

EUROMOT POSITION

ELECTRICITY GENERATION ASPECTS IN THE RENEWABLE ENERGY DIRECTIVE REVISION

10 December 2021

Background

EUROMOT (the European Association of Internal Combustion Engine Manufacturers) very much supports the EU ambition for a rapid reduction of greenhouse gas emissions and of the unabated use of fossil fuels, and for a progressive increase in the market penetration of low-carbon and zero-carbon fuels, as embodied in the EU “Fit for 55” decarbonization package adopted on 14th July 2021.

Concerning more specifically the electricity generation sector, EUROMOT has been actively involved in the revision process of the Renewable Energy Directive (RED): a summary of the points raised by the association over the last months can be found [here](#).

After the adoption of the [EU Commission’s revision proposal](#), EUROMOT would like to reiterate two major points (closely interlinked with each other) that should be reflected in this legislative text:

- 1. Importance of recognizing the renewable-enabling and grid-balancing function of modern flexible gas-fired power plants.**
- 2. Importance of using all available low-carbon fuels to decarbonize the power generation sector.**

Paragraphs 2 and 3 of this paper focus on each of the two abovementioned points respectively, and illustrate how they are taken into account in the Commission’s proposal. Finally, in paragraph 4, EUROMOT proposes some amendments to the Commission’s proposal, in keeping with comments included in paragraphs 2 and 3.

1. The Importance of recognizing the renewable-enabling and grid-balancing function of modern flexible gas-fired power plants

This aspect has been at the centre of EUROMOT’s advocacy actions over the last months. Internal Combustion Engines (ICEs) are an essential part of the solution to enable the decarbonization of the EU economy and will continue to play an important role in the years and decades to come. The key to explain this lies in one concept: **flexibility**. ICEs have fully demonstrated over time a high degree of **adaptability both to different fuels and technological changes**, and are already capable (or will be capable after some form of upgrade) of operating on a wide range of bio-, hydrogen and synthetic fuels, such as hydrogen-derived liquid/gaseous fuels.

However, ICEs’ flexibility does not only mean fuel adaptability, but also **operational flexibility**, which, in turns, allows ICEs to **unleash their renewable-enabling and grid-balancing potential**. As indicated in [this July 2021 EUROMOT paper](#) (paragraph 2), with a substantial fraction of electricity coming from intermittent power sources such as solar panels and wind turbines, it is of crucial importance that the power grid stays stable with a maximum reliability. Batteries alone cannot fulfil the function of enabling by-nature fluctuating renewable power sources. On the other hand, gas-fired internal combustion (reciprocating) engine plants make possible, thanks to their ability for rapid start-up, response to varying demand, and fast shut down, as well as to their multifuel capability, the **balancing of the electricity grid in support of intermittent renewable electricity (solar, wind)**.

How is such a flexibility aspect reflected in the Commission’s RED proposal?

Negative point (to be amended: see paragraph 4.1 of this paper): The RED proposal essentially sees the grid-balancing function in terms of energy storage and demand-side flexibility. **Supply-side flexibility solutions**, such as modern peak load gas-fired power plants, should also be encouraged to design a new EU electricity market fit for the EU ambitious decarbonization objectives.

2. The Importance of using all available low-carbon fuels to decarbonize the power generation sector

EUROMOT believes that the principle of technological neutrality should be respected as much as possible: while recognizing the importance of encouraging some fuels in particular (renewable fuels), and, on the other hand, of gradually phasing out the most carbon-intensive fuels, in EUROMOT’s opinions all solutions contributing to the decarbonization of the power generation sector should have a place in the future energy mix.

How is this principle reflected in the RED proposal?

Positive point: In the current RED, Renewable Fuels of Non-Biological Origin (RFNBOs) are only counted towards the objective of renewable energy integration in the transport sector. The updated definition of RFNBOs excludes any sectoral specifications: **RFNBOs can now be counted towards the overall objective of renewable energy integration in the EU energy mix (40%)**, regardless of the sector they are used for, **including electricity generation. This has been a key policy request of EUROMOT during the whole revision process:** such a measure, by encouraging the use of renewable e-fuels in power generation, represents an efficient way to avoid curtailment of intermittent renewable electricity production.

Negative point (to be amended: see paragraph 4.2 of this paper): Exclusion of Recycled Carbon Fuels (RCFs) from the renewable energy objective in the RED. RCFs are defined in the current RED (such a definition not having been amended in the RED revision proposal) as follows: “*recycled carbon fuels’ means liquid and gaseous fuels that are produced from liquid or solid waste streams of non-renewable origin which are not suitable for material recovery in accordance with Article 4 of Directive 2008/98/EC, or from waste processing gas and exhaust gas of non-renewable origin which are produced as an unavoidable and unintentional consequence of the production process in industrial installations*”. Although RCFs are explicitly of non-renewable origin, **the RED revision proposal does partly recognize their decarbonization potential compared to fossil fuels: however, they can only be taken into account towards the transport-specific objectives of the RED.** EUROMOT believes that such a sectoral differentiation is not justified: most importantly, as we illustrated in [this December 2018 paper](#) (paragraph 2.3.2), RCFs (e.g. pyrolysis oils produced from non-hazardous waste such as used tyres) are also a viable alternative to decarbonize the electricity generation sector. Therefore, **Member States should be able to take into account RCFs to comply with the general 40% RED objective**, and not only with the transport-related obligations.

