

**EPPSA position paper on the Renewable Energy Directive**  
The promotion of the use of energy from renewable sources (recast)  
2016/0382(COD)  
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In view of the second trilogue meeting on 27 March, EPPSA calls on the co-legislators to grasp the potential of bioenergy and advanced synthetic fuels for the decarbonisation of the European economy.

**Thermal power generation contributes to electricity, heating and cooling production as well as the possibility to meet transport needs across the EU.** Thermal power allows optimised, dispatchable energy production that is both flexible and CO<sub>2</sub> neutral. This can be met with e.g. biomass, Concentrated Solar Power (CSP) and advanced synthetic fuels. The need for these energy resources is growing due to the increase of variable energy resources.

**Sustainable biomass energy for the generation of electricity and/or heat uses mature technologies and is able to reduce Europe's greenhouse gas emissions (GHG) in a cost-effective and direct manner.** Since sustainable biomass is a renewable energy resource with neutral CO<sub>2</sub> emissions regardless of the way it generates electricity and/or heat, it should not be treated differently when it is co-fired. Dispatchable generation capacity, which is required for grid stability, must reduce its carbon footprint. Co-firing biomass allows for direct CO<sub>2</sub> abatement with minimal investments. Excluding the use of co-firing towards target-counting would effectively hinder ambitions of the power sector to reduce the use of solid fossil fuels.

**Advanced synthetic fuels are a cross-sectoral solution as they can be used in both energy and transport applications.** Pathways to produce these advanced synthetic fuels are under development at a high pace. Technology innovation should not be halted by restricting legislation through the imposition of unjustified thresholds on GHG emission savings on these novel fuels or the elimination of certain CO<sub>2</sub> sources. Instead, legislation should allow, on the one hand, for the development of a scientific methodology for the calculation of their GHG savings and, on the other hand, for the most efficient and economically viable reduction of CO<sub>2</sub> emissions at point sources at high concentrations. By setting technically challenging requirements of GHG savings on advanced synthetic fuels without first establishing the methodology, market actors cannot evaluate whether an investment in this technology is worthwhile.

As such, EPPSA advocates a level playing field in which technologies are rated on their ability to have both a direct and future effect on CO<sub>2</sub> abatement, while holding cost-effectiveness in a high regard.

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*The European Power Plant Suppliers Association (EPPSA) is the voice, at European level, of companies supplying power plants, components and services. EPPSA members, located throughout Europe, represent a leading sector of technology with more than 100,000 employees.*

*EPPSA actively promotes awareness of the importance of flexible and efficient, state-of-the-art thermal power generation and its crucial contribution to ensuring a clean, secure, and affordable energy supply.*

*EPPSA believes increased investment in Research, Development and Demonstration is a key factor in driving EU competitiveness as well as ensuring an affordable low emission power supply.*

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**Disclaimer:** These recommendations were elaborated by EPPSA and reflect the consolidated views and expertise of its members. They do not necessarily represent the exact views of any specific member company.

