the specificities and requirements of the technology or technologies for which they set-up renewables acceleration areas. In doing so, Member States should aim that the combined size of these areas is significant and that they contribute to the achievement of the objectives set out in this Directive.

(11j) Multiple use of space for renewable energy production and other land, inland water and sea uses (such as food production or nature protection or restoration) alleviates land, inland water and sea use constraints. In this context, spatial planning is an essential tool to identify and steer synergies for land, inland water and sea use at an early stage. Member States should explore, enable and favour the multiple uses of the areas identified as a result of the spatial planning measures adopted. To this end, Member States should facilitate changes in land and sea use where required, provided that the different uses and activities are compatible and can co-exist.

(11k) ***Directive 2001/42/EC of the European Parliament and of the Council1 establishes environmental assessments as an important tool for integrating environmental considerations into the preparation and adoption of plans and programmes. In order to designate renewables acceleration areas, Member States should prepare a plan or plans encompassing the identification of areas and the applicable rules and mitigation measures for projects located in each renewables acceleration area. Member States may prepare one single plan for all renewables acceleration areas and technologies, or technology-specific plans identifying one or more renewables acceleration areas. Each plan should be subject to an environmental assessment carried out in accordance with the conditions set out in Directive 2001/42/EC in order to assess the impacts of each renewable technology on the relevant areas designated in such plan. Carrying out an environmental assessment in accordance with Directive 2001/42/EC for this purpose would allow Member States to have a more integrated and efficient approach to planning, to ensure public participation at an early stage, and to take environmental considerations into account at an early phase of the planning process at a strategic level. This would contribute to ramping up the deployment of different renewable energy sources in a faster and streamlined manner while minimising the negative environmental impacts from these projects. Such environmental assessment should include transboundary consultations between Member States if the plan is likely to have significant effects on the environment in another Member State.***

(11l) ***Following the adoption of the plan or plans designating renewables acceleration areas, Member States should monitor the significant environmental effects of the implementation of plans and programmes in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action, in accordance with Directive 2001/42/EC.***

(11m) To increase public acceptance of renewable energy projects, Member States should take appropriate measures to promote the participation of local communities in renewable energy projects. The provisions of the United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters[13] ('the Aarhus Convention')¨ regarding access to information, public participation in decision-making, and access to justice in environmental matters, in particular the provisions relating to public participation and to access to justice remain applicable.

(11n) In order to streamline the process of recognition of renewables acceleration areas and avoid a double environmental assessment of a single area, it should be possible for Member States to declare areas which have been already designated as suitable for an accelerated deployment of renewable energy technologies under national legislation as renewables acceleration areas. This declaration should be subject to certain environmental conditions, ensuring a high level of environmental protection. The possibility for recognition of renewables acceleration areas in existing planification should be limited in time, in order to ensure that it does not jeopardise the standard process for designation of acceleration areas. Projects located in existing national designated areas in protected areas which cannot be declared as renewable acceleration areas should continue to operate under the same conditions under which they were established.

(11o) The designated renewables acceleration areas, together with existing renewable energy plants, future renewable energy plants outside of such areas and cooperation mechanisms, should aim to ensure that renewable energy production will be sufficient to achieve Member States' contribution to the Union renewable energy target set out in Article 3(1) of Directive (EU) 2018/2001. Member States should retain the possibility to grant permits outside such areas.

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13 Council Decision 2005/370/EC of 17 February 2005 on the conclusion, on behalf of the European Community, of the Convention on access to information, public participation in decision-making and access to justice in environmental matters (OJ L 124, 17.5.2005, p. 1).

(11p) In the designated renewables acceleration areas, renewable energy projects that comply with the rules and measures identified in the plan or plans prepared by Member States, should benefit from a presumption of not having significant effects on the environment. Therefore, there should be an exemption from the need to carry out a specific environmental impact assessment at project level in the sense of Directive 2011/92/EU of the European Parliament and of the Council[14], with the exception of projects where Member State has determined to require an environmental impact assessment in its national mandatory list of projects and of projects which are likely to have significant effects on the environment in another Member State or where a Member State likely to be significantly affected so requests. The obligations under the UNECE Espoo Convention on environmental impact assessment in a transboundary context of 25 February 1991 should remain applicable for Member States where the project is likely to cause a significant transboundary impact in a third country.

(11q) The obligations set in Directive 2000/60/EC of the European Parliament and of the Council[15] remain applicable regarding hydropower plants, including in the case that a Member State decides to designate renewable acceleration areas related to hydropower with a view of ensuring that potential adverse impacts on the water body or water bodies concerned are justified and that all relevant mitigation measures are implemented.

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14 Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1).

15 Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1).

OJ L 327, 22.12.2000, p. 1–73

(11r) The designation of renewables acceleration areas should allow renewable energy plants, their grid connection as well as co-located energy storage facilities located in these areas to benefit from predictability and streamlined administrative procedures. In particular, projects located in renewables acceleration areas should benefit from accelerated administrative procedures, including a tacit agreement in case of a lack of response by the competent authority on an intermediary administrative step by the established deadline, unless the specific project is subject to an environmental impact assessment or where the principle of administrative tacit agreement does not exist in the national legal system. These projects should also benefit from clearly delimited deadlines and legal certainty as regards the expected outcome of the procedure. Following the application for projects in a renewables acceleration area, Member States should carry out a fast screening of such applications with the aim to identify if any of such projects is highly likely to give rise to significant unforeseen adverse effects in view of the environmental sensitivity of the geographic area where they are located that were not identified during the environmental assessment of the plan or plans designating renewables acceleration areas carried out in accordance with Directive 2001/42/EC and if any of such projects is subject to transboundary assessment according to Article 7 of the Directive 2011/92/EU due to its likelihood of significant effects on the environment in another Member State or due to request of Member State which is likely to be significantly affected. All projects located in renewables acceleration areas that comply with the rules and measures identified in the plan or plans prepared by Member States should be deemed approved at the end of such screening process. For the purpose of such screening, the competent authority may request the applicant to provide additional available information without requiring a new assessment or data collection. Following such screening, only if Member States have clear evidence to consider that a specific project is highly likely to give rise to such significant unforeseen adverse effects, Member States should, after motivating such decision, subject such project to an environmental assessment in accordance with Directive 2011/92/EC and, where relevant, Directive 92/43/EEC, which should be carried out within six months with the possibility to extend on the ground of extraordinary circumstances. It is appropriate to allow Member States to introduce derogations from the obligation to carry out such assessments in justified circumstances for wind and solar photovoltaic projects, which are expected to provide a vast majority of the renewable electricity by 2030. In such case, the project developer should adopt proportionate mitigation measures or, if not available, compensation measures, which

may take the form of monetary compensation if other proportionate compensation measures are not available, in order to address those significant unforeseen adverse effects identified during the screening.

(11s) In view of the need to accelerate the deployment of renewable energy sources, the identification of renewables acceleration areas should not prevent the ongoing and future installation of renewable energy projects in all areas available for renewable energy deployment. Such projects should remain subject to the obligation to carry out a dedicated environmental impact assessment in accordance with Directive 2001/92/EU and should be subject to the procedures foreseen for renewable energy projects located outside renewables acceleration areas. To speed up permitting at the scale necessary for the achievement of the renewable energy target set out in Directive (EU) 2018/2001, also the procedures applicable to projects outside of renewables acceleration areas should be simplified and streamlined with the introduction of clear maximum deadlines for all steps of the procedure, including dedicated environmental assessments per project.

(11t) The construction and operation of renewable energy plants may result in the occasional killing or disturbance of birds and other protected species under Directive 92/43/EEC or Directive 2009/147/EC[16]. However, such killing or disturbance would not be considered deliberate in the sense of these Directives if a project has adopted, during its construction and operation, appropriate mitigation measures to avoid collisions or prevent disturbance, and if it carries out a proper monitoring to assess the effectiveness of such measures and, in the light of the information gathered, takes further measures as required to ensure no significant negative impact on the population of the species concerned.

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[16] Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (OJ L 20, 26.1.2010, p.7).

(11u) ***In addition to installing new renewable energy plants, repowering existing renewable energy plants has a significant potential to contribute to the achievement of the renewable energy targets. Since, usually, the existing renewable energy plants have been installed in sites with significant renewable energy resource potential, repowering can ensure the continued use of these sites while reducing the need to designate new sites for renewable energy projects. Repowering includes further benefits such as the existing grid connection, a likely higher degree of public acceptance and knowledge of environmental impacts.***

(11v) ***Directive (EU) 2018/2001 introduces streamlined permit-granting procedures for repowering. In order to respond to the increasing need for the repowering of existing renewable energy plants and to make full use of the advantages it offers, it is appropriate to establish an even shorter procedure for the repowering of renewable energy plants located in renewables acceleration areas, including a shorter screening procedure. For the repowering of existing renewable energy plants located outside renewables acceleration areas, Member States should ensure a simplified and swift permit-granting process which should not exceed one year, while taking into account the "do no harm" principle of the European Green Deal.***

(11w) ***In order to further promote and accelerate the repowering of existing renewable energy plants, a simplified procedure for grid connections should be established in cases where the repowering results in a limited increase in total capacity compared to the original project. The repowering of renewable energy projects entails changes to or the extension of existing projects to different degrees. The permit-granting process, including environmental assessments and screening, for the repowering of renewable energy projects should be limited to the potential impacts resulting from the change or extension compared to the original project.***

(11x) When repowering a solar installation, increases in efficiency and capacity can be achieved without increasing the space occupied. The repowered installation thus does not have a different impact on the environment than the original installation, provided that the space used is not increased in the process, and the originally required environmental mitigation measures continue to be complied with.

(11y) The installation of solar energy equipment, together with related co-located storage and grid connection, in existing or future structures created for purposes different than solar energy production with the exclusion of artificial water surfaces, such as rooftops, parking areas, roads and railways, do not typically raise concerns related to competing uses of space or environmental impact. These installations therefore may benefit from shorter permit-granting procedures and from a derogation from the need to carry out environmental assessments under Directive 2011/92/EU, while allowing Member States to take into account specific circumstances related to cultural or historical heritage protection, national defence interests or safety reasons. Self-consumption installations including those for collective self-consumers, such as local energy communities, also contribute to reducing overall natural gas demand, to increasing resilience of the system and to the achievement of the Union's renewable energy targets. The installation of solar energy equipment with a capacity below 100 kW, including installations of renewables self-consumers, is not likely to have major adverse effects on the environment or the grid and does not raise safety concerns. In addition, small installations do not generally require capacity expansion at the grid connection point. In view of the immediate positive effects of such installations for consumers and the limited environmental impacts they may give rise to, it is appropriate to further streamline the permit-granting process applicable to them, provided that they do not exceed the existing capacity of the connection to the distribution grid, by introducing the concept of administrative positive silence in the relevant permit-granting processes in order to promote and accelerate the deployment of those installations and to be able to reap their benefits in the short term. Member States should be allowed to apply a lower threshold than 100 kW due to their internal constraints, provided that the threshold remains higher than 10,8 kW.

(11z) Heat pump technology is key to producing renewable heating and cooling from ambient energy, including from wastewater treatment plants and geothermal energy. Heat pumps also allow the use of waste heat and cold. The rapid deployment of heat pumps which mobilises underused renewable energy sources such as ambient energy, geothermal energy and waste heat from industrial and tertiary sectors, including data centres, makes it possible to replace natural gas and other fossil fuel-based boilers with a renewable heating solution, while increasing energy efficiency. This will accelerate the reduction in the use of gas for the supply of heating, both in buildings as well as in industry. In order to accelerate the installation and use of heat pumps, it is appropriate to introduce targeted shorter permit-granting processes for such installations, including a simplified procedure for the connection of smaller heat pumps to the electricity grid where there are no safety concerns, no further works are needed for grid connections and there is no technical incompatibility of the system components, unless no such procedure is required by national law. Thanks to a quicker and easier installation of heat pumps, the increased use of renewables in the heating sector, which accounts for almost half of the Union's energy consumption, will contribute to security of supply and help tackle a more difficult market situation.

(11aa) For the purposes of the relevant Union environmental legislation, in the necessary case-by-case assessments to ascertain whether a plant for the production of energy from renewable sources, its connection to the grid, the related grid itself or storage assets is of overriding public interest in a particular case, Member States should presume these plants and their related infrastructure as being of overriding public interest and serving public health and safety, except where there is clear evidence that these projects have major adverse effects on the environment which cannot be mitigated or compensated, or where Member States decide to restrict the application of this presumption in duly justified and specific circumstances, such as reasons related to national defense. Considering such plants as being of overriding public interest and serving public health and safety would allow such projects to benefit from a simplified assessment.

(11ab) In order to ensure a smooth and effective implementation of the provisions laid down in this Directive, the Commission supports Member States through the Technical Support Instrument[17] providing tailor-made technical expertise to design and implement reforms, including those increasing the use of energy from renewable sources, fostering better energy system integration, identifying specific areas particularly suitable for the installation of plants for the production of renewable energy, and streamlining the framework for authorisation and permit-granting processes for renewable energy plants. The technical support, for example, involves strengthening of administrative capacity, harmonising the legislative frameworks, and sharing of relevant best practices such as enabling and favouring multiple uses.

11ac Energy infrastructure needs to be in place to support the significant scaling up of renewable energy generation. Member States may designate dedicated infrastructure areas where the deployment of grid or storage projects that are necessary to integrate renewable energy into the electricity system is not expected to have significant environmental impacts or such impacts can be duly mitigated or, where not possible, compensated. Infrastructure projects in such areas may benefit from more streamlined environmental assessments. If Member States decide not to designate such areas, the assessments and rules applicable under Union environmental legislation remain applicable. In order to designate infrastructure areas, Member States should prepare a plan or plans, including by national legislation, encompassing the identification of the areas and the applicable rules and mitigation measures for projects located in each infrastructure area. The plans shall clearly indicate the scope of the dedicated area and the type of infrastructure projects covered. Each plan should be subject to an environmental assessment carried out in accordance with the conditions set out in Directive 2001/42/EC in order to assess the impacts of each type of project on the relevant designated areas. Grids projects in such dedicated infrastructure areas should avoid to the extent possible Natura 2000 sites and areas designated under national protection schemes for nature and biodiversity conservation, unless, due to the specificities of grid projects, there are no proportionate alternatives for the deployment of such projects. When assessing proportionality, Member States should take into account the need to ensure the economic viability, the feasibility and the effective and

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17 Regulation (EU) 2021/240 of the European Parliament and of the Council of 10 February 2021 establishing a Technical Support Instrument.

accelerated implementation of the project with a view to ensuring that the additional renewables generation capacity deployed can be promptly integrated into the energy system, or whether infrastructure projects of various types already exist in the specific Natura 2000 site or protected area, which would allow to bundle different infrastructure projects in a site resulting in lower environmental impacts. Dedicated plans for storage projects should always exclude Natura 2000 sites since there are less constraints on where to place them. In such areas, Member States should, under justified circumstances including where this is needed to accelerate the grid expansion to support renewables deployment to achieve the climate and renewable energy targets, be able to introduce exemptions from certain assessment obligations set in Union environmental legislation under certain conditions. If Member States decide to make use of such exemptions, the specific projects should be subject to a streamlined screening procedure similar to the screening procedure foreseen in renewables acceleration areas, which should be based on existing data. Requests of the competent authority to provide additional available information should not require a new assessment or data collection. If such screening identifies projects that are highly likely to give rise to significant unforeseen adverse effects, the competent authority should ensure that appropriate and proportionate mitigation measures, or if not available, compensation measures, are applied. In case of compensation measures, the project development can be pursued while compensation measures are being identified.