3. EUROMOT proposals for amendments

Based on the above paragraphs and arguments, EUROMOT proposes the following amendments to the Commission’s RED revision proposal.

3.1. Amendments on the grid-stabilizing and flexibility functions of modern power plants

<u>Text proposed by the EU Commission</u>	EUROMOT proposal for amendment
<p>Recital 5</p> <p>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.</p>	<p>Recital 5</p> <p>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 and electricity generation. 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</p>

<u>Text proposed by the EU Commission</u>	EUROMOT proposal for amendment
<p>For this, Member States should establish a framework that includes market-compatible mechanisms to tackle remaining barriers to have secure and adequate electricity systems fit for a high level of renewable energy, as well as storage facilities, fully integrated into the electricity system. In particular, this framework shall tackle remaining barriers, including non-financial ones such as insufficient digital and human resources of authorities to process a growing number of permitting applications.</p>	<p>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, and grid-balancing power plants and cogeneration plants, participating in grid-balancing in support of intermittent renewable electricity. In particular, this framework shall tackle remaining barriers, including non-financial ones such as insufficient digital and human resources of authorities to process a growing number of permitting applications.</p>
<p>New Recital 15b (after recital 15 focusing on the grid-stabilizing function of electric vehicles)</p>	<p>New Recital 15b (after recital 15 focusing on the grid-stabilizing function of electric vehicles)</p> <p><i>Similarly, the potential of grid-balancing power plants and cogeneration plants, participating in grid-balancing in support of intermittent renewable electricity and thus allowing the expansion of such renewable electricity, has to be fully utilised.</i></p>
<p>New paragraph 4 in art. 20 (Art. 20 is about “Access to and operation of the grids”. This new paragraph would come after paragraph 3, which is about Member States promoting efficient heating & cooling from renewable energy sources, in order to achieve the EU Renewable Energy target of 40%)</p>	<p>New paragraph 4 in art. 20 (Art. 20 is about “Access to and operation of the grids”. This new paragraph would come after paragraph 3, which is about Member States promoting efficient heating & cooling from renewable energy sources, in order to achieve the EU Renewable Energy target of 40%)</p> <p><i>Similarly, Member States shall, where relevant, take the necessary actions to integrate intermittent renewable electricity in the grid while ensuring grid stability and security of supply. Such actions can relate to the development of solutions such as storage facilities and grid-balancing power plants and cogeneration plants,</i></p>

<u>Text proposed by the EU Commission</u>	EUROMOT proposal for amendment
	<i>participating in grid-balancing in support of intermittent renewable electricity.</i>

Justification for abovementioned amendments

With a substantial fraction of electricity coming from solar panels and wind turbines, it is of crucial importance that the power grid stays stable with a maximum reliability. Batteries alone cannot fulfil the function of enabling by-nature fluctuating renewable power sources (having a storage capacity of only “hours”: see <https://www.eesi.org/papers/view/energy-storage-2019#2>). On the other hand, gas-fired grid-balancing internal combustion (reciprocating) engine plants make possible, thanks to their ability for rapid start-up, response to varying demand, and fast shut down, as well as to their multifuel capability, the **balancing of the electricity grid in support of intermittent renewable electricity (solar, wind)**..

3.2. Amendments on RCFs in the power generation sector

Text proposed by the EU Commission	EUROMOT proposal for amendment
<p>Art. 3.1</p> <p>Member States shall collectively ensure that the share of energy from renewable sources in the Union’s gross final consumption of energy in 2030 is at least 40%</p>	<p>Art. 3.1</p> <p>Member States shall collectively ensure that the share of energy from renewable sources and from recycled carbon fuels in the Union’s gross final consumption of energy in 2030 is at least 40%</p>
<p>Art. 29a.2</p> <p>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%</p>	<p>Art. 29a.2</p> <p>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), and towards Member States’ shares of renewable energy and recycled carbon fuels referred to in Articles 3(1), only if the greenhouse gas emissions savings from the use of those fuels are at least 70%</p>

Justification for abovementioned amendments

The sectoral differentiation, allowing Member States to take into account Recycled Carbon Fuels (RCFs) only towards the transport-related objective is not justified, as RCFs can also be a viable decarbonizing solution for other sector (e.g. for the electricity generation sector). Moreover, see also footnote 165 at page 130 (Impact Assessment) of the [proposed revised RED](#): “According to the [Energy System Integration Strategy](#), low carbon fuels comprise also recycled carbon fuels and these fuels have a role to play in the transition phase of the decarbonisation of the energy sector”.

The EUROMOT Secretariat and the experts in its member companies remain available for any additional clarification that you might need.

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EUROMOT is the European Association of Internal Combustion Engine Manufacturers. It is committed to promoting the central role of the IC engine in modern society, reflects the importance of advanced technologies to sustain economic growth without endangering the global environment and communicates the assets of IC engine power to regulators worldwide. For more than 25 years we have been supporting our members - the leading manufacturers of internal combustion engines in Europe, USA and Japan - by providing expertise and up-to-date information and by campaigning on their behalf for internationally aligned legislation. Taken together, the EUROMOT member companies employ about 200,000 highly skilled and motivated workers. The European market turnover for the business represented exceeds 25 bn euros.

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