## Greenhouse gas savings potential of novel fuels

Commission proposal	EP position	Council position
<p><b>Article 2</b>  <b>Definitions - Renewable liquid and gaseous transport fuels from non-biological origin</b></p>		
<p>(s) ‘renewable liquid and gaseous transport fuels of non-biological origin’ means liquid or gaseous fuels other than biofuels whose energy content comes from renewable energy sources other than biomass, <b>and which are used in transport</b></p>	<p>(s) ‘renewable liquid and gaseous transport fuels of non-biological origin’ means liquid or gaseous fuels <b>which are used in transport</b> other than biofuels whose energy content comes from renewable energy sources other than biomass, <b>where any carbon feedstock is captured from the ambient air ;</b></p>	<p>(s) ‘renewable liquid and gaseous transport fuels of non-biological origin’ means liquid or gaseous fuels other than biofuels whose energy content comes from renewable energy sources other than biomass, and which are used in transport;</p>
<p style="text-align: center;"><b><u>EPPSA supports the Commission’s proposal and the Council’s position.</u></b></p> <p><b>Justification:</b> EPPSA agrees that renewable liquid and gaseous transport fuels of non-biological origin, also known as Power-to-X fuels, can enable a different pathway for the decarbonisation of those transport segments which are considered difficult to “electrify” (e.g. heavy goods vehicles, marine and aviation) as has been recognised in a recent <a href="#">study on the decarbonisation of EU transport</a> commissioned by the TRAN Committee of the European Parliament (Research for TRAN Committee – Decarbonisation of EU Transport)<sup>1</sup>.</p> <p>As recently noted by the ART Fuels Forum “To avoid unnecessary carbon emissions and to maximise energy savings, <b>any obligation regarding air-CO<sub>2</sub> capture must be avoided as long we have sufficient point sources of CO<sub>2</sub> at high concentrations.</b> (...) In Europe alone there are 9.000 point sources of CO<sub>2</sub> at high concentrations, emitting more than 1.5 billion tons of CO<sub>2</sub> per annum. This amount of CO<sub>2</sub> equals more than 500 million tons of oil equivalent in terms of Power-to-X fuels.”<sup>2</sup></p> <p>As also stated in the <a href="#">European Academies Science Advisory Council (EASAC)’s recent report</a> on negative emissions technologies, capturing this CO<sub>2</sub> at the source requires significantly lower amounts of energy than having to capture it from ambient air<sup>3</sup>. From an energy efficiency perspective, it makes a lot more sense to capture the CO<sub>2</sub> at point sources first, before we need to capture it from the air (at CO<sub>2</sub> concentrations of approx. 0,04%). It also is a fact that the energy demand for CO<sub>2</sub> capture from point sources is 75% less than the energy needed to capture CO<sub>2</sub> from the air. To maximise energy savings, any air-CO<sub>2</sub> capture obligation should be avoided as long we have sufficient point sources of CO<sub>2</sub> at high concentrations. Allowing the use of these point sources of CO<sub>2</sub> increases the chance</p>		

<sup>1</sup> [http://www.europarl.europa.eu/RegData/etudes/STUD/2017/601989/IPOL\\_STU\(2017\)601989\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2017/601989/IPOL_STU(2017)601989_EN.pdf)

<sup>2</sup> [http://artfuelsforum.eu/wp-content/uploads/2017/12/ART\\_Fuels\\_Forum\\_Position\\_Paper\\_PtX\\_Dec\\_2017.pdf](http://artfuelsforum.eu/wp-content/uploads/2017/12/ART_Fuels_Forum_Position_Paper_PtX_Dec_2017.pdf)

<sup>3</sup> [https://easac.eu/fileadmin/PDF\\_s/reports\\_statements/Negative\\_Carbon/EASAC\\_Report\\_on\\_Negative\\_Emission\\_Technologies.pdf](https://easac.eu/fileadmin/PDF_s/reports_statements/Negative_Carbon/EASAC_Report_on_Negative_Emission_Technologies.pdf)

that energy intensive industries will consider the use of Power-to-X technologies as part of their strategy to reduce emissions.

**Article 2**  
**Definitions - Recycled carbon fuels**

(ff) 'waste-based fossil fuels' means liquid and gaseous fuels produced from waste streams of non-renewable origin, including waste processing gases and exhaust gases

(new) 'recycled carbon fuels' means liquid and gaseous fuels produced from unavoidable waste streams of non-renewable origin, including waste processing gases and exhaust gases, with substantial greenhouse gas savings over their entire life cycle; if produced from solid waste streams, only waste that is not reusable and not mechanically recyclable shall be used, with full respect of the waste hierarchy established in Directive 2008/98/EC; if produced from gaseous process emissions, these must be emitted as an unavoidable and not intentional consequence of the manufacturing process; the proportion of gaseous waste used for the production of these recycled carbon fuels cannot be credited under other emissions reduction schemes, such as the EU Emission Trading System;

2. (ff) 'recycled carbon fuels'<sup>20</sup> means liquid and gaseous fuels that are produced from waste processing gases and exhaust gases of non-renewable origin from industrial installations;

<sup>20</sup> Note: for these 'recycled carbon fuels', the methodology for the calculation of their greenhouse gas savings is to be determined via a delegated act under Article 25(6) and the GHG emissions savings level is set at 70% in Article 25.

**EPPSA generally supports the Council's position.**

EPPSA generally supports the Council's position, however, it believes that it is premature to set such a GHG emission saving target before first setting up an agreed methodology for calculating the emissions savings level, as proposed in Article 25(6). Setting an absolute threshold without the determination of this methodology could significantly restrict the deployment of e.g. Carbon Capture and Utilisation technologies, and / or synthetic low carbon fuels (synthetic ammonia, hydrogen, methanol, methane, ethanol derived by

different thermo-chemical and bio-chemical pathways), as well as prevent additional optimisation of existing industrial assets without a robust scientific evidence. It should be noted that within the recently finalised EU ETS reform, the Commission clearly recognised that *“Such technologies are currently insufficiently mature for a decision on their future regulatory treatment”*<sup>4</sup>.