(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 ***and effective upskilling and reskilling strategies and*** training programmes and certification possibilities ***that ensure*** proper installation and reliable operation of a wide range of renewable heating and cooling systems ***and storage technologies, as well as electric vehicles charging points,*** 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. ***It should therefore be ensured that the issuing, trade, transfer and use of guarantees of origin can be done in a uniform system with appropriately standardised certificates that are mutually recognised throughout the Union. Furthermore,*** to provide access to appropriate supporting evidence for persons concluding renewable ***energy*** purchase agreements, ***it should be ensured that any associated guarantees of origin can be transferred to the buyer***. ***In the context of a more flexible energy system and growing consumer demands, there is a call for a more innovative, digital, technologically advanced and reliable tool to support and document the increasing production of renewable energy. To facilitate digital innovation in this field, Member States should, when appropriate, enable issuing guarantees of origin in fractions and with a closer to real time timestamp. In view of the need to improve consumer empowerment and contribute to a higher share of renewable energy in the gas supply, Member States should require network gas suppliers who disclose their energy mix to final consumers, to use guarantees of origin.***

(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 ***to*** 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***, contributing to the system integration of variable renewable electricity while ensuring a secure and reliable supply of electricity***. 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[18] and the [proposed Regulation concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020]. ***Furthermore, solar-electric vehicles can make a crucial contribution to the decarbonisation of the European transport sector.***

[18] 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)

(15a) Regulation (EU) 2019/943 of the European Parliament and of the Council[19] and Directive (EU) 2019/944 of the European Parliament and of the Council[20] require Member States to allow and foster the participation of demand response through aggregation, as well as to provide for dynamic electricity price contracts to final customers where applicable. In order to facilitate that demand response further incentivises the absorption of green electricity, it needs to be based not only on dynamic prices but also on signals about the actual penetration of green electricity in the system. It is therefore necessary to improving the signals that consumers and market participants receive regarding the share of renewable electricity and the intensity of greenhouse gas emissions of the supplied electricity, through the dissemination of dedicated information. Consumption patterns can then be adjusted based on renewable energy penetration and the presence of zero carbon electricity, in conjunction with an adjustment made on the basis of price signals. This serves the objective of further supporting the deployment of innovative business models and digital solutions, which have the capacity to link consumption to the renewables state in the electricity grid and therefore incentivise the right network investments to underpin the clean energy transition.

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19 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).

20 Directive (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).

(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***, in compliance with the relevant data protection rules*** 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 ***that address*** the need of access to such data for facilitating the integration-related operations of domestic batteries and electric vehicles, ***that complement*** the provisions on access to battery data related to facilitating the repurposing of batteries in [the proposed ▌ regulation ***of the European Parliament and of the Council*** 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 ***the*** 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 ***smart and*** bidirectional charging would assist further penetration of renewable electricity by electric vehicle fleets in ***the*** transport ***sector*** and ***in*** 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.

(17a) 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 and where appropriate bidirectional recharging functionalities need to be ensured. In that 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.

(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 the above reasons, it is important ***to ensure that the deployed recharging infrastructure is used most effectively. In order to improve consumer confidence in e-mobility, it is essential*** 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.

(18a) Demand response is pivotal to enabling the smart recharging of electric vehicles and thereby enabling the efficient integration of electric vehicles into the electricity grid which will be crucial for the process of decarbonising transport and for the purposes of facilitating energy system integration. In addition, Member States should encourage, where relevant, initiatives promoting demand response through interoperability and data exchange for the heating and cooling systems, thermal energy storage units and other relevant energy related devices.

(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 ***devices and s***ervices, 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 ***and other devices for example, heat pumps, solar panels and thermal storage***, to offer flexibility and balancing services to the system and to contribute to the further penetration ***of*** renewable electricity, in comparison with larger, stationary storage assets. ***In addition to the general provisions preventing market discrimination included in Regulation (EU) 2019/943 and Directive (EU) 2019/944, specific requirements should be introduced to address holistically the participation of these assets and remove any remaining barriers and obstacles to unleash the potential of such assets to help the decarbonisation of the electricity system and empower the consumers to actively participate in the energy transition.***

(19a) As a general principle, Member States should ensure a level playing field for small decentralised electricity generation and storage systems including through batteries and electric vehicles, so they are able to participate in the electricity markets, including congestion management and the provision of flexibility and balancing services in a non-discriminatory manner as compared to other electricity generation and storage systems, and without disproportionate administrative or regulatory burden. Member States should encourage self-consumers and renewable energy communities to actively participate in those markets by providing flexibility services through demand-response and storage including through batteries and electric vehicles.

(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 ***and direct use of renewable energy***. 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 ***and avoid the creation of stranded assets***. 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. ***Member States should promote electrification of industrial processes where possible, for instance for low temperature industrial heat.*** Moreover, ***Member States should promote the use of*** 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, 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.

(21a) To reduce the Union's dependency on fossil fuels and fossil fuel imports, a union strategy for imported and domestic hydrogen should be developed by the Commission on the basis of data on reported by Member States.

(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 ***the*** steel ***industry*** or ***the chemical industry***. 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 ***industrial processes which are difficult to electrify*** 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 ***those industrial sectors that are difficult to electrify*** 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. ***The consumption of hydrogen in industrial processes whereby the hydrogen is produced as a by-product or derived from a by-product which is difficult to replace with renewable fuels of non-biological origin should be excluded from the above mentioned target. Hydrogen consumed to produce transport fuels is covered under the transport targets for renewable fuels of non-biological origin.***

(22a) The EU Hydrogen Strategy recognizes the role of existing hydrogen production plants retrofitted to reduce their greenhouse gas emissions in achieving the increased 2030 climate ambition. In light of this strategy, and within the framework of the call for projects organized by the EU Innovation fund early movers have taken investment decisions with a view to retrofitting pre-existing hydrogen production facilities based on steam methane reforming technology with the aim of decarbonizing hydrogen production. For the purpose of the calculation of the denominator in the contribution of renewable fuels of non-biological origin used for final energy and non-energy purposes in industry, hydrogen produced in retrofitted production facilities based on steam methane reforming technology for which a Commission decision with a view to the award of a grant under the Innovation Fund has been published before the entry into force of this Directive and that achieve an average greenhouse gas reduction of 70% on an annual basis should not be taken into account.

(22ab) Moreover, it should be acknowledged that certain existing integrated ammonia production facilities might be confronted with specific challenges posed by the replacement of hydrogen produced from steam methane reforming process. The necessary rebuild of such facilities will require important efforts of Member States depending on their specific national circumstances and the structure of their energy supply.

(22b) In order to achieve the objective of the Union to become climate neutral by 2050 and to decarbonize the industry sector, Member States should be able to combine the use of non-fossil energy sources and renewable fuels of non-biological origin in the context of their specific national circumstances and energy mix. In this context, Member States may reduce the target for the use of renewable fuels of non-biological origin in the industry sector, provided that they consume a limited share of hydrogen or its derivatives produced from fossil fuels and that they are on track towards their expected national contribution according to the formula of Annex II to Regulation (EU) 2018/1999.

(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 ***renewable energy*** in ***the*** heating and cooling ***sector***, ***minimum*** annual ▌ percentage point increase at Member State level should be made binding ▌ for all Member States. ***The minimum annual average binding increase of 0.8 percentage point between 2021 and 2025, and of 1.1 percentage point between 2026 and 2030 in heating and cooling applicable to all*** Member States ***should be complemented with additional indicative increases or top up rates calculated specifically for each Member State in order to reach an average increase of 1.8 percentage points at EU level. These*** Member State-specific ***additional indicative increases or*** top-ups ***aim to redistribute*** the additional efforts ***needed to achieve*** the desired level of renewables in 2030 among Member States based on GDP and cost-effectiveness ***and to guide Member States as regards what could be a sufficient level of renewable energy to deploy in this sector***. ***Member States should carry out, in accordance with the energy efficiency first principle, an assessment of their potential of energy from renewable sources in the heating and cooling sector and of the use of waste***

heat and cold. Member States ***should*** implement ***two*** or more measures from the list of measures ***to facilitate increasing the share of renewables in heating and cooling. When adopting and implementing those measures, Member States should ensure their accessibility to all consumers, in particular those in low-income or vulnerable households.***

(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 share ***of renewable energy*** and ***the*** energy efficiency of ***those*** 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, ***while*** facilitating the overall decarbonisation of the heating and cooling sector. To ensure ***that that*** potential is harnessed, the annual increase of renewable energy and/or waste heat ***and cold*** in district heating and cooling should be raised from 1 percentage point to ***2.2 percentage points*** without changing the indicative nature of ***that*** 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 ***encourage operators of district heating or cooling systems to connect*** third party suppliers of renewable energy and waste heat and cold with district heating or cooling networks systems above ***25 MW***.

(26a) Heating and cooling systems, in particular district heating and cooling systems, increasingly contribute to the balancing of the electricity grid by providing additional demand for variable renewable electricity, such as wind and solar, when such renewable electricity is abundant, cheap and would be otherwise curtailed. This can be achieved via the use of highly efficient electrically driven heat and cold generators, such as heat pumps, especially when those heat and cold generators are coupled with large thermal storage, in particular in district heating and cooling or in individual heating, where the economies of scale and system level efficiencies of district heating and cooling are not available. The benefits of heat pumps are twofold as they significantly increase energy efficiency, saving considerable energy and costs for consumers, and the integration of renewables through allowing a greater use of geothermal and ambient energy. In order to further incentivise the use of renewable electricity for heating and cooling and heat storage, with the deployment of heat pumps in particular, it is appropriate to allow Member States to count renewable electricity driving those heat and cold generators, including heat pumps towards the binding and indicative renewable energy annual increase in the heating and cooling and district heating and cooling.

(27) ***Despite being widely available,*** waste heat and cold ***is*** underused , leading to a waste of resources, lower energy efficiency in national energy systems and higher than necessary energy consumption in the Union. ***It is appropriate to allow waste heat and cold to fulfil part of the targets for renewables in buildings, industry, heating and cooling and fully for district heating and cooling provided waste heat and cold is supplied from efficient district heating and cooling. This would allow harnessing synergies between renewable energy and waste heat and cold in district heating and cooling networks by increasing the economic rationale for investing in the modernisation and development of these networks. Specifically including waste heat in the industrial renewable energy benchmark is acceptable only as regards waste heat or cold delivered via a district heating and cooling operator from another industrial site or building, whereby ensuring that such operator have heat or cold supply as its main activity and the waste heat counted is clearly differentiated from internal waste heat recovered within the same or related enterprise or buildings.***

(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 ***to*** widen the scope of cooperation to grid investment planning and markets ***in order*** 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. ***Furthermore, 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.***

(29) The use of renewable fuels and renewable electricity in ***the*** transport ***sector*** can contribute to the decarbonisation of the Union transport sector in a cost-effective manner, and improve, amongst other ***matters***, 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 ***emissions*** savings defined by the Union, the level of renewable energy supplied to all transport modes in the Union should be increased. ***Allowing the Member States to choose between a transport target expressed as a greenhouse gas intensity reduction target or a target expressed as a share of the consumption of renewable energy provides the Member States with an appropriate degree of flexibility to design their policies to decarbonise transport. Furthermore, introducing a combined energy-based target for advanced biofuels and biogas and renewable fuels of non-biological origin, including a minimum share*** 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 ***such as maritime and aviation. To kick start the fuel shift in maritime transport, Member States with maritime ports should endeavour to ensure that as of 2030 the share of renewable fuels of non-biological origin in the total amount of energy supplied to the maritime sector is at least 1.2%.*** 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].

(29a) In order to encourage the uptake of the supply of renewable fuels to the hard to decarbonise sector of international marine bunkering, for the calculation of the transport targets, renewable fuels supplied to international marine bunkers should be included in the final consumption of energy from renewable sources in the transport sector and, accordingly, fuels supplied to international marine bunkers should be included in the final consumption of energy sources in the transport sector. However, some Member States have a large share of maritime in their gross final consumption of energy. In view of the current technological and regulatory constraints that prevent the commercial use of biofuels in maritime, it is therefore appropriate to provide Member States with a partial exemption within the calculation of the amount of energy supplied to maritime transport in order to allow them to cap at 13 % their gross final consumption of energy consumption of energy in the maritime transport sector, in the calculation of the specific transport targets. For insular Member States, where the gross final consumption of energy in the maritime transport sector is disproportionally high, namely more than a third of road and rail consumption, the cap should be 5%. However, for the calculation of the overall renewable energy target, considering the specific characteristics of international marine bunkers, regarding fuels supplied to them, these should only be included in the gross final consumption of energy of a Member State if they are renewable.

(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. ***Member States can include private recharging stations in this mechanism, if it can be demonstrated that the renewable electricity supplied to those recharging stations is provided solely to electric vehicles.*** While supporting electricity in ***the*** transport ***sector*** 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***,*** ***particularly in hard-to-decarbonise*** transport ***sectors, such as maritime and aviation, where direct electrification is much more difficult***.

(30a) Renewable fuels on non-biological origin including renewable hydrogen can be used as feedstock or a source of energy in industrial and chemical processes and in air and maritime transport, decarbonising sectors in which direct electrification is not technologically possible or competitive, as well as for energy storage to balance, where necessary, the energy system, thereby playing a significant role in energy system integration.

(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. ***The Union should thus promote fuels in quantities which balance the necessary ambition with the need to avoid contributing to direct and indirect land-use change. 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 ***also considering the impact of the war against Ukraine on food or feed supply***, 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 ***choose to reduce the energy-based target or to*** 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 ***amending*** Directive for the greenhouse gas ***emissions*** savings of the most relevant production pathways of food and feed crop-based biofuels as well as the minimum ***greenhouse gas emissions*** savings threshold ***that applies*** to most installations producing such biofuels.

(31a) In order to ensure that the use of biofuels, bioliquids and biomass fuels save an increasing amount of greenhouse gas emissions and to address potential indirect effects of the promotion of such fuels such as deforestation, the Commission should review the level of the maximum share of the average annual expansion of the global production area in high carbon stocks based on objective and scientific criteria, taking into consideration the Union's climate targets and commitments, and proposing a new threshold where necessary based on the results of its review. Further, the Commission should assess the possibility to design an accelerated trajectory to phase out the contribution of such fuels to renewable energy targets so that the amount of greenhouse gas savings is maximised.

(32) ***Setting out*** the transport target as a greenhouse gas intensity reduction target makes it ***necessary to include a methodology that considers that 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 ***greenhouse gas*** emissions, meaning it saves 100% ***of greenhouse gas*** 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 ***greenhouse gas emissions*** 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 ▌ renewable fuels of non-biological origin in the aviation and maritime ***transport*** modes, which are difficult to electrify, it is appropriate to ***introduce a*** multiplier for ▌ 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 ***system*** 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 ***sector*** 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 ***in which*** they are consumed.

(34a) Renewable fuels of non-biological origin are important to increase the share of renewable energy in sectors that are expected to rely on gaseous and liquid fuels in the long-term including for industrial applications and in heavy-duty transport. By 1 July 2028, the Commission should assess the impact of the methodology defining when electricity used for producing renewable fuels of non-biological origin can be considered fully renewable, including the impact of additionality and temporal and geographic correlation on production costs, greenhouse gas emission savings, and the energy system and report to the European Parliament and the Council. The report would need to assess in a particular their impact on the availability and affordability of renewable fuels of non-biological origin for industry and transport and on the ability of the Union to achieve its renewable fuels of non-biological origin targets taking into account the Union strategy for imported and domestic hydrogen while minimizing the increase in greenhouse gas emissions in the electricity sector and the overall energy system. Where this report concludes that the requirements fall short of ensuring sufficient availability and affordability and do not substantially contribute to greenhouse gas emission savings, energy system integration and the achievement of the Union renewable fuels of non-biological origin targets set for 2030, the Commission should review the Union methodology and, where appropriate, adopt a delegated act to modify such methodology to provide the necessary adjustments to the criteria in order to facilitate the ramp-up of the hydrogen industry.

(35) To ensure higher environmental effectiveness of the Union sustainability and greenhouse ***gas*** 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 ***7,5*** MW.

(36) Directive (EU) 2018/2001 strengthened the bioenergy sustainability and greenhouse gas ***emissions*** 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. ***In line with the objectives of preserving biodiversity and preventing habitat destruction as pursued by Directives (EU) 2009/147/EC, 92/43/EEC, 2008/56/EC and 2000/60/EC, it is necessary to*** achieve an enhanced protection of especially biodiverse and carbon-rich habitats, such as primary ***and old-growth*** forests, highly biodiverse forests, grasslands***,*** peat lands ***and heathlands. Therefore,*** 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***, except where the risk-based approach provides for the necessary exclusions and limitations and operators provide necessary assurances***. In addition, ***subject to appropriate transition periods for investment security purposes,*** the greenhouse gas emission saving criteria should also ***gradually*** 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.

(36a) The sustainability criteria concerning forest biomass harvesting should be further specified, in line with the principles of sustainable forest management. These specifications should aim at strengthening and clarifying the risk based approach for forest biomass, while providing Member States with proportionate provisions allowing for targeted adaptations for practices that can be locally appropriate.

(36b) Member States should ensure that their use of forest biomass for producing energy is compatible with their obligations under Regulation (EU) 2018/841 as amended by Regulation (EU) 2023/839. For this they should conduct forward looking assessments and implement necessary measures complementing their existing obligations under the Governance Regulation (EU) 2019/1999.

(36c) In view of the specific situation of the outermost regions, as recognised in Article 349 TFEU and characterised in the energy sector by isolation, limited supply and dependence on fossil fuels, provision should be made to extend the derogation that allows Member States to adopt specific criteria in order to ensure eligibility for financial support for the consumption of certain biomass fuels in these regions to also cover bioliquids and biofuels. Any specific criteria should be objectively justified on the grounds of energy independence of the outermost region concerned and of ensuring a smooth transition to the sustainability criteria, the energy efficiency criteria and the greenhouse gas emissions saving criteria for biomass fuels of this Directive in such an outermost region.

(36d) The Union is committed to improve the environmental, economic and social sustainability of biomass fuel production. This Directive is complementary to other EU legislative instruments, such as the [legislative initiative] on Sustainable Corporate Governance (SCG), setting out due diligence requirements in the value chain with regard to adverse human rights or environmental impacts.

(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 ▌compliance with sustainability and greenhouse gas emissions saving criteria as well as other requirements set in this ***amending*** 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 ***may*** establish a simplified ***voluntary*** verification mechanism for installations ***with a total thermal input*** between ***7,5*** and ***20 MW***.

(38) ***To mitigate the risks and better prevent fraud in the supply chains for bioenergy and recycled carbon fuels, Directive (EU) 2018/2001 has offered valuable additions in terms of transparency, traceability and supervision. In that context, 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. ***This database should be made publicly available in an open, transparent and user-friendly manner, while also respecting the principles of private and commercially sensitive data protection. The Commission should publish annual reports for the general public about the information reported in the Union database, including the quantities, the geographic origin and feedstock type of biofuels, bioliquids and biomass fuels. The Commission and Member States should endeavour to work on the interconnectivity between existing national databases and the Union database, enabling a smooth transition as well as enabling the bidirectionality of the databases. Complementary to this strengthening of the transparency and the traceability of individual consignments of raw materials and fuels in the supply chain, the recently adopted Implementing Regulation on sustainability certification[21] enhanced the requirements on auditing for certification bodies as well as increased the powers for public supervision of certification bodies, including the possibility for competent national authorities to access documents and premises of economic operators in their supervisory controls. This way the integrity of the verification framework of the Directive (EU) 2018/2001 has been significantly strengthened by complementing the auditing by certification bodies and Union Database with verification and supervisory capacity of the competent authorities of the Member States. It is strongly recommended to make use of both possibilities for public supervision.***

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21 ***Commission implementing regulation (EU) …/... on rules to verify sustainability and greenhouse gas emissions saving criteria and low indirect land-use change-risk criteria.***

(38a) The Commission and the Member States should continuously adapt to best administrative practices and take all appropriate measures to simplify the implementation of the Directive (EU) 2018/2001, and thus reduce compliance costs for involved actors and affected sectors.

(38b) Adequate anti-fraud provisions must be laid down, in particular in relation to the use of waste-based raw materials or biomass that is identified as representing a high indirect land use change risk. As the detection and prevention of fraud is essential to prevent unfair competition and rampant deforestation, including in third countries, full and certified traceability of these raw materials should be implemented.

(38c) The Directive (EU) 2018/2001 should therefore be amended accordingly.

(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[22] 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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22 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.

(46a) Since the objective of this Directive, namely reducing greenhouse gas emissions, energy dependency and energy prices, cannot be sufficiently achieved by the Member States but can rather, by reasons, of the scale of the action, be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiary as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary in order to achieve that objective.

(47) In accordance with the Joint Political Declaration of 28 September 2011 of Member States and the Commission on explanatory documents[23], 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[24] (case C-543/17).

(47a) In order to offset of the regulatory burdens for citizens, administrations and businesses introduced by this Directive, the Commission should review the regulatory framework in the concerned sectors in line with the "one in, one out" principle, as set out in the Commission communication of 29 April 2021 entitled "Better Regulation: Joining forces to make better laws".

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23 OJ C 369, 17.12.2011, p. 14.

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

HAVE ADOPTED THIS DIRECTIVE:

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 (1) is replaced by the following:

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

(-aa) point (1) is replaced by the following:

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

(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:

1(a) ‘***industrial grade roundwood’ means saw logs, veneer logs, pulpwood (round or split), as well as all other roundwood that is suitable for industrial purposes, excluding roundwood whose characteristics, such as species, dimensions, rectitude, and node density, make it unsuitable for industrial use, as defined and duly justified by Member States according to the relevant forest and market conditions;***

(9a) ‘renewables acceleration area’ means a specific location or area, whether on land, sea or inland waters, which has been designated by a Member State as particularly suitable for the installation of plants for the production of energy from renewable sources;

(9b) ‘solar energy equipment’ means equipment that converts energy from the sun into thermal or electrical energy, in particular solar thermal and solar photovoltaic equipment;

(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*****;

(14aa) ‘innovative renewable energy technology’ means a renewable energy generation technology that improves in at least one way comparable state-of-the-art renewable energy technologies or makes exploitable a renewable energy technology that is not fully commercialised or involves a clear degree of risk;

***** ***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).***

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

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

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

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

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

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

(14h) ‘industrial battery’ means ***an*** 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];

****** ***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).***

******* ***COM(2020) 798 final***

(14i) ‘state of health’ means state of health as defined in ▌ 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********];

(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 ***dynamic*** information held in a battery’s management system prescribing the electric power settings at which the battery ***should optimally operate*** during a recharging or a discharging operation, so that its state of health and operational use are optimised;

(14l) ‘smart ***recharging***’ means a recharging operation in which the intensity of electricity delivered to the battery is adjusted ***dynamically***, based on information received through electronic communication;

(14m) ‘regulatory authority’ means ***a*** regulatory authority defined in Article 2, point (2) of Regulation (EU) 2019/943;

(14n) ‘bidirectional charging’ means ***a*** smart charging ***operation*** where the direction of ***the electricity flow*** may be reversed, ***allowing electricity to flow*** from the battery to the recharging point it is connected to;

(14o) ‘normal power recharging point’ means ***a*** 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];

******** ***the proposal for a Commission Regulation of the European Parliament and of the Council ‘concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) 2019/1020 (xxxx).***

(14p) 'renewable energy purchase agreement' means a contract under which a natural or legal person agrees to purchase renewable energy directly from a producer, which encompasses, but is not limited to, renewables power purchase agreements and renewables heating and cooling purchase agreements;

(18a) 'industry' means companies and products that fall ***under*** sections B, C, ***and*** F and ***under section*** J, division (63) of the statistical classification of economic activities (NACE REV.2)*****;

(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;

(22b) 'energy efficiency first' means energy efficiency first as defined in Article 2, point (18) of Regulation (EU) 2018/1999;

(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;

***** ***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).';***

(44c) 'osmotic energy' means energy naturally created from the difference in salt concentration between two fluids, commonly fresh and salt water;

(44d) 'system efficiency' means the selection of energy-efficient solutions where they also enable a cost-effective decarbonisation pathway, additional flexibility and the efficient use of resources;

(44f) 'co-located energy storage' means a combined energy storage facility and a facility producing renewable energy connected to the same grid access point;

(44g) 'solar-electric vehicle' means a motor vehicle equipped with a powertrain containing only non-peripheral electric machines as energy converter with an electric rechargeable energy storage system, which can be recharged externally, also equipped with vehicle-integrated photovoltaic panels.

(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 ***42,5*** %.

Member States shall collectively endeavour to increase the share of energy from renewable sources in the Union's gross final consumption of energy in 2030 to 45 %. Member States shall set an indicative target for innovative renewable energy technology of at least 5 % of new installed renewable energy capacity by 2030.';

(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***, the environment and the climate***. To that end, they shall take into account the waste hierarchy as set out in Article 4 of Directive 2008/98/EC and ***ensure the application of*** the cascading principle***, with a focus on support schemes and with due regard to national specificities***.

With a view to ensuring that woody biomass is 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;

support schemes for energy from biofuels, bioliquids and biomass fuels shall be designed in a way to avoid incentivising unsustainable pathways and distorting competition with the material sectors.

Member States may derogate from the cascading principle on the basis of the need to ensure security of energy supply. Member States may also derogate from the cascading principle when the local industry is quantitatively or technically unable to use forest biomass according to a higher economic and environmental added value than energy, for feedstocks coming from:

(a) necessary forest management activities, aiming at ensuring pre-commercial thinning operations or in compliance with national legislation on wildfire prevention in high-risk areas;

(b) salvage logging following documented natural disturbances; or

(c) harvest of certain woods whose characteristics are not suitable for local processing facilities.

At most once a year, Member States shall notify the Commission of a summary of derogations to the application of the cascading principle as referred to in the first subparagraph, together with the justifications for such derogations and the geographical scale to which they apply. The Commission shall make public the notifications received, and may issue a public opinion on any of those notifications.

Member States shall grant no ***direct financial*** support for:

(***a***) the use of saw logs, veneer logs, ***industrial grade roundwood,*** stumps and roots to produce energy.

(***b***) 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.

Without prejudice to the obligations in the first sub-paragraph, Member States shall grant no ***new*** support ***nor renew any support*** to the production of electricity from forest biomass in electricity-only-installations, unless such electricity meets at least one of the following conditions:

(***a***) 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);

(***b***) it is produced applying Biomass CO2 Capture and Storage and meets the requirements set in Article 29(11), second subparagraph***;***

(c) it is produced in an outermost region, as referred to in Article 349 of the Treaty on the Functioning of the European Union, for a limited period of time with the objective of phasing down as much as possible the use of forest biomass without affecting access to safe and secure energy.

By ***2027*** the Commission shall present a report on the impact of the Member States' support schemes for biomass, including on biodiversity***, the climate and the environment,*** and possible market distortions, and ***shall*** 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 ***measures*** 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 ***to a high level of renewable electricity supply***, including those related to permitting procedures, ***and the development of the necessary transmission distribution and storage infrastructure, including co-located storage***. 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. ***Member States may include a summary of the policies and measures under the enabling framework and an assessment of their implementation respectively in their integrated national energy and climate plans and progress reports, submitted pursuant to Articles 3, 14 and 17 of Regulation (EU) 2018/1999.***';

(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***, biogas*** 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. ***Without prejudice to the second subparagraph,*** 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.

Member States may agree, via a specific cooperation agreement, to account all or part of the renewable fuels of non-biological origin consumed in one Member State towards the share of gross final consumption of energy from renewable sources in the Member State where they were produced. In order to monitor that the same renewable fuels of non-biological origin are not accounted in both the Member State where they are produced and in the Member State where they are consumed and to record the amount claimed, the Commission shall be notified of any such agreement, which shall include the amount of RFNBOs to be counted in total and for each Member State and the date on which such agreement will become operational. ’***;***

(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. ***This shall also include renewable fuels supplied to international marine bunkers.***’;

(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 ***a framework for cooperation on*** joint ***projects*** with one or more other Member States for the production of renewable energy***, as follows:***

(a) by 31 December 2030, Member States shall endeavour to agree on establishing at least two joint projects;

(b) by 31 December 2033, Member States with an annual electricity consumption of more than 100 TWh shall endeavour to agree on establishing a third joint project;

For offshore projects, the identification of joint projects shall be coherent with the needs identified in the high-level strategic integrated offshore network development plans for each sea-basin and the Ten Years Network Development Plan but may go beyond those needs and may involve local and regional authorities and private operators.

Member States shall work towards a fair distribution of costs and benefits of joint projects. To that end, all the relevant costs and benefits of the joint project shall be taken into account in the relevant cooperation agreement.

The Commission shall be notified of ***the cooperation agreements as referred to in the first subparagraph***, including the date on which the ***projects are*** expected to become operational. Projects financed by national contributions under the Union renewable energy financing mechanism established by Commission Implementing Regulation (EU) 2020/1294***** shall be deemed to satisfy this obligation for the Member States involved.

(b) the following paragraph is inserted:

‘7a. ***On the basis of the indicative goals for offshore renewable generation to be deployed within each*** sea basin***, identified in accordance with Article 14 of Regulation (EU) 2022/869, the concerned Member States shall publish information on the volumes*** they plan to ***achieve through tenders, taking into account technical and economic feasibility for the grid infrastructure and the activities that already take place. Member States*** shall ***endeavor to allocate space for offshore renewable energy projects in their maritime spatial plans, taking*** into account the ***activities that already take place in the affected areas. In order to facilitate permit-granting for joint*** offshore renewable ***energy projects, Member States shall reduce the complexity and increase the efficiency and transparency of the permit granting process and enhance cooperation among themselves, where appropriate, establishing a single contact point. In order to enhance broad public acceptance, Member States may include renewable energy communities in joint cooperation projects on offshore renewable energy***.’;

***** ***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).***’;

(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 ***and to be eligible under public procurement***. 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, ***including for instance Regulation (EU) 2017/1369 or (EU) 2009/125.*** 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’;

(aa) the following paragraph is inserted:

‘2a. Member States shall promote the testing of innovative renewable energy technologies to produce, share and store renewable energy through pilot projects in a real-world environment, for a limited period of time, in accordance with the applicable EU legislation and accompanied by appropriate safeguards to ensure the secure operation of the energy system and avoid disproportionate impacts on the functioning of the internal market, under the supervision of a competent authority.’