The co-legislators should also acknowledge that work in this field has already been performed by the European Commission services (DG Climate Action, DG JRC) under the framework of the Fuel Quality Directive. This work also provides evidence that process improvements and resulting fuels show a different total GHG savings all around Europe according to local boundary conditions, e.g. grid carbon footprint. As such, a specific target should be avoided in order to keep a regional level playing field.

#### **EPPSA’s proposal**

2. (ff) **'recycled carbon fuels'<sup>20</sup> means liquid and gaseous fuels that are produced from waste processing gases and exhaust gases of non-renewable origin from industrial installations;**

<sup>20</sup> Note: for these 'recycled carbon fuels', the methodology for the calculation of their greenhouse gas savings is to be determined via a delegated act under Article 25(6).

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<sup>4</sup> <http://www.europarl.europa.eu/sides/getDoc.do?type=AMD&format=PDF&reference=A8-0003/2017&secondRef=167-167&language=EN>

<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+TA+P8-TA-2018-0024+0+DOC+PDF+V0//EN>

## Article 25

### Recycled carbon fuels & Renewable liquid and gaseous transport fuels from non-biological origin

#### Mainstreaming renewable energy in the transport sector

1. With effect from 1 January 2021, Member States shall require fuel suppliers to include a minimum share of energy from advanced biofuels and other biofuels and biogas produced from feedstock listed in Annex IX, from renewable liquid and gaseous transport fuels of non-biological origin, from **waste-based fossil** fuels and from renewable electricity in the total amount of transport fuels they supply for consumption or use on the market in the course of a calendar year.

1. ***In order to achieve the target of 12 % of final energy consumption from renewable sources referred to in Article 3*** Member States shall require, with effect from 1 January 2021, fuel suppliers to include a minimum share of energy from advanced biofuels and other biofuels and biogas produced from feedstock listed in Annex IX, from renewable liquid and gaseous transport fuels of non-biological origin, from **recycled carbon** fuels and from renewable electricity in the total amount of transport fuels they supply for consumption or use on the market in the course of a calendar year

...1. [ ] In order to mainstream renewable energy use in the transport sector, each Member State shall [ ] set an obligation on fuel suppliers to ensure the share of renewable energy supplied for final consumption in the transport sector is at least 14% by 2030, following an indicative trajectory set by the Member State and calculated in accordance to the methodology set out in this article. Member States may decide to include in such a minimum share also the contribution from recycled carbon fuels.

...  
**When setting the obligation under the first and second sub-paragraphs to ensure the achievement of the share set out therein, Member States may do so, inter alia, by renewable energy obligations or other measures targeting volumes, energy content or greenhouse gas emission savings provided that it is demonstrated that the shares set out in the first and second sub-paragraph are achieved.**

...  
**The greenhouse gas emission savings from the use of renewable liquid and gaseous transport fuels of**

		<p><b>non-biological origin and recycled carbon fuels shall be at least 70% as of 1 January 2021.</b></p> <p>6. The Commission is empowered to adopt [ ] <b>implementing</b> acts in accordance with Article 31 [ ] to [ ] specify the methodology [ ] to determine the share of biofuel resulting from biomass being processed with fossil fuels in a common process, <b>and</b> to specify the methodology for assessing greenhouse gas emission savings from renewable liquid and gaseous transport fuels of non-biological origin [ ] <b>and recycled carbon fuels. The Commission shall adopt such methodologies no later than December 2021.</b></p>
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**EPPSA generally supports the Council’s position**

EPPSA supports the Council proposal regarding the obligation on fuel suppliers to ensure a share of renewable energy supplied for final consumption in the transport sector of at least 14% by 2030 since it provides certainty to economic operators and investors.

However, as already stated above, EPPSA believes it is premature to set a GHG emission saving targets of 70% for renewable liquid and gaseous transport fuels of non-biological origin and recycled carbon fuels before first setting up an agreed methodology for calculating the emissions savings level, as proposed in Article 25(6). Setting an absolute threshold without the determination of this methodology could significantly restrict the deployment of synthetic low carbon fuels (synthetic ammonia, hydrogen, methanol, methane, ethanol derived by different thermo-chemical and bio-chemical pathways) as well as prevent additional optimisation of existing industrial assets without robust scientific evidence.