(ab) paragraph 3 is replaced by the following:

'3. Member States shall ensure that their competent authorities at national, regional and local level include provisions for the integration and deployment of renewable energy, including for renewables self-consumption and renewable energy communities, and the use of unavoidable waste heat and cold when planning, including early spatial planning, designing, building and renovating urban infrastructure, industrial, commercial or residential areas and energy and transport infrastructure, including electricity, district heating and cooling, natural gas and alternative fuel networks. Member States shall, in particular, encourage local and regional administrative bodies to include heating and cooling from renewable sources in the planning of city infrastructure where appropriate, and to consult the network operators to reflect the impact of energy efficiency and demand response programs as well as specific provisions on renewables self-consumption and renewable energy communities, on the infrastructure development plans of the operators.';

(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 ***renewable energy*** 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 ***energy*** purchase agreement.

Member States shall describe their policies and measures promoting the uptake of ***renewable energy*** 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 renewable power generation supported by ***renewable energy*** purchase agreements.;

Following the assessment of Member States under the first subparagraph, the Commission shall analyse the barriers to long-term energy purchase agreements and in particular to the deployment of cross-border renewable energy purchase agreements and issue guidance on the removal of these barriers';

(d) the following paragraph 9 is added:

'9. By ***... [two years*** after the entry into force of this amending Directive***]***, the Commission shall ***consider if*** additional measures ***are needed*** to support Member States in ***the*** implementation ***of the articles regulating the permit-granting procedures, including by means of developing indicative key performance indicators***.';

(6) the following ***articles are*** inserted:

‘Article 15a

Mainstreaming renewable energy in buildings

1. In order to promote the production and use of renewable energy in the building sector, Member States shall ***define*** an indicative ***national*** share of ***renewable energy produced on site or nearby and from the grid*** 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 energy consumption ***in buildings in 2030***. Member States shall include their ***share*** in the ▌ integrated national energy and climate plans ***referred to in Articles 3 and*** 14 of Regulation (EU) 2018/1999 as well as information on how they plan to achieve it.

1a. Member States may count waste heat and cold towards the target referred to in the first paragraph, up to a limit of 20%. If they decide to do so, the target shall increase by half of the waste heat and cold percentage used.

2. Member States shall introduce ***appropriate*** measures in their ***national*** regulations and ***building*** codes and, where applicable, in their support schemes, to increase the share of electricity and heating and cooling from renewable sources ***both produced on site or nearby including and from the grid*** in the building stock***. This may include*** national measures relating to substantial increases in renewables self-consumption, renewable energy communities**,** local energy storage, ***smart and bidirectional charging, other flexibility services such as demand response, and*** in combination with energy efficiency improvements relating to cogeneration and ***major renovations which increase the number of*** nearly ***zero energy buildings and buildings that go beyond minimum energy performance requirements according to [article 5(1) of Directive 2010/31/EU]***.

To achieve the indicative share of renewables set out in paragraph 1, Member States shall, in their ***national*** regulations and ***building*** 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 ***both produced on-site or nearby and from the grid,*** in ***new*** buildings ***and in existing buildings that are subject to major renovation or a renewal of the heating system***, in line with the provisions of ***[***Directive 2010/31/EU***] and where that is economically, technically and functionally feasible***. 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. ***Where deemed relevant, Member States may promote cooperation between local authorities and renewable energy communities in the building sector, particularly through the use of public procurement.***

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 ***and may promote innovative technologies, such as smart and renewable-based electrified heating and cooling systems and equipment, complemented, where applicable, with smart management of energy consumption in buildings***. 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*****, 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.

***** ***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).***

Article 15b

Mapping of areas necessary for national contributions towards the 2030 renewable energy target

1. *By 18 months after the entry into force, Member States shall perform an coordinated mapping for the deployment of renewable energy in their territory to identify the domestic potential and the available land surface, subsurface, sea or inland water as necessary for the installation of plants for the production of energy from renewable sources, and their related infrastructure, such as grid and storage facilities, including thermal storage, that are required in order to meet at least their national contributions towards the 2030 renewable energy target in accordance with Article 3 of this Directive. Member States may build upon their existing spatial planning documents or plans for this purpose, including maritime spatial plans carried out in accordance with Directive 2014/89/EU. Such areas, including the existing plants and cooperation mechanisms, shall be commensurate with the estimated trajectories and total planned installed capacity by renewable energy technology set in the national energy and climate plans submitted pursuant to Articles 3 and 14 of Regulation (EU) 2018/1999. Member States shall ensure coordination among all the relevant national, regional and local authorities and entities, including network operators, in the mapping of the necessary areas, where appropriate.*

2. *When identifying the areas referred to in paragraph 1, Member States shall take into account in particular:*

   (a) *the availability of the renewable energy resources and the potential for renewable energy production of the different technologies in the land and sea areas;*

(b) the projected energy demand, taking into account the potential flexibility of the active demand response and expected efficiency gains and energy system integration;

(c) the availability of relevant energy infrastructure, including grids, storage and other flexibility tools or the potential to create or upgrade such grid infrastructure and storage.

3. Member States shall favour multiple uses of the areas identified as a result of the obligation in paragraph 1. The installation of renewable energy projects shall be compatible with pre-existing uses of those areas.

4. Member States shall periodically review and update, where necessary, the areas referred to in paragraph 1 of this Article, in particular in the context of the update of the national climate and energy plans pursuant to Article 14 of Regulation (EU) 2018/1999.

Article 15c

Renewables acceleration areas

1. By 27 months after the entry into force, Member States shall ensure that competent authorities adopt a plan or plans designating, as a sub-set of the areas referred to in Article 15b(1), renewables acceleration areas for one or more types of renewable energy sources. For that purpose, Member States may exclude biomass combustion and hydropower plants. In those plans, Member States shall:

(a) Designate sufficiently homogeneous land, inland water, and sea areas where the deployment of a specific type or types of renewable energy is not expected to have significant environmental effects, in view of the particularities of the selected territory. In doing so, Member States shall:

(i) give priority to artificial and built surfaces, such as rooftops and facades of buildings, transport infrastructure and their direct surroundings, parking areas, farms, waste sites, industrial sites, mines, artificial inland water bodies, lakes or reservoirs, and, where appropriate, urban waste water treatment sites, as well as degraded land not usable for agriculture;

(ii) exclude Natura 2000 sites and areas designated under national protection schemes for nature and biodiversity conservation, major bird and marine mammal migratory routes as well as other areas identified based on sensitivity maps and the tools referred to in the next point, except for artificial and built surfaces located in those areas such as rooftops, parking areas or transport infrastructure;

(iii) use all appropriate and proportionate tools and datasets to identify the areas where the renewable energy plants would not have a significant environmental impact, including wildlife sensitivity mapping, while taking into account the data available in the context of the development of a coherent Natura 2000 network, both as regards habitat types and species under the Council Directive 92/43/EEC1, as well as birds and sites under Directive 2009/147/EC of the European Parliament and of the Council;

(b) establish appropriate rules for the designated renewable acceleration areas, including on effective mitigation measures to be adopted for the installation of renewable energy plants, co-located energy storage facilities, as well as assets necessary for their connection to the grid, in order to avoid or, if not possible, to significantly reduce the negative environmental impacts that may arise. Where appropriate, Member States shall ensure that appropriate mitigation measures are applied in a proportionate and timely manner to ensure compliance with the obligations laid down in Articles 6(2) and 12(1) of Directive 92/43/EEC, Article 5 of Directive 2009/147/EEC and Article 4(1)(a)(i) of Directive 2000/60/EC and to avoid deterioration and achieve good status or ecological potential in accordance with Article 4(1)(a)(ii) of Directive 2000/60/EC. Such rules shall be targeted to the specificities of each identified renewables acceleration area, the renewable energy technology or technologies to be deployed in each area and the identified environmental impacts. Compliance with such rules and the implementation of the appropriate mitigation measures by the individual projects shall result in the presumption that projects are not in breach of those provisions without prejudice to paragraphs 4 and 5 of Article 16a. Where novel mitigation measures to prevent as much as possible the killing or disturbance of species protected under Council Directive 92/43/EEC and Directive 2009/147/EEC, or any other environmental impact, have not been widely tested as regards their effectiveness, Member States may allow their use for one or several pilot projects for a limited time period, provided that the effectiveness of such measures is closely monitored and appropriate steps are taken immediately if they do not prove to be effective.

Member States shall explain in the plan the assessment made to identify each designated acceleration area on the basis of the criteria set out in point (a) and to identify appropriate mitigation measures.

2. Before its adoption, the plan or plans designating renewables acceleration areas shall be subject to an environmental assessment carried out in accordance with the conditions set out in Directive 2001/42/EC, and, if likely to have significant impacts on Natura 2000 sites, to the appropriate assessment in accordance to Article 6(3) of Directive 92/43/EEC.

3. Member States shall decide the size of such renewables acceleration areas, in view of the specificities and requirements of the technology or technologies for which they set up renewables acceleration areas. While retaining the discretion to decide on the size of these areas, Member States shall aim that the combined size of these areas is significant and that they contribute to the achievement of the objectives set out in this Directive. The plan or plans designating renewables acceleration areas shall be made public and shall be reviewed periodically, as appropriate, in particular in the context of the update of the national energy and climate plans pursuant to Article 14 of Regulation (EU) 2018/1999.

4. Within ... [6 months from the entry into force of this amending Directive], Member States may declare as renewables acceleration areas specific areas which have been already designated as areas suitable for an accelerated deployment of one or more renewable energy technologies, provided that the following conditions are met:

(a) such areas are outside Natura 2000 sites, areas designated under national protection schemes for nature and biodiversity conservation and identified bird migratory routes,

(b) the plans identifying such areas have been subject to strategic environmental assessment in accordance with the conditions set out in Directive 2001/42/EC and, where appropriate, to an assessment in accordance with Article 6(3) of the Habitats Directive; and

(c) the projects located in those areas implement appropriate and proportionate rules and measures to address the negative environmental impacts that may arise.

5. In the permit granting process, the competent authorities shall apply the procedures and deadlines referred to in Article 16a to individual projects in those areas.

Article 15d

Public participation

(1) Member States shall ensure public participation regarding the plans designating renewables acceleration areas, in accordance with Article 6 of Directive 2001/42/EC, including identifying the public affected likely to be affected.

(2) Member States shall promote public acceptance of renewable energy projects by means of direct and indirect participation in the projects by local communities.';

(6a) the following article is inserted:

'Article 15e

Areas for grid and storage infrastructure necessary to integrate renewable energy into the electricity system

(1) Member States may adopt a plan or plans to designate dedicated infrastructure areas for the development of grid and storage projects that are necessary to integrate renewable energy into the electricity system, where such development is not expected to have significant environmental impacts or such impacts can be duly mitigated or, where not possible, compensated. The aim of such areas shall be to support and complement the renewables acceleration areas. Those plans shall:

(a) for grid projects, avoid Natura 2000 sites and areas designated under national protection schemes for nature and biodiversity conservation, unless there are no proportionate alternatives for their deployment, taking into account the objectives of the site;

(b) for storage projects, exclude Natura 2000 sites and areas designated under national protection schemes;

(c) ensure synergies with the designation of renewables acceleration areas pursuant to Article 15c;

(d) be subject to an environmental assessment in accordance with Directive 2001/42/EC and, where applicable, to an assessment in accordance with Article 6(3) of Directive 92/43/EEC:

(e) establish appropriate and proportionate rules, including on proportionate mitigation measures to be adopted for the development of grid and storage projects in order to avoid, or if not possible, to significantly reduce the negative effects on the environment that may arise;

In the preparation of such plans, Member States shall consult the relevant infrastructure system operators.

(2) By way of derogation from Articles 2(1) and 4(2) of Directive 2011/92/EU, and Annex I, point 20 and Annex II point 3(b) and Article 6(3) of Directive 92/43/EEC, Member States may, under justified circumstances, including where this is needed to accelerate renewables deployment to achieve the climate and renewable energy targets, exempt grid and storage projects which are necessary to integrate renewable energy into the electricity system from the environmental impact assessment under Article 2(1) of Directive 2011/92/EU, and from an assessment of their implications for Natura 2000 sites under Article 6(3) of Directive 92/43/EEC and the assessment of their implications on species protection according to Article 12(1) of Directive 92/43/EEC and under Article 5 of Directive 2009/147/EC, provided that the project is located in a dedicated infrastructure area designated in accordance with paragraph 2 and that it complies with the rules and measures established in accordance with paragraph 2), point d). These exemptions may also apply to infrastructure areas already designated before the entry into force of this Directive if they were subject to an environmental assessment in accordance with Directive 2001/42/EC. This exemption shall not apply to projects that are likely to have significant effects on the environment in another Member State or where a

Member State likely to be significantly affected so requests, as provided for in Article 7 of the Directive 2011/92/EU.

(3) Where Member States exempt such projects from those assessments pursuant to paragraph 2, the competent authorities of Member States shall carry out a screening of the projects located in dedicated infrastructure areas. Such screening shall be based on existing data from the environmental assessment in accordance with Directive 2001/42/EC. The competent authority may request the applicant to provide additional available information. Such screening shall and be finalised within 30 days. It shall aim to identify if any of such projects is highly likely to give rise to significant unforeseen adverse effects, in view of the environmental sensitivity of the geographical areas where they are located, that were not identified during the environmental assessment of the plan or plans designating dedicated infrastructure areas carried out in accordance with Directive 2001/42/EC and, if relevant, with Directive 92/43/EEC.

(4) Where the screening process identifies that a project is highly likely to give rise to those effects, the competent authority shall ensure, on the basis of existing data, that appropriate and proportionate mitigation measures are applied to address them. Where those measures are not available, the competent authority shall ensure that the operator adopts appropriate compensation measures to address those effects, which may take the form of a monetary compensation for species protection programmes in order to ensure or improve the conservation status of the species affected if other proportionate compensation measures are not available.

(5) Where the integration of renewable energy into the electricity system requires the reinforcement of the grid infrastructure in dedicated infrastructure areas or outside, and is subject to a screening carried out pursuant to this Article or to a determination whether the project requires an environmental impact assessment or to an environmental impact assessment pursuant to Article 4 of Directive 2011/92/EU, such screening, determination or environmental assessment shall be limited to the potential impacts stemming from the change or extension compared to the original grid infrastructure.';

(6b) Article 16 is replaced by the following:

'Article 16

Organisation and main principles of the permit-granting process

1. The permit-granting process shall cover all relevant administrative permits to build, repower and operate plants for the production of energy from renewable sources, including those combining different renewable energy sources; heat pumps; co-located energy storage, including power and thermal facilities; as well as assets necessary for their connection to the grid and to integrate renewables into heating and cooling networks including grid connection permits and environmental assessments where these are required. The permit-granting process shall comprise all administrative stages from the acknowledgment of the completeness of the application in accordance with paragraph 2 to the notification of the final decision on the outcome of the procedure by the relevant authority or authorities.

2. No later than 30 days for plants located in acceleration areas and 45 days for plants located outside of acceleration areas, following the receipt of the application, the competent authority shall acknowledge the completeness of the application or, if the developer has not sent all the information required to process an application, request the developer to submit a complete application without undue delay. The date of the acknowledgement of the completeness of the application by the competent authority shall serve as the start of the permit-granting process.