The co-legislators should also acknowledge that work in this field has already been performed by the European Commission services (DG Climate Action, DG JRC) under the framework of the Fuel Quality Directive. This work also provides evidence that process improvements and resulting fuels show a different total GHG savings all around Europe according to local boundary conditions, e.g. grid carbon footprint. As such, a specific target should be avoided in order to keep a regional level playing field.

Sustainable biomass – an important asset to decarbonise energy production

<p><u>Article 26</u></p> <p><u>Greenhouse gas emissions saving criteria for biofuels, and bioliquids and biomass fuels – electricity, heating and cooling production</u></p>		
<p>7. The GHG emission saving from the use of biofuels, bioliquids and biomass fuels taken into account for purposes [of target-counting and financial support] shall be:</p> <p>...</p> <p>(d) at least <b>80%</b> for electricity, heating and cooling production from biomass fuels used in installations starting operation after 1 January 2021, and <b>85%</b> for installations starting operation after 1 January 2026.</p>	<p>7. The GHG emission saving from the use of biofuels, bioliquids and biomass fuels taken into account for purposes [of target-counting and financial support] shall be:</p> <p>...</p> <p>(d) at least <b>70%</b> for electricity, heating and cooling production from biomass fuels used in installations starting operation after 1 January 2021, and <b>80%</b> for installations starting operation after 1 January 2026.</p>	<p>7. The GHG emission saving from the use of biofuels, bioliquids and biomass fuels taken into account for purposes [of target-counting and financial support] shall be:</p> <p>... (d) at least <b>70%</b> for electricity, heating and cooling production from biomass fuels used in installations starting operation after 1 January 2021, and <b>75%</b> for installations starting operation after 1 January 2026.</p>
<p><u>EPPSA generally supports the Council’s position</u></p> <p>EPPSA supports the Council’s position of at least <b>70%</b> GHG reduction requirement for electricity, heating and cooling production from biomass fuels used in installations starting operation after 1 January 2021, and <b>75%</b> for installations starting operation after 1 January 2026.</p> <p><b>Justification:</b> Electricity, heating and cooling production from biomass fuels naturally vary depending on the heat and electricity demand and on how these installations have been designed to operate in several modes (cogeneration and condensing power production) – not just in baseload production. Installations using biomass fuels should be able to accommodate flexibly to demand response and balance the increasing intermittent production in the energy system.</p> <p>Various operating modes of the biomass fuelled installations affect the annual GHG savings achieved. Setting a high GHG reduction requirement would mean that only baseload installations would be built and run with optimal parameters, thus removing a renewable dispatchable and flexible source from tomorrow’s energy system. Instead, it is likely that</p>		

balancing of the system will either be managed with hydropower or with the use of fossil fuels.

Optimisation of the energy production process and flexible response to the industrial heat load and electricity demand are key requirements for biomass fuel fired installations. A feasible yearly average of GHG emission saving for new installations is 70 % compared to the fossil alternative and based on typical transportation distances of biomass in the EU.

It should also be noted that if the GHG reduction requirement is different for biofuels and biomass fuels, this could direct biomass to the use with a lower GHG reduction requirement. This would distort the market.

All fuels should be treated equally.

**Article 26**

**Sustainability criteria for biofuels, bioliquids and biomass fuels – Efficiency criteria for bioelectricity, including aspects relating to the scope of what is considered sustainable**

8. Electricity from biomass fuels produced in installations with a fuel capacity equal to or exceeding **20** MW shall be **taken into account [towards target counting or to receive financial support] if it is produced applying high efficient cogeneration technology.** For the purposes of points (a) and (b) of paragraph 1, this provision shall only apply to installations starting operation after [3 years from date of adoption of this Directive]. For the purposes of point (c) of paragraph 1, this provision is without prejudice to public support provided under schemes approved by [3 years after date of adoption of this Directive].