3. Member States shall set up or designate one or more contact points. Those contact points shall, upon request by the applicant, guide through and facilitate the entire administrative permit application and granting process. The applicant shall not be required to contact more than one contact point for the entire process. The contact point shall guide the applicant through the administrative permit application process, including the environmental related steps, in a transparent manner up to the delivery of one or several decisions by the responsible authorities at the end of the process, provide the applicant with all necessary information and involve, where appropriate, other administrative authorities. The contact point shall ensure fulfilment of the deadlines for the permit-granting procedures set out in this Directive. Applicants shall be allowed to submit relevant documents in digital form. By 2 years from entry into force Member States shall ensure that all procedures are carried out in electronic format.

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

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

6. The deadlines laid down in Articles 16a, 16b and 16c shall apply without prejudice to judicial appeals, remedies and other proceedings before a court or tribunal, and to alternative dispute resolution mechanisms, including complaints procedures, non-judicial appeals and remedies, and may be extended for the duration of such procedures.

7. Member States shall ensure that administrative and judicial appeals in the context of a project for the development of renewable energy production plant, its related grid connection and those assets necessary for the development of the energy infrastructure networks required to integrate renewable sources into the system, including those related to environmental aspects shall be subject to the most expeditious administrative and judicial procedure that is available at the relevant national, regional and local level.

8. Member States shall provide adequate resources to ensure qualified staff, upskilling, and reskilling of their competent authorities in line with the planned installed renewable energy generation capacity foreseen in their national energy and climate plans. Member States shall assist regional and local authorities in order to facilitate the permit granting process.

9. Except when it coincides with other administrative stages of the permit-granting process, the duration of the permit-granting process shall not include:

(a) the time during which the plants, their grid connections and, with a view of ensuring grid stability, grid reliability and grid safety, the related necessary grid infrastructure are being built or repowered;

(b) the time for the administrative stages necessary for significant upgrades of the grid required to ensuring grid stability, grid reliability and grid safety.

10. Decisions resulting from the above permit-granting processes shall be made publicly available in accordance with the existing obligations.';

(6c) the following article is inserted:

'Article 16a

Permit-granting process in renewables acceleration areas

1. Member States shall ensure that the permit-granting process referred to in Article 16(1) shall not exceed one year for projects in renewables acceleration areas, except for offshore renewable energy projects, for which it shall not exceed two years. Where duly justified on the ground of extraordinary circumstances, those periods may be extended by up to six months. In such a case, Member States shall clearly inform the developer about the extraordinary circumstances that justified the extension.

2. The permit-granting process for the repowering of plants and for new installations with an electrical capacity of less than 150 kW, co-located energy storage, including power and thermal facilities, as well as their grid connection, where located in renewables acceleration areas, shall not exceed six months, except for offshore wind energy projects, for which shall not exceed 1 year. Where duly justified on the ground of extraordinary circumstances, such as on grounds of overriding safety reasons where the repowering project impacts substantially on the grid or the original capacity, size or performance of the installation, that six months period may be extended by up to three months and six months in case of offshore wind energy projects. Member States shall clearly inform the project developer about the extraordinary circumstances that justify the extension.

3. Without prejudice to paragraphs 4 and 5, by derogation from Article 4(2) of Directive 2011/92/EU, and Annex II, points 3(a), (b), (d), (h), (i), and 6(c) alone or in conjunction with point 13(a) of that Directive as far as this concerns renewable energy projects, new applications for renewable energy plants, including those combining different renewable energy sources, including the repowering of plants, in already designated renewables acceleration areas for the respective technology, co-located storage facilities as well as their connection to the grid, shall be exempted from the requirement to carry out a dedicated environmental impact assessment under Article 2(1) of Directive 2011/92/EU, provided that these projects comply with the rules and measures set out in accordance with Article 15c(1), point (b) of this Directive. The exemption from the application of Directive 2011/92/EU above shall not apply to projects which are likely to have significant effects on the environment in another Member State or where a Member State likely to be significantly affected so requests, as provided for in Article 7 of the said Directive.

By derogation from Article 6(3) of Directive 92/43/EEC, the plants referred to in the first subparagraph, shall not be subject to an assessment of their implications for Natura 2000 sites provided that those renewable energy projects comply with the rules and measures established in accordance with Article15c(1), point (b) of this Directive.

4. The competent authorities of Member States shall carry out a screening of the applications referred to in paragraph 3. Such screening shall aim to identify if any of such projects is highly likely to give rise to significant unforeseen adverse effects in view of the environmental sensitivity of the geographical areas where they are located, that were not identified during the environmental assessment of the plan or plans designating renewables acceleration areas carried out in accordance with Directive 2001/42/EC and, if relevant, with Directive 92/43/EEC. Such screening shall also aim to identify if any of such projects is subject to transboundary assessment according to Article 7 of the Directive 2011/92/EU due to its likelihood of significant effects on the environment in another Member State or due to the request of a Member State which is likely to be significantly affected.

For the purpose of such screening, the project developer shall provide information on the characteristics of the project, on its compliance with the rules and measures identified according to Article 15c (1), point (b), for the specific renewables acceleration area, on any additional measures adopted by the project and how these measures address environmental impacts. The competent authority may request the applicant to provide additional available information. Such screening shall be finalised within 45 days from the date of submission of sufficient information necessary for this purpose for new renewable energy plants, with the exception of applications for installations with an electrical capacity of less than 150 kW. For such installations and for new applications for the repowering of plants, the screening phase shall be finalized within 30 days.

5. Following the screening process, the applications referred to in paragraph 3 shall be authorised from an environmental perspective without requiring any express decision from the competent authority, unless the competent authority adopts an administrative decision, duly motivated and based on clear evidence, that a specific project is highly likely to give rise to significant unforeseen adverse effects in view of the environmental sensitivity of the geographic area where they are located that cannot be mitigated by the measures identified in the plan or plans designating acceleration areas or proposed by the developer for the project. Such decision shall be made available to the public. Such projects shall be subject to an assessment in accordance with Directive 2011/92/EC and, if applicable, to an assessment under Directive 92/43/EEC, which shall be carried out within six months. Where duly justified on the ground of extraordinary circumstances that six months period may be extended by up to six months.

Under justified circumstances, including where this is needed to accelerate renewables deployment to achieve the climate and renewable energy targets, Member States may exempt wind and solar photovoltaic projects from such assessments.

Where Member States exempt wind and solar photovoltaics projects from those assessments, the operator has to adopt proportionate mitigation measures or, if not available, compensation measures, which may take the form of monetary compensation if other proportionate compensation measures are not available, in order to address those adverse effects. Where those effects impact species protection, the operator shall pay a monetary compensation for species protection programmes for the duration of the operation of the renewable power plant in order to ensure or improve the conservation status of the species affected.

6. In the permit-granting process of the applications referred to in paragraphs 1 and 2, Member States shall ensure that the lack of reply of the relevant administrative bodies within the established deadline results in the specific intermediary administrative steps to be considered as approved, except where the specific project is subject to an environmental impact assessment in accordance with paragraph 5 or where the principle of administrative tacit approval does not exist in the national legal system. This provision shall not apply to final decisions on the outcome of the process, which are to be explicit. All resulting decisions shall be made publicly available.';

(6d) the following article is inserted:

'Article 16b

Permit-granting process outside renewables acceleration areas

1. Member States shall ensure that the permit-granting process referred to in Article 16(1) shall not exceed two years for projects outside renewables acceleration areas, except for offshore renewable energy projects, for which it shall not exceed three years. Where duly justified on the grounds of extraordinary circumstances including where these require extended periods needed for assessments under applicable Union environmental law, that two-year period may be extended by up to six months. In such a case, Member States shall clearly inform the developer about the extraordinary circumstances that justified the extension.

2. Where an environmental assessment is required under Directive 2011/92/EU or Directive 92/43/EEC, it shall be carried out in a single procedure that combines all relevant assessments for a given project. When any such environmental impact assessment is required, the competent authority, taking into account the information provided by the developer, shall issue an opinion on the scope and level of detail of the information to be included by the developer in the environmental impact assessment report, of which the scope shall not be extended subsequently. Where the specific projects have adopted necessary mitigation measures, any killing or disturbance of the species protected under Article 12(1) of Directive 92/43/EEC and Article 5 of Directive 2009/147/EC shall not be considered deliberate. Where novel mitigation measures to prevent as much as possible the killing or disturbance of species protected under Council Directive 92/43/EEC and Directive 2009/147/EEC, or any other environmental impact, have not been widely tested as regards their effectiveness, Member States may allow their use for one or several pilot projects for a limited time period, provided that the effectiveness of such measures is closely monitored and appropriate steps are taken immediately if they do not prove to be effective.

The permit-granting process for the repowering of projects and for new installations with an electrical capacity of less than 150 kW, co-located storage facilities as well as their grid connection, located outside renewables acceleration areas shall not exceed one year, including environmental assessments where required by relevant legislation, except for offshore renewable energy projects, for which it shall not exceed two years. Where duly justified on the ground of extraordinary circumstances, this one-year period may be extended by up to three months. Member States shall clearly inform the developers about the extraordinary circumstances that justified the extension.';

(6e) the following article is inserted:

'Article 16ba

Accelerating the permit-granting process of repowering of renewable projects

1. Where the repowering of a renewable energy plant does not result in an increase in the capacity of the renewable energy power plant beyond 15%, and without affecting the need to assess any potential environmental impacts pursuant to paragraph 2 of this Article, grid connections to the transmission or distribution grid shall be permitted within three months following application to the relevant entity unless there are justified safety concerns or there is technical incompatibility of the system components.

2. Where the repowering of a renewable energy power plant or of a related grid infrastructure that is necessary to integrate renewables into the electricity system, is subject to the screening procedure described in article 16a, or to a determination whether the project requires an environmental impact assessment procedure or an environmental impact assessment pursuant to Article 4 of Directive 2011/92/EU, such prior determination and/or environmental assessment shall be limited to the potential impacts stemming from the change or extension compared to the original project.

3. Where the repowering of solar installations does not entail the use of additional space and complies with the applicable environmental mitigation measures established for the original installation, the project shall be exempted from the requirement, if applicable, to be subject to the screening procedure described in Article 16a or to a determination whether the project requires an environmental impact assessment pursuant to Article 4 of Directive 2011/92/EU.';

(6f) the following article is inserted:

'Article 16c

Permit-granting process for the installation of solar energy equipment

1. Member States shall ensure that the permit-granting process referred to in Article 16(1) for the installation of solar energy equipment and co-located energy storage assets, including building-integrated solar installations, in existing or future artificial structures, with the exclusion of artificial water surfaces, shall not exceed three months, provided that the primary aim of such structures is not solar energy production or energy storage. By derogation from Article 4(2) of Directive 2011/92/EU and Annex II, points 3(a) and (b), alone or in conjunction with point 13(a) to that Directive, such installation of solar equipment shall be exempted from the requirement, if applicable, to carry out a dedicated environmental impact assessment under Article 2(1) of Directive 2011/92/EU.

Member States may exclude certain areas or structures from the provisions of paragraph 1, due to reasons of cultural or historical heritage protection, or for reasons related to national defence interests or safety reasons.

2. Member states shall ensure that the permit-granting process for the installation of solar energy equipment with a capacity of 100 kW or less, including for renewables self-consumers and renewable energy communities, shall not exceed one month. The absence of a reply by the relevant authorities or entities within the deadline following the submission of a complete application shall result in the permit being considered as granted, provided that the capacity of the solar energy equipment does not exceed the existing capacity of the connection to the distribution grid.

Where the application of the capacity threshold referred to in paragraph 1a of this Article leads to a significant administrative burden or constraints to the operation of the electricity grid, Member States may apply a lower threshold provided that it remains above 10,8 kW.';

(6g) the following article is inserted:

'Article 16d

Acceleration of the deployment of heat pumps

1. Member states shall ensure that the permit-granting process for the installation of heat pumps below 50 MW shall not exceed one month, except for ground source heat pumps, for which it shall not exceed three months.

2. Unless there are justified safety concerns, further works are needed for grid connections or there is technical incompatibility of the system components, Member states shall ensure that connections to the transmission or distribution grid shall be permitted within two weeks after notification to the relevant entity for:

(a) heat pumps of up to 12 kW electrical capacity; and

(b) heat pumps of up to 50 kW electrical capacity installed by renewables self-consumers, provided that the capacity of the renewables self-consumer's renewable electricity generation installation amounts to at least 60% of the capacity of the heat pump.

3. Member States may not apply the provisions of this Article to the installation of heat pumps in certain areas or structures, due to reasons of cultural or historical heritage protection, or for reasons related to national defence interests or safety reasons.

4. All decisions resulting from the permit-granting processes referred to in paragraphs 1 and 2 of this Article shall be made public in accordance with existing obligations.

5. Member States may not apply the provisions of this Article to the installation of heat pumps in certain areas or structures, due to reasons of cultural or historical heritage protection, or for reasons related to national defence interests or safety reasons.';

(6g) the following article is inserted:

'Article 16e

Overriding public interest

By three months from entry into force, until climate neutrality is achieved, Member States shall ensure that, in the permit-granting process, the planning, construction and operation of plants for the production of energy from renewable sources, their connection to the grid and the related grid itself and storage assets are presumed as being in the overriding public interest and serving public health and safety when balancing legal interests in the individual cases for the purposes of Articles 6(4) and 16(1)(c) of Directive 92/43/EEC, Article 4(7) of Directive 2000/60/EC and Article 9(1)(a) of Directive 2009/147/EC. Member States may restrict in duly justified and specific circumstances the application of this provision to certain parts of their territory as well as to certain types of technologies or to projects with certain technical characteristics in accordance with the priorities set in their national integrated energy and climate plans. Member States shall inform the Commission about applied restrictions and justify them.';

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

'3. Member States shall ensure that ***their*** certification schemes ***or equivalent qualification schemes*** are available for installers and designers of all forms of renewable heating and cooling systems in buildings, industry and agriculture, ▌ for installers of solar photovoltaic systems***, including energy storage, and for recharging points enabling demand response***. 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 ***set up a framework to*** ensure that ***a sufficient number of*** trained and qualified installers of ***the*** technologies ***referred to in paragraph 3*** to service the growth of renewable ***energy*** required to ***achieve the different targets*** set out in ***this Directive***.

To achieve such ***a*** sufficient ***number*** 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 ***provided that they are compatible with their qualification and certification schemes***. 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.

If Member States identify a substantial gap between available and necessary number of trained and qualified installations professionals, they shall take measures to address that gap.

4. Member States shall make information on ▌ certification schemes ***or equivalent qualification schemes*** referred to in paragraph 3 available to the public. Member States shall ***also make available to the public, in a transparent and easily accessible manner, a regularly updated*** list of installers who are qualified or certified in accordance with paragraph 3 ▌ .';

(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 sources ***including gaseous renewable fuels of non-biological origin such as hydrogen, unless Member States decide, for the purposes of accounting for the market value of the guarantee of origin, not to issue such a guarantee of origin to a producer that receives financial support from a support scheme***. Member States may arrange for guarantees of origin to be issued for energy from non-renewable sources. Issuance of guarantees of origin may be made subject to a minimum capacity limit. A guarantee of origin shall be of the standard size of 1 MWh. ***Where appropriate, such standard size may be divided to a fraction size, provided that the fraction is a multiple of 1 Wh.*** No more than one guarantee of origin shall be issued in respect of each unit of energy produced.’;

(ia) new subparagraph is inserted after the second subparagraph:

‘Simplified registration processes and reduced registration fees shall be introduced for small installations of less than 50 kW and for renewable energy communities.’;

(ib) in the fourth subparagraph, point (c) is replaced by the following:

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

(aa) paragraph 3 is replaced by the following:

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

(ab) paragraph 4 is replaced by the following:

'4. For the purposes of disclosure referred to in paragraphs 8 and 13, Member States shall ensure that energy companies cancel guarantees of origin at the latest six months after the end of the validity of the guarantee of origin. Furthermore, by ... [transposition deadline of this amending Directive], Member States shall ensure that the data on their residual mix is published on an annual basis.';

(ac) in paragraph 7, point (a) is replaced by the following:

'(a) the energy source from which the energy was produced and the start and end dates of production, which may be specified:

(i) in case of renewable gas, including gaseous renewable fuels of non-biological origin, and renewable heating and cooling, at an hourly or subhourly interval;

(ii) for renewable electricity, in accordance with the imbalance settlement period as defined in Article 2, point (15) of Regulation (EU) 2019/943.';

(b) paragraph 8 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***:***

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

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

Where gases are supplied from a hydrogen or natural gas network, including gaseous renewable fuels of non-biological origin or biomethane, the supplier is required to demonstrate to final consumers the share or quantity of energy from renewable sources in its energy mix for the purposes of Annex I, section 5 of [proposal for a Directive on common rules for the internal markets in renewable and natural gases and in hydrogen COM(2021)0803]. The supplier shall do so by using guarantees of origin except:

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

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

When a customer consumes gases from a hydrogen or natural gas network, including gaseous renewable fuels of non-biological origin or biomethane, as demonstrated in the commercial offer by the supplier, Member States shall ensure that the guarantees of origin that are cancelled correspond to the relevant network characteristics.

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

(bc) paragraph 13 is replaced by the following:

'13. By 31 December 2025 the Commission shall adopt a report assessing options to establish a Union-wide green label with a view to promoting the use of renewable energy coming from new installations. Suppliers shall use the information contained in guarantees of origin to demonstrate compliance with the requirements of such a label.';

(bd) the following paragraph is added:

'13a. The Commission shall monitor the functioning of the guarantees of origin system and assess by 30 June 2025 the balance of supply-demand of guarantees of origin in the market and in the case of imbalances identify relevant factors affecting supply and demand.'.

(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, ***such as*** solar ***thermal*** energy, ***solar photovoltaic energy, renewable electricity driven heat pumps using*** ambient energy ***and geothermal energy, other*** geothermal energy ***technologies***, biomass, biogas, bioliquids and waste heat and cold, in combination with thermal energy storage***, demand response systems and power to heat installations, where possible***.’;

(10) the following Article 20a is inserted:

‘Article 20a

Facilitating system integration of renewable electricity

‘1. Member States shall require transmission system operators and ***if this information is available to them,*** 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 ***in intervals equal to the market settlement frequency but*** of no more than one hour, with forecasting where available. ***Member States shall ensure that distribution system operators have access to the needed data. If they do not have access, according to national legislation, to all information needed, they shall apply existing data reporting system under ENTSO-E, in accordance with the provisions of Directive 2019/944. Member States shall incentivise upgrades of smart grids to better monitor grid balance and make available real time*** information***.***

If technically available, distribution system operators shall also make available anonymized and aggregated data on the demand response potential and the renewable electricity generated by self-consumers and renewable energy communities and injected to the grid.

1a. The information and data referred to in paragraph 1 shall be made available digitally in a manner that ensures ***interoperability based on harmonized data formats and standardized data sets so that*** it can be used ***in a non-discriminatory manner*** 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***, with explicit consent, on the owners' and users'*** behalf, such as building energy management companies and electricity market participants, under non-discriminatory terms***,*** at no cost ***and in compliance with data protection rules***.

Member States shall ***adopt measures to require*** that vehicle manufacturers make available, in real-time, ***in vehicle*** data related to the battery state of health, battery state of charge, battery power ***set point***, battery capacity, ***and*** as well as ***where appropriate*** 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 compliance with data protection rules, and*** 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 ***or their designated competent authorities*** shall ensure that ***new and replaced*** 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***, the interface with smart metering systems, when deployed by Member States, and*** *bidirectional charging functionalities* ***in accordance with the requirements of Article 15(3) and (4) of [the proposal for a Regulation concerning the deployment of alternative fuel infrastructure]***.

4. ***In addition to the requirements in Directive (EU) 2019/944 and Regulation (EU) 2019/943,*** Member States shall ensure that the national regulatory framework ***allows small or mobile systems such as domestic batteries and electric vehicles and other small decentralized energy resources to participate*** in the electricity markets, including congestion management and the provision of flexibility and balancing services, ***including through aggregation. For this purpose, Member states shall, in close cooperation with all market participants and regulatory authorities, establish technical requirements for participation in those markets, on the basis of the technical characteristics of those*** systems***.***

Member States shall provide a level playing field and non-discriminatory participation for small decentralized energy assets/systems.';

(11) the following ***articles are*** 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 ▌ increase of ***at least 1.6*** percentage points ***as an annual average calculated for the periods 2021 to 2025 and 2026 to*** 2030.

Member States may count waste heat and cold towards the average annual increases referred to in the first subparagraph, up to a limit of 0.4 percentage points, provided the waste heat and cold is supplied from efficient district heating and cooling, excluding networks which supply heat to one building only or where all thermal energy is solely consumed on-site and where the thermal energy is not sold. If they decide to do so, the average annual increase shall increase by half of the waste heat and cold percentage points used.

Member States shall include the ***policies and*** 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.

When considered a cost-effective option, those policies and measures shall promote the renewable-based electrification of industrial processes. Those policies and measures shall endeavour to create conducive market condition for the availability of economically viable and technically feasible renewable energy alternatives to replace fossil fuels used for industrial heating with the aim of reducing the use of fossil fuels used for heating in which the temperature is below 200 degrees Celsius. When adopting those policies and measures, Member States shall take into account the energy efficiency first principle, effectiveness and international competitiveness and should tackle regulatory, administrative and economic barriers.

Member States shall ensure that the contribution of renewable fuels of non-biological origin used for final energy and non-energy purposes shall be ***at least 42 %***of the hydrogen used for final energy and non-energy purposes in industry by 2030***, and 60% by 2035***. 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***:***

(i) hydrogen used as intermediate products for the production of conventional transport fuels ***and biofuels;***

(ii) hydrogen that is produced by decarbonizing industrial residual gases and is used to replace the specific gases from which it is produced.

(iii) hydrogen produced as a by-product or derived from by-products in industrial installations;

(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 ***and biofuels***.

(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 ***promote voluntary labelling schemes for*** industrial products that are ▌ claimed to be produced with renewable energy and renewable fuels of non-biological origin***. Such voluntary labelling schemes*** 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* or, alternatively, ISO 14067:2018.

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* ***Commission Recommendation 2013/179/EU 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).***

2a. Member States shall report the amount of renewable fuels of non-biological origin that they expect to import and export in their integrated national energy and climate plans and progress reports submitted pursuant to Articles 3, 14 and 17 of Regulation (EU) 2018/1999. On the basis of that reporting, the Commission shall, develop a Union strategy for imported and domestic hydrogen with the aim of promoting a European hydrogen market and domestic hydrogen production within the Union, supporting the implementation of this Directive and the achievement of the targets set out therein, while having due regard to security of supply and the Union's strategic autonomy in energy and level playing field on the global hydrogen market. Member States shall indicate in their integrated national energy and climate plans and progress reports on how they intend contributing to this strategy.

Article 22b

Conditions for reduction of the target for the use of renewable fuels of non-biological origin in the industry sector

A Member State may reduce the contribution of renewable fuels of non-biological origin used for final energy and non-energy purposes referred to in the fifth subparagraph of Article 22a by 20 % in 2030 if:

(a) that Member State is on track towards its's national contribution to the binding overall Union target set in Article 3(1) which is at least equivalent to their expected national contributions according to the formula referred to in Annex II to Regulation (EU) 2018/1999; and

(b) the share of hydrogen, or its derivatives, from fossil fuels which is consumed in that Member State is not more than 23% in 2030 and 20% in 2035.

Where any of these conditions are not fulfilled, the reduction referred to in the first subparagraph shall cease to apply.

Where a Member State applies the reduction referred to in the first subparagraph, it shall notify the Commission thereof, together with their national energy and climate plans in accordance with Article 3 and 14 of Regulation (EU) 2018/1999 and as part of their integrated biennial progress reports in accordance with Article 17 of Regulation (EU) 2018/1999. The notification shall include information about the updated share of renewable fuels of non-biological origin and all relevant data to demonstrate that both conditions under the first subparagraph are fulfilled.

The Commission shall monitor the situation in Member States benefitting from a reduction with a view to verifying the continuous fulfilment of the conditions referred to in the first subparagraph.';

(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 ***0.8*** percentage points as an annual average calculated for the ***period*** 2021 to 2025 and ***by at least 1.1 percentage points as an annual average calculated for the period*** 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.

▌

Member States may count waste heat and cold towards the average annual increases referred to in the first subparagraph, up to a limit of 0.4 percentage points. If they decide to do so, the average annual increase shall increase by half of the waste heat and cold percentage points used to an upper limit of 1.0 percentage points for the period 2021-2025 and of 1.3 percentage points for the period 2026-2030.

Member States shall inform the Commission about their intention to count waste heat and cold and the estimated amount in their integrated national energy and climate plans submitted pursuant to Articles 3 and 14 of Regulation (EU) 2018/1999. In addition to the minimum ▌ percentage points annual ***increases*** 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 ***additional indicative percentage points*** set out in Annex 1a.;

Member States may count renewable electricity used for heating and cooling towards the annual average increase set out in the first subparagraph, up to a limit of 0.4 percentage points, provided that the efficiency of the heat and cold generator unit is higher than 100 %. If they decide to do so, the average annual increase shall increase by half of that renewable electricity expressed in percentage points to an upper limit of 1.0 percentage points for the period 2021-2025 and of 1.3 percentage points for the period 2026-2030.

Member States shall inform the Commission about their intention to count renewable electricity used in heating and cooling from heat and cold generators the efficiency of which is higher than 100% towards the annual increase set out in first subparagraph. Member States shall include the estimated renewable electricity capacities of heat and cold generator units the efficiency of which is higher than 100% in their integrated national energy and climate plans submitted pursuant to Articles 3 and 14 of Regulation (EU) 2018/1999. Member States shall include the amount of renewable electricity used in heating and cooling from heat and cold generator units the efficiency of which is higher than 100% in their integrated national energy and climate progress reports pursuant to Article 17 of Regulation (EU) 2018/1999.’

(aa) the following paragraph 1aa is inserted:

'1aa. For the calculation of the share of renewable electricity used in heating and cooling for the purposes of paragraph 1 of this Article, Member States shall use the average share of renewable electricity supplied in their territory in the two previous years'.

(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 ***consider the available and economically feasible technologies for industrial and domestic uses in order to*** set out milestones and measures to ***increase the use of renewable energy sources*** 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 ***reduce greenhouse gas emissions and air pollution originating from*** heating and cooling. The assessment shall be ***in accordance with the energy efficiency first principle and*** 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) ***paragraph 2 is amended as follows:***

(i) the introductory phrase is replaced by the following:

'For the purposes of paragraph 1, when calculating its share of renewable energy in the heating and cooling sector and its average annual increase in accordance with that paragraph, including the additional indicative increase set out in Annex Ia, each Member State:';

(ii) point (a) is deleted;

(ca) in paragraph 2, the following subparagraph is added:

(cb) 'Member States shall in particular provide information to the owners or tenants of buildings and SMEs on cost-effective measures, and financial instruments, to improve the use of renewable energy in the heating and cooling systems. Member States shall provide the information through accessible and transparent advisory tools.';

(d) paragraph 4 is replaced by the following:

'4. To achieve the average annual increase referred to in paragraph 1, first subparagraph, Member States ***shall endeavour to*** implement ***at least two*** 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, ***connection of buildings to efficient district heating and cooling systems*** 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***, regional*** and local authorities to ***map local renewable heating and cooling potential and plan,*** implement ***and advise on*** renewable projects and infrastructures;

(e) creation of risk mitigation frameworks to reduce the cost of capital for renewable heat and cooling ***and waste heat and cold*** projects***, inter alia allowing for the bundling of smaller projects as well as linking such projects more holistically with other energy efficiency and building renovation measures***;

(f) promotion of ***renewables heating and cooling*** purchase agreements for corporate and collective small consumers;

(g) planned replacement schemes of fossil heating ***sources, heating*** systems ***not compatible with renewable sources*** or fossil phase-out schemes with milestones;

(h) ▌ requirements at local and regional level ***concerning renewable heat planning, encompassing cooling***;

(i) other policy measures, with an equivalent effect, including fiscal measures, support schemes or other financial incentives ***contributing to the installation of renewable heating and cooling equipment and the development of energy networks supplying renewable energy for heating and cooling in buildings and industry;***

(j) promotion of the production of biogas and its injection into the gas grid, instead of its use for electricity production;

(k) measures promoting the integration of thermal energy storage technologies in heating and cooling systems;

(l) promotion of renewable based district heating and cooling networks, in particular by renewable energy communities, including through regulatory measures, financing arrangements and support.

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 ***energy*** 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 ***an indicative 2.2*** percentage points as an annual average calculated for the period 2021 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 ***in their integrated national energy and climate plans*** 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 may count renewable electricity used for district heating and cooling in the annual average increase set out in the first subparagraph.

Member States shall inform the Commission about their intention to count renewable electricity used in district heating and cooling towards the annual increase set out in first subparagraph. Member States shall include the estimated renewable electricity capacities for district heating and cooling in their integrated national energy and climate plans submitted pursuant to Articles 3 and 14 of Regulation (EU) 2018/1999. Member States shall include the amount of renewable electricity used in district heating and cooling in their integrated national energy and climate progress reports pursuant to Article 17 of Regulation (EU) 2018/1999.

4a. For the calculation of the share of renewable electricity used in district heating and cooling for the purposes of paragraph 4 of this Article, Member States shall use the average share of renewable electricity supplied in their territory in the two previous years.

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 with a share of energy from renewable sources and from waste heat and cold in district heating and cooling above 50% and up to 60 % may count any such share as fulfilling half of 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 ***encouraged*** to connect third party suppliers of energy from renewable sources and from waste heat and cold or are ***encouraged*** 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***, where needed,*** 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***, in particular***:

(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***, energy storage facilities,*** and public transport; ▌

(c) local authorities responsible for planning and approving energy infrastructures ▌ ;

(ca) scientific experts working on the latest state of the art of district heating and cooling systems; and

(cb) renewable energy communities involved in heating and cooling;'

(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 ***to*** 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***:***

(i) to a share of renewable energy within the final consumption of energy in the transport sector of at least 29 % by 2030; or

(ii) to a greenhouse gas intensity reduction of at least ***14,5*** % 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 ***combined*** share of advanced biofuels and biogas produced from the feedstock listed in Part A of Annex IX ***and of renewable fuels of non-biological origin*** in the energy supplied to the transport sector is at least ***1 %*** in 2025 and ***5,5*** % in 2030***, of which a share of at least 1 percentage point*** renewable fuels of non-biological origin in 2030.