The first sub-paragraph shall not apply to electricity from installations which are the object of a specific notification by a Member

8. Electricity from biomass fuels produced in installations with a fuel capacity equal to or exceeding 20 MW shall be taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 **of this Article** only if it is produced applying high efficient cogeneration technology as defined under Article 2(34) of Directive 2012/27/EU **or produced in electricity-only installations which achieve a net-electrical efficiency of at least 40% and do not use fossil fuels.** For the purposes of points (a) and (b) of paragraph 1 **of this Article**, this provision shall only apply to installations starting operation after [3 years from date of adoption of this Directive]. For the purposes of point (c) of paragraph 1 **of this Article**, this provision is without prejudice to public support provided under schemes approved by [1

8. Electricity from **cofiring** biomass fuels produced in installations with a [ ] **total rated thermal input** equal to or exceeding **75 [ ]** MW shall be taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 [i.e. towards target counting or to receive financial support] only if it is produced applying high efficient cogeneration technology.., **Biomass Carbon Capture and Storage or other efforts to develop negative emissions delivering substantial greenhouse gas emission savings.** For the purposes of points (a) and (b) of paragraph 1, this provision shall only apply to installations starting operation after [3 years from date of adoption of this Directive]. For the purposes of point (c) of paragraph 1, this provision is without prejudice to public support provided under schemes approved by [3 year after

<p>State to the Commission based on the duly substantiated existence of risks for the security of supply of electricity. Upon assessment of the notification, the Commission shall adopt a decision taking into account the elements included therein</p>	<p><b>year</b> after date of adoption of this Directive].</p> <p><b>The first subparagraph shall not apply to electricity from installations that are not required to apply high-efficient cogeneration technology pursuant to Article 14 of Directive 2012/27/EU..<sup>1a</sup>, provided that those installations exclusively employ biomass fuels produced from residues under normal operating conditions.</b></p> <p><i><sup>1a</sup> Directive 2012/27/EU on energy efficiency</i></p>	<p>date of adoption of this Directive].</p> <p><b>The first sub-paragraph shall not apply to electricity from installations which are the object of a specific notification by a Member State to the Commission based on the duly substantiated existence of risks for the security of supply of electricity. Upon assessment of the notification, the Commission shall adopt a decision taking into account the elements included therein.</b></p>
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**EPPSA generally supports the Council's position**

EPPSA believes that the legislation should remain fuel neutral and treat all technical solutions equally. Therefore, the article should also include electricity-only installations which achieve a net-electrical efficiency of at least 40%. This solution should not be excluded from the scope of the directive, especially since in terms of exergy efficiency (measure used to compare efficiencies of heat and electricity production against each other) this meets with the efficiency requirement set for high efficiency CHP in Article 2(34) of Directive 2012/27/EU. Further, as to the question of excluding installations also using fossil fuels, it should be noted that in the case of transport fuels, blending quotas seem to have wide political support (e.g. Art. 25.1).

The requirement of excluding plants in which also fossil fuels are used is suboptimal because:

- Energy producers need flexibility to minimise risks and costs. Therefore, they often prefer boilers that can use several fuels. This allows for a smaller investment combined with fuel flexibility. Regions which co-fire have effectively replaced coal and increased the use of renewables.
- Multifuel Boilers can use biomass from 0 to 100 %, and the possibility of a mix of fuels offers the producers security and stability. Multifuel designs also enable the use of other residues in fuel mix supporting efficient use of resources and the circular economy. When the ETS begins to function as intended, this will automatically lead to favouring the use of biomass in co-firing installations.
- In the case of conversions, co-firing solutions enable partial replacement of fossil fuels without requiring coal plant owners to abandon their fleet at too early stage of its lifecycle. The efficiencies of the plants remain the same and emissions in general do not increase, but rather decrease (e.g. NOx).
- Allowing must-run solid fuel plants to reduce the environmental impact by co-firing biomass must not be prohibited by legislation
- Fossil fuels are also needed as a backup during technical problems, and for start-ups.

- Considering the price levels of fuels today, not allowing co-firing would support the use of fossil fuels instead of biomass.

**EPPSA's proposal**

8. Electricity from **firing or cofiring** biomass fuels **with a thermal input equal to or exceeding 50 MW** shall be taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 of this Article only if it is produced applying high efficient cogeneration technology as defined under Article 2(34) of Directive 2012/27/EU, **or produced in electricity-only installations which achieve a net-electrical efficiency of at least 40%, or applying Biomass Carbon Capture and Storage or other efforts to develop negative emissions delivering substantial GHG emissions savings**

For the purposes of points (a) and (b) of paragraph 1, this provision shall only apply to installations starting operation after [3 years from date of adoption of this Directive]. For the purposes of point (c) of paragraph 1, this provision is without prejudice to public support provided under schemes approved by [3 years after date of adoption of this Directive].

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