Member States are encouraged to set differentiated targets for biofuels and biogas produced from the feedstock listed in Part A of Annex IX and renewable fuels of non-biological origin at national level in order to fulfil the obligation set in the first subparagraph, point (b) in a way that the development of both fuels is incentivised and expanded.

Member States with maritime ports shall endeavour to ensure that as of 2030 the share of renewable fuels of non-biological origin in the total amount of energy supplied to the maritime sector is at least 1.2%.

Member States shall, in their progress reports submitted pursuant to Article 17 of Regulation (EU) 2018/1999, report on the share of renewable energy within the final consumption of energy in the transport sector, including to the maritime mode, as well as on the greenhouse gas intensity reduction.

If the list of feedstock set out in Part A of Annex IX is amended in accordance with Article 28(6), Member States may increase their minimum share of advanced biofuels and biogas produced from the feedstock in the energy supplied to the transport sector accordingly.

For the calculation of the ***targets*** referred to in ***the first subparagraph,*** point (a)***, points (i) and (ii)*** and the ***shares*** referred to in ***the first subparagraph,*** point (b), Member States***:***

(a) shall take into account renewable fuels of non-biological origin also when they are used as intermediate products for the production of***:***

(i) conventional fuels***; or***

(ii) ***biofuels, provided that the greenhouse gas emissions reduction achieved by the use of renewable fuels of non-biological origin is not considered in the calculation of the greenhouse gas emission savings of the biofuels;***

(b) ***may take into account biogas that is injected into the national gas transmission and distribution infrastructure.***

For the calculation of the reduction referred to in point (a), ***points (i) and (ii)*** Member States may take into account recycled carbon fuels.

When setting the obligation on fuel suppliers, Member States may***:***

(a) 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***;***

(b) ***design the obligation by means of measures targeting volumes, energy content or greenhouse gas emissions;***

(c) ***distinguish between different energy carriers;***

(d) ***distinguish between maritime transport and other sectors.***

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 ***points*** 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. ***Member States may include private recharging points in this mechanism provided it can be demonstrated that renewable electricity supplied to those private recharging points is provided solely to electric vehicles***.';

(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 minimum share of renewable energy or*** 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 minimum share of renewable energy or*** 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 ***the minimum share of renewable energy or*** greenhouse gas emissions saving. For ***the*** purpose ***of the greenhouse gas intensity reduction target***, Member States shall consider those fuels save 50 % greenhouse gas emissions.’;

(b) ▌paragraph 2 ***is amended as follows:***

(i) ***in the*** first ***subparagraph***, ‘the minimum share referred to in the first subparagraph of Article 25(1)’ is replaced by ‘***the minimum share of renewable energy and*** the greenhouse gas ***intensity*** reduction target referred to in Article 25(1), first subparagraph, point (a)’;

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

'By 1 September 2023, the Commission shall review the criteria laid down in the delegated act referred to in the fourth subparagraph based on the best available scientific data and shall adopt delegated acts in accordance with Article 35 to amend such criteria, where appropriate, and to include a trajectory to gradually decrease the contribution to the Union target set in Article 3(1) and to the minimum share of renewable energy and the greenhouse gas intensity reduction target referred to in Article 25(1), first subparagraph, point (a), of high indirect land-use change-risk biofuels, bioliquids and biomass fuels produced from feedstock for which a significant expansion of the production into land with high-carbon stock is observed. The review shall be based on a revised version of the report on feedstock expansion submitted in accordance with the third subparagraph. The report shall, in particular, assess whether the threshold on the maximum share of the average annual expansion of the global production area in high carbon stocks should be reduced on the basis of objective and scientific based criteria and taking into consideration the Union's climate targets and commitments.

Where appropriate, the Commission shall amend the criteria laid down in the delegated act based on the results of this assessment. The Commission shall continue to review every three years the data underpinning the delegated act, updating the delegated act when necessary in light of evolving circumstances and latest available scientific evidence.'

(16) Article 27 is ***replaced by the following***:

‘***Article 27***

Calculation rules in the transport sector and with regard to renewable fuels of non-biological origin regardless of their end use

1. For the calculation of the 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 ***until 31 December 2030*** by multiplying the amount of energy supplied to the transport sector by the fossil fuel comparator EF(t) set out in Annex V; ***from 1 January 2031, the baseline referred to in Article 25(1) shall be the sum of:***

(i) the amount of fuels supplied to all transport modes multiplied by the fossil fuel comparator EF(t) set out in Annex V;

(ii) the amount electricity supplied to all transport modes multiplied by the fossil fuel comparator ECF(e) 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. ***Electricity generated by a solar-electric vehicle and used for the consumption of the vehicle itself may be counted as fully 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 %***. Member States may, in duly justified cases, increase that limit, taking into account the availability of feedstock. Any such modification shall be notified to the Commission together with the justifications for such increase. Any such modification shall be subject to approval by the Commission;***

(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***, renewables fuels of non-biological origin*** and renewable electricity supplied to all transport modes by the baseline. ***Member States may take into account recycled carbon fuels.***

2. For the calculation of the ***minimum shares*** referred to in Article 25(1), ***point (a)(i) and point (b)***, the following ***provisions*** 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, ***that is the amount of*** energy ***from renewable sources consumed in the transport sector for the purposes of the first subparagraph of Article 25(1), the energy content of all types of energy from renewable sources*** supplied to all transport modes***, including to international marine bunkers,*** in the territory of ***each Member State*** shall be taken into account; ***Member States may take into account recycled carbon fuels;***

(c) the share of biofuels and biogas for transport produced from the feedstock listed in Annex IX and renewable fuels of non-biological origin shall be considered to be twice its energy content;

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

(e) 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 %; Member States may, where justified, modify that limit, taking into account the availability of feedstock. Any such modification shall be subject to approval by the Commission;

(f) 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;

(g) 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;

(h) 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; Electricity generated by a solar-electric vehicle and used for the consumption of the vehicle itself may be counted as fully renewable;

(***i***) ***the share*** of advanced biofuels and biogas produced from the feedstock listed in Part A of Annex IX ***supplied in the aviation and maritime modes shall be considered to be 1,2 times their energy content and the share*** of renewable fuels of non-biological origin supplied in the aviation and maritime modes shall be considered to be ***1,5*** times their energy content.

3. The Commission is empowered to adopt delegated acts in accordance with Article 35 to amend this Directive by adapting the limit on the share of biofuels and biogas produced from the feedstock listed in Part B of Annex IX on the basis of an assessment of the availability of feedstock. The limit shall be at least 1.7%. If the Commission makes use of the empowerment, the limit set out in the delegated act shall also apply to Member States having obtained an approval to increase the limit in accordance with paragraph 2, point (e) after 5 years transition period, without the prejudice to the right of the Member State to apply this new threshold earlier. Member States may apply for a new approval from the Commission for an increase from the limit set in the delegated act in accordance with paragraph 2, point (e).

4. 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.

5. For the purpose of the calculations referred to in paragraph 1, point (b) and in paragraph 2, point (a), the amount of energy supplied to maritime transport shall, as a proportion of that Member State's gross final consumption of energy, be considered to be no more than 13 %. For Cyprus and Malta, the amount of energy consumed in maritime transport shall, as a proportion of those Member States' gross final consumption of energy, be considered to be no more than 5 %. These provisions shall apply until 31 December 2030.

6. 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.

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:

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

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

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

By 31 December 2021, the Commission shall adopt a delegated act in accordance with Article 35 to supplement this Directive by establishing a Union methodology setting out detailed rules by which economic operators are to comply with the requirements laid down in the second and third subparagraphs of this paragraph.

By 1 July 2028, the Commission shall submit a report to the European Parliament and the Council assessing the impact of the Union methodology set out according to the fifth and sixth subparagraphs, including the impact of additionality and temporal and geographic correlation on production costs, greenhouse gas emission savings, and the energy system. This report shall, in particular, assess the impact on the availability and affordability of renewable fuels of non-biological origin for industry and transport and on the ability of the Union to achieve its renewable fuels of non-biological origin targets taking into account the Union strategy for imported and domestic hydrogen according to Article 22a of this Directive, while minimizing the increase in greenhouse gas emissions in the electricity sector and the overall energy system. Where this report concludes that the requirements fall short of ensuring sufficient availability and affordability and do not substantially contribute to greenhouse gas emission savings, energy system integration and the achievement of the Union renewable fuels of non-biological origin targets set for 2030, the Commission shall review the Union methodology and, where appropriate, adopt a delegated act to modify such methodology to provide the necessary adjustments to the criteria set in the fifth and six subparagraphs in order to facilitate the ramp-up of the hydrogen industry.';

(17) Article 28 is amended as follows:

(a) paragraphs 2, 3 and 4 are deleted***;***

(b) paragraph 5 is replaced by the following:

‘By ***30 June*** 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;’;

(ia) the second subparagraph is replaced by the following:

However, biofuels, bioliquids and biomass fuels produced from waste and residues, other than agricultural, aquaculture, fisheries and forestry residues, are required to fulfil only the greenhouse gas emissions saving criteria laid down in paragraph 10 in order to be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph. In the case of the use of mixed wastes, Member States may require operators to apply mixed waste sorting systems aimed at removing fossil materials. This subparagraph shall also apply to waste and residues that are first processed into a product before being further processed into biofuels, bioliquids and biomass fuels.’;

(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 ***7.5*** 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 m3 methane equivalent/h measured at standard conditions of temperature and pressure (i.e. 0ºC 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) paragraph 3 is replaced by the following::

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

(a) primary forest and other wooded land, namely forest and other wooded land of native species, where there is no clearly visible indication of human activity and the ecological processes are not significantly disturbed; and old growth forests as defined in the country where the forest is located;

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

(c) areas designated:

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

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

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

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

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

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

(e) heathland.

Where the conditions set in paragraph 6 point (a)(vi) and (vii) are not met, the first subparagraph, with the exception of point (c), also applies to biofuels, bioliquids and biomass fuels produced from forest biomass.

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

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

'***Where the conditions set in paragraph 6 point (a)(vi) and (vii) are not met,*** 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 ▌ 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. ***Where the conditions set in paragraph 6 point (a)(vi) and (vii) are not met, this paragraph also applies to biofuels, bioliquids and biomass fuels produced from forest biomass.***;’

(e) ▌ paragraph 6***, first subparagraph is amended as follows:***

(i) ***in*** point (a), ***points (iii) and*** (iv) ***are*** replaced by the following:

‘***(iii) that areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands, grassland, heathland and peatlands, are protected with the aim of preserving biodiversity and preventing habitat destruction;***

(iv) that harvesting is carried out considering maintenance of soil quality and biodiversity ***according to sustainable forest management principles,*** with the aim of ***preventing*** negative impacts, in a way that avoids harvesting of stumps and roots, degradation of primary forests***, and of old growth forests as defined in the country where the forest is located***, or their conversion into plantation forests, and harvesting on vulnerable soils; ***is compliant with maximum thresholds for large clear-cuts as defined in the country where the forest is located and with locally and ecologically appropriate retention*** thresholds for deadwood extraction and ***ensures*** requirements to use logging systems that minimise impacts on soil quality, including soil compaction, and on biodiversity features and habitats:’;

(ii) in point (a), the following points are added:

'(vi) that forests in which the forest biomass is harvested do not stem from the lands that have the statuses mentioned in paragraph 3 points (a), (b), (d) and (e), paragraph 4 point (a), and paragraph (5), respectively under the same conditions of determination of the status of land specified in these paragraphs; and

(vii) that installations producing biofuels, bioliquids and biomass fuels from forest biomass, issue a statement of assurance, underpinned by company-level internal processes, for the purpose of the audits conducted pursuant to Article 30(3), that the forest biomass is not sourced from the lands referred to in point (vi).';

(***iii***) in ▌ point (b), ***points*** (***iii) and*** (iv) ***are*** replaced by the following:

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

(iv) that harvesting is carried out considering maintenance of soil quality ***according to sustainable forest management principles,*** and biodiversity with the aim of ***preventing*** negative impacts, in a way that avoids harvesting of stumps and roots, degradation of primary forests***, and of old growth forests as defined in the country where the forest is located,*** or their conversion into plantation forests, and harvesting on vulnerable soils; ***is compliant with maximum thresholds for*** large clear-cuts ***as defined in the country where the forest is located, and with locally and ecologically appropriate retention*** thresholds for deadwood extraction and ***ensures*** requirements to use logging systems that minimise impacts on soil quality, including soil compaction, and on biodiversity features and habitats***; and'***;

(f) the following paragraphs are inserted:

'7a The production of biofuels, bioliquids and biomass fuels from domestic forest biomass shall be consistent with Member States' commitments and targets as defined in Regulation (EU) 2018/841 and with the policies and measures described by the Member State in their National Energy and Climate Plans submitted pursuant to Article 3 and 14 of Regulation (EU) 2018/1999.

7b. As part of their final updated national energy and climate plan to be submitted by 30 June 2024 pursuant to Article 14(2) of Regulation (EU) 2018/, Member States shall include:

(a) an assessment of the domestic supply of forest biomass available for energy purposes in 2021-2030 in accordance with the criteria laid down in Article 29;

(b) an assessment of the compatibility of the projected energy use of forest biomass with the Member States' targets and budgets for 2026-2030 as defined under [add reference to newly amended LULUCF Regulation]; and

(c) a description of the national measures and policies ensuring compatibility with those targets and budgets.

Member States shall report to the Commission on the measures and policies referred in point (c) as part of their biannual integrated national energy and climate progress reports submitted pursuant to Article 17 of Regulation (EU) 2018/1999.';

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

'(d) ▌ for electricity, heating and cooling production from biomass fuels used in installations ***having started operation after the entry into force of this directive,*** at least 80 %▌ ;';

(h) in paragraph 10, the following points are added:

'(e) for electricity, heating and cooling production from biomass fuels used in installations with a total rated thermal input equal to or exceeding 10 MW having started operation from 1 January 2021 to the entry into force of this Directive, at least 70 % until 31 December 2029, and at least 80% from 1 January 2030;

(f) for electricity, heating and cooling production from gaseous biomass fuels used in installations with a total rated thermal input equal to or lower than 10 MW having started operation from 1 January 2021 to the entry into force of this Directive, at least 70 % before they reach 15 years of operation, and at least 80% once they reach 15 years of operation;

(g) for electricity, heating and cooling production from biomass fuels used in installations with a total rated thermal input equal to or exceeding 10 MW having started operation before 31 December 2020, at least 80% once they reach 15 years of operation, at the earliest from 1 January 2026 and, at the latest, from 31 December 2029;

(h) for electricity, heating and cooling production from gaseous biomass fuels used in installations with a total rated thermal input equal to or lower than 10 MW having started operation before 31 December 2020, at least 80% once they reach 15 years of operation and at the earliest from 1 January 2026.';

(i) in paragraph 13, points (a) and (b) are replaced by the following:

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

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

(j) the following paragraph is added:

'15. Until 31 December 2030 at the latest, energy from biofuels, bioliquids and biomass fuels may also be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 of this Article, where:

(a) support was granted before … [the entry into force of this amending directive] in accordance with the sustainability and greenhouse gas emissions saving criteria set out in Article 29 of Directive (EU) 2018/2001 in its version in force on 29 September 2020; and

(b) the respective support was granted in the form of a long-term support for which a fixed amount has been determined at the start of the support period and provided that a correction mechanism to ensure the absence of overcompensation is in place.';

(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_2 ***from fossil sources*** the capture of which has already received an emission credit under other provisions of law***. The methodology shall cover the life-cycle greenhouse gas emissions and consider indirect emissions resulting from the diversion of rigid inputs such as wastes used for the production of recycled carbon fuels***.;’

(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 ***via mandatory independent and transparent audits, in line with the implementing act adopted pursuant to paragraph 8,*** 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. ***Member States shall require economic operators to arrange for an adequate standard of independent auditing of the information submitted, and to provide evidence that this has been done. In order to comply with Article 29(3), points (a), (b) and (d), Article 29(4), point (a), Article29(5), point (a) of Article 29(6) and point (a) of Article 29(7), the first or second party auditing may be used up to the first gathering point of the forest biomass. The auditing shall verify that the systems used by economic operators are accurate, reliable and protected against fraud, including verification ensuring that materials are not intentionally modified or discarded so that the consignment or part thereof could become a waste or residue. It shall evaluate the frequency and methodology of sampling and the robustness of the data.***

The obligations laid down in this paragraph shall apply regardless of whether 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 ***in an up to date, easily accessible, and user-friendly manner*** 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 **7,5** and ***20*** MW, Member States ***may*** 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. ***For the same installations, the implementing acts provisioned in Article 30(8) shall set out the uniform conditions for simplified voluntary verification schemes to ensure the fulfilment 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.’;

▌

(22) the following Article is inserted:

‘Article 31a

Union database

1. ***By ... [1 year after entry into force of this amending Directive],*** 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 ***(the "Union Database")***.

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 ***placed on the market in the Union. The interconnected gas system shall be considered to be a single mass balance system. Information about injection and withdrawal of renewable gaseous fuels shall be provided*** in the Union ***Database***. 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. ***These data may be entered into the Union database via national databases.***

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.

Notwithstanding subparagraphs 1 to 3, for gaseous fuels injected into the European interconnected gas infrastructure, economic operators shall enter information on the transactions made and the sustainability characteristics and other relevant information such as greenhouse gas emissions of the fuels up to the injection point to the interconnected gas system, where the mass balance system may be complemented by guarantees of origin where appropriate.

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

4. ***Where*** 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 ***transferred to the Union database at the moment when a consignment of renewable gases is registered in the database and are respectively*** cancelled ***after*** the consignment of renewable gases ***is withdrawn from the European interconnected grid for gas. Such guarantees of origin, once transferred, shall not be tradable outside of the Union*** database.

5. Member States shall ensure ***in their national legal framework*** that the accuracy and completeness of the ***data entered*** by economic operators in the database is verified, for instance by using ***certification bodies in the framework of*** voluntary or national schemes ***recognised by the Commission pursuant to Article 30(4), (5f) and (6) and which may be complemented by a system of guarantees of origin***.

Such voluntary or national schemes ▌ may use third party information systems as intermediaries to collect the data, provided that such use has been notified to the Commission.

Member States may use already existing national databases aligned to and linked with the Union database via interface or set up a national database that can be used by economic operators as a tool for collecting data and for entering, transferring and declaring those data into the Union Database, provided that:

(a) the national database complies with the Union Database including in terms of the timeliness of data transmission, the typology of data sets transferred, and the protocols for data quality and data verification; Member States may set up their national Database according to the national provisions, for instance to take into account stricter national requirements, as regards sustainability criteria. This should not hinder the overall traceability of sustainable consignments of raw materials or fuels to be entered into the Union Database in line with this Directive.

(b) Member States ensure that the data entered in the national database is instantly transferred to the Union database.

The verification of the data quality entered through national databases to the Union database, the sustainability characteristics of the fuels related to that data, and the final approval of transactions shall be performed solely through the Union Database. The accuracy and completeness of the data shall be checked in line with Commission Implementing Regulation 2022/996 on rules to verify sustainability and greenhouse gas emissions saving criteria and low indirect land-use change-risk criteria, and therefore may be checked by certification bodies.

Member States shall notify the detailed features of their national database to the Commission. Following that notification, the Commission shall assess whether the national database complies with the requirements in points (a) and (b) of the third subparagraph. If that is not the case, the Commission may require Member States to take appropriate steps to ensure compliance with those requirements.

5a. The aggregated data shall be made publicly available, with due regard to the protection of commercially sensitive information, and kept up-to-date. The Commission shall publish annual reports for the general public about the information reported in the Union database including the quantities, the geographic origin and feedstock type of fuels.';

(22a) Article 33 is amended as follows:

(a) paragraph 3 is amended as follows:

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

'By 31 December 2027, the Commission shall submit, if appropriate, a legislative proposal on the regulatory framework for the promotion of energy from renewable sources for the period after 2030.';

(b) the following subparagraph is added:

'When preparing the legislative proposal referred to in the first subparagraph the Commission shall take into account, where appropriate:

(a) the advice of the European Scientific Advisory Board on Climate Change established under Article 10a of Regulation (EC) No 401/2009;

(b) the projected indicative Union greenhouse gas budget as set out in Article 4(4) of Regulation (EU) 2021/1119;

(c) the integrated national energy and climate plans submitted by Member States by 30 June 2024 pursuant to Article 14 (2) of Regulation (EU) 2018/1999;

(d) the experience gained by the implementation of this Directive, including its sustainability and greenhouse gas emissions saving criteria; and

(e) technological developments in energy from renewable sources.';

(b) the following paragraph is inserted:

(3a) The Commission shall assess the application of the obligations laid down in Article 29(7a) and (7b) and their impact on ensuring the sustainability of biofuels, bioliquids and biomass fuels.';

(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 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 29a(3), second and third 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 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 29a(3), second and third 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 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 29a(3), second and third 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 ***for reducing*** greenhouse gas emissions ***in 2030 as referred to in Article 4(1) of Regulation (EU) 2021/1119 of the European Parliament and of the Council***, the Union's binding target for renewable energy in 2030 as referred to in Article 3 of Directive (EU) 2018/2001, the Union-level ▌ target ▌ for improving energy efficiency in 2030 ***as referred to in Article1(1) of Directive 2012/27/EU of the European Parliament and of the Council***, 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:

▌

(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) 2018/2001of the European Parliament and of the Council*;

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

* ***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.)***’;

(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 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 [***OP***: 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 ***... [18 months from entry into force of this amending Directive]*** at the latest. ▌ .

Notwithstanding the first subparagraph of this Article, Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with Article 1, points (6a) [Article 15e grids and storage], (6b) [Article 16], (6d) [Article 16b permit granting in outside go-to areas], (6e) [Article 16ba repowering], (6f) [Article 16c solar], (6h) [Article 16e overriding public interest] and (6g) [Article 16d heat pumps] by 1 July 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[25] is repealed with effect from [OJ: replace by calendar year during which the repeal takes effect].

25 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	*For the Council*
The President	*The President*

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:

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

	Additional top ups to Article 23(1)* (in percentage. points) for the period 2021-2025	***Additional top ups to Article 23(1) (in percentage. points) for the period 2026-2030****	**Resulting *shares including top ups without waste heat and cold (in percentage points)***
Belgium	***1,0***	***0,7***	***1,8***
Bulgaria	***0,7***	***0,4***	***1,5***
Czech Republic	***0,8***	***0,5***	***1,6***
Denmark	***1,2***	***1,1***	***1,6***
Germany	***1,0***	***0,7***	***1,8***
Estonia	***1,3***	***1,2***	***1,7***

* ***The flexibilities of Article 23(2), points (b) and (c) where taken into account when calculating the top ups and resulting shares.***

** ***The flexibilities of Article 23(2), points (b) and (c) where taken into account when calculating the top ups and resulting shares.';***

Ireland	***2,3***	***2,0***	***3,1***
Greece	***1,3***	***1,0***	***2,1***
Spain	***0,9***	***0,6***	***1,7***
France	***1,3***	***1,0***	***2,1***
Croatia	***0,8***	***0,5***	***1,6***
Italy	***1,1***	***0,8***	***1,9***
Cyprus	***0,8***	***0,5***	***1,6***
Latvia	***0,7***	***0,6***	***1,1***
Lithuania	***1,7***	***1,6***	***2,1***
Luxembourg	***2,3***	***2,0***	***3,1***
Hungary	***0,9***	***0,6***	***1,7***
Malta	***0,8***	***0,5***	***1,6***
Netherlands	***1,1***	***0,8***	***1,9***
Austria	***1,0***	***0,7***	***1,8***
Poland	***0,8***	***0,5***	***1,6***
Portugal	***0,7***	***0,4***	***1,5***
Romania	***0,8***	***0,5***	***1,6***
Slovenia	***0,8***	***0,5***	***1,6***
Slovakia	***0,8***	***0,5***	***1,6***
Finland	***0,6***	***0,5***	***1,0***
Sweden	***0,7***	***0,7***	***0,7***

(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)
FUELS FROM BIOMASS AND/OR BIOMASS PROCESSING OPERATIONS		
Bio-Propane	46	24
Pure vegetable oil (oil produced from oil plants through pressing, extraction or comparable procedures, crude or refined but chemically unmodified)	37	34
Biodiesel - fatty acid methyl ester (methyl-ester produced from oil of biomass origin)	37	33
Biodiesel - fatty acid ethyl ester (ethyl-ester produced from oil of biomass origin)	38	34
Biogas that can be purified to natural gas quality	50	—
Hydrotreated (thermochemically treated with hydrogen) oil of biomass origin, to be used for replacement of diesel	44	34
Hydrotreated (thermochemically treated with hydrogen) oil of biomass origin, to be used for replacement of petrol	45	30

Hydrotreated (thermochemically treated with hydrogen) oil of biomass origin, to be used for replacement of jet fuel	44	34
Hydrotreated oil (thermochemically treated with hydrogen) of biomass origin, to be used for replacement of liquefied petroleum gas	46	24
Co-processed oil (processed in a refinery simultaneously with fossil fuel) of biomass or pyrolysed biomass origin to be used for replacement of diesel	43	36
Co-processed oil (processed in a refinery simultaneously with fossil fuel) of biomass or pyrolysed biomass origin, to be used to replace petrol	44	32
Co-processed oil (processed in a refinery simultaneously with fossil fuel) of biomass or pyrolysed biomass origin, to be used to replace jet fuel	43	33
Co-processed oil (processed in a refinery simultaneously with fossil fuel) of biomass or pyrolysed biomass origin, to be used to replace liquefied petroleum gas	46	23
RENEWABLE FUELS THAT CAN BE PRODUCED FROM VARIOUS RENEWABLE SOURCES, INCLUDING BIOMASS		
Methanol from renewable sources	20	16

Ethanol from renewable sources	27	21
Propanol from renewable sources	31	25
Butanol from renewable sources	33	27
Fischer-Tropsch diesel (a synthetic hydrocarbon or mixture of synthetic hydrocarbons to be used for replacement of diesel)	44	34
Fischer-Tropsch petrol (a synthetic hydrocarbon or mixture of synthetic hydrocarbons produced from biomass, to be used for replacement of petrol)	44	33
Fischer-Tropsch jet fuel (a synthetic hydrocarbon or mixture of synthetic hydrocarbons produced from biomass, to be used for replacement of jet fuel)	44	33
Fischer-Tropsch liquefied petroleum gas (a synthetic hydrocarbon or mixture of synthetic hydrocarbons, to be used for replacement of liquefied petroleum gas	46	24
DME (dimethylether)	28	19
Hydrogen from renewable sources	120	—
ETBE (ethyl-tertio-butyl-ether produced on the basis of ethanol)	36 (of which ***33*** % from renewable sources)	27 (of which ***33*** % 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)

TAEE (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
Jet Fuel	***43***	***34***
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 ***ENERGY*** INSTALLATIONS’

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

‘The certification ***or equivalent qualification*** schemes and training programmes referred to in Article 18(3) shall be based on the following criteria:

1. The certification ***or equivalent qualification*** 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 ***acquire the necessary theoretical and practical knowledge and guarantee the existence of skills needed to*** put in place high quality installations that operate reliably.’;

(d) points 2 and 3 are replaced by the following:

‘2. Installers of ***systems using*** biomass, heat pump, shallow geothermal, solar photovoltaic and solar thermal energy***, including energy storage, and recharging points*** shall be certified by an accredited training programme or training provider ***or equivalent qualification schemes.***

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***, including upskilling and reskilling programmes*** offered by the training provider ***are inclusive and have*** 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.’;

(da) point 5 is replaced by the following:

'5. The training course shall end with an examination leading to a certificate or qualification. The examination shall include a practical assessment of successfully installing biomass boilers or stoves, heat pumps, shallow geothermal installations, solar photovoltaic or solar thermal installations, including energy storage, and of recharging points, enabling demand-response.';

(e) ▌point 6(c) ***is amended as follows:***

(i) the introductory wording is replaced by the following:

'The theoretical part of the heat pump installer training should give an overview of the market situation for heat pumps and cover geothermal resources and ground source temperatures of different regions, soil and rock identification for thermal conductivity, regulations on using geothermal resources, feasibility of using heat pumps in buildings and determining the most suitable heat pump system, and knowledge about their technical requirements, safety, air filtering, connection with the heat source and system layout, and integration with energy storage solutions, including in combination with solar installations. The training should also provide good knowledge of any European standards for heat pumps, and of relevant national and Union law. The installer should demonstrate the following key competences:';

(iii) point (iii) is replaced by the following:

'(iii) the ability to choose and size the components in typical installation situations, including determining the typical values of the heat load of different buildings and for hot water production based on energy consumption, determining the capacity of the heat pump on the heat load for hot water production, on the storage mass of the building and on interruptible current supply; determine energy storage solutions, including via the buffer tank component and its volume and integration of a second heating system';

(iv) 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.';

(ea) point 6(d) is amended as follows:

(i) the introductory wording is replaced by the following:

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

(ii) point (ii) is replaced by the following:

'(ii) the ability to identify systems and their components specific to active and passive systems, including the mechanical design, and to determine the components' location and system layout and configuration and options for the integration of energy storage solutions, including through combination with charging stations.';

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

(a) ***point 6 is*** replaced by the following:

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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 ***crops and 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*.

* ***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.***';

(b) point 15 is ***replaced by the following***:

'15. Emission savings from CO2 capture and replacement, eccr, shall be related directly to the production of biofuels or bioliquids they are attributed to, and shall be limited to emissions avoided through the capture of CO2 of which the carbon originates from biomass and which is used to replace fossil-derived CO2 in production of commercial products and services before 31 December 2035.'

(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, ***and*** 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 ***biofuels and bioliquids*** , all co-products that do not fall under the scope of point 7 shall be taken into account for the purposes of that calculation. ▌ Co-products that have a negative energy content shall be considered to have an energy content of zero for the purposes of the calculation. ***As general rule,*** 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. ▌ 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';

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

(a) ***point 6 is*** replaced by the following:

‘▌

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 ***crops and crops 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*.

(b) point 15 is ***replaced by the following***:

‘15. Emission savings from CO2 capture and replacement, eccr, shall be related directly to the production of biomass fuels they are attributed to, and shall be limited to emissions avoided through the capture of CO2 of which the carbon originates from biomass and which is used to replace fossil-derived CO2 in production of commercial products and services before 31 December 2035.’;

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* ***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.***’;

(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}, ***and*** 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 ***17*** shall be taken into account for the purposes of that calculation. Co-products that have a negative energy content shall be considered to have an energy content of zero for the purposes of the calculation.

As a general rule, 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.

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.