EUROMOT

The European Association of Internal Combustion Engine Manufacturers

EUROMOT POSITION

DRAFT DELEGATED REGULATION ON TAXONOMY – TECHNICAL SCREENING CRITERIA FOR CLIMATE CHANGE MITIGATION AND ADAPTATION

17 December 2020

1. GENERAL INTRODUCTION

EUROMOT welcomes the Commission's initiative to consult stakeholders on the Draft Taxonomy Delegated Regulation establishing technical screening criteria for activities contributing to climate change mitigation and adaptation (and determining whether said economic activities cause no significant harm to any of the other environmental objectives of the EU Taxonomy Regulation). Such a classification system is needed in order to guide all market actors on what economic activities are sustainable and in line with the EU 2050 climate goal. At the same time, it is important to find a right balance between the objectives of environmental protection and of safeguarding the competitiveness of the EU economy. The regulatory framework should not only encourage the development of new green activities, but also the use of already fully viable technologies enabling a fast cost-effective decarbonization coupled with access to a secure, affordable and sustainable energy system.

In the sections below we illustrate the concerns we observe on each of the economic activities of the Taxonomy relevant for EUROMOT, to a large extent **reflecting and reiterating the arguments we expressed when responding to the public consultation on the Draft TEG report in September 2019**. They concern the **power generation sector** (section 2, page 2), the **inland water transport sector** (section 3, page 9), the **sea and coastal water transport sector** (section 4, page 12) and the **rail transport sector** (section 5, page 14).

As a general point, we would like to stress our concerns on the concept of "transitional activities".

EUROMOT aisbl · **Rue Joseph Stevens 7** · **1000 Brussels** · **Belgium**
A European Interest Representative · TVA BE 0599.830.578 · RPM Brussels
EU Transparency Register Id. No. 6284937371-73
A Non-Governmental Organisation in observer status with the UN Economic Commission for Europe (UNECE) and the UN International Maritime Organisation (IMO)

PRESIDENT
Georg Diderich

GENERAL MANAGER
Dr Peter Scherm

All economic activities relevant for EUROMOT are indeed included in Annex I as "transitional". This concept is defined in the General Taxonomy Regulation, art. 10(2):

> "*For the purposes of paragraph 1, an economic activity* ***for which there is no technologically and economically feasible low-carbon alternative*** *shall qualify as contributing substantially to climate change mitigation where it* ***supports the transition to a climate-neutral economy*** *[…], including by phasing out greenhouse gas emissions, in particular emissions from solid fossil fuels, and where that activity: (a)* ***has greenhouse gas emission levels that correspond to the best performance in the sector or industry****; (b) does not hamper the development and deployment of low-carbon alternatives; and (c) does not lead to a lock-in of carbon-intensive assets, considering the economic lifetime of those assets.*
>
> *For the purpose of this paragraph and the establishment of technical screening criteria pursuant to Article 19, the Commission* ***shall assess the potential contribution and feasibility of all relevant existing technologies***"*.*

The **technical screening criteria proposed in Annex I are not in keeping** (and in some cases are even in contradiction) **with art. 10(2) of the Taxonomy Regulation**. In the paragraphs below we provide our explanation of such a statement, specific to the different economic activities relevant for our sector.

2. STATIONARY ENGINES (POWER GENERATION SECTOR)

EUROMOT expressed the concerns of the engine power generation sector on several occasions: not only when commenting on the TEG Draft report and Final report, but also when commenting on the Commission's Inception Impact Assessment on the Taxonomy Delegated Act, as well as on a number of regulatory initiatives related to EU decarbonization objectives (such as on the EU Energy System Integration strategy). Unfortunately, we observe that many of the shortcomings we have identified in the past still persist in this Draft Delegated Regulation.

Overall, two main points were highlighted in all past EUROMOT submissions:

- Power generation economic activities should be defined as "sustainable" based on the **equivalent CO_2 production of the whole integrated power system**, rather than on the performance of individual plants: the latter approach does not "capture" Internal Combustion Engines' contribution to the expansion of renewables in the electricity grid and therefore to enable a fast and cost-efficient decarbonization of the whole electricity sector[1].

- The TEG report is based on **assumptions on technologies that are not yet mature**, and will probably require support for years to come: in particular, **CCS** (Carbon Capture and Storage) **and renewable hydrogen production** still need to be developed & tested at a large scale, before the proposed "climate change mitigation" thresholds (both in Annex I and in Annex II) can be realistically fulfilled by any fossil fuel-fired prime mover power plant.

[1] Our 2019 position paper even shows that the proposed climate change mitigation thresholds (100 g CO_{2e}/kWhe for mitigation activities as such, and 262 g CO_{2e}/kWhe LCA as a DNSH criterion for adaptation activities) were very likely based on average grid CO_2 intensities in Europe, and **not on individual plant performance values.**

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These two statements were also supported:

- By the recently published Hydrogen and Energy System Integration strategies:
  - The Hydrogen strategy underlines that *renewable hydrogen is expected to gradually become cost-competitive with other forms of hydrogen production* only around 2030. Therefore, renewable hydrogen is only expected to start playing a role in balancing renewable-based electricity systems around 2030 and afterwards.
  - The Energy Sector Integration strategy states that *the uptake of CO2 capture and usage in Europe is slow, with investment and operational costs still high*.

- By some analyses recently published in the press. As an example, see this article published in the *Financial Times*: *From clean **hydrogen to carbon capture and storage** there is a rising cacophony around the potential of "silver bullet" solutions to climate change. But there is a hitch: both of these technologies **remain too expensive and neither has yet been successfully deployed at scale.** Experts say a focus on futuristic solutions distracts from the ability of the energy sector to significantly decarbonise power production by using readily available technology and ramping up the deployment of renewables. Hydrogen and carbon capture might come in seven or eight years, rather than immediately. Business case need to be built which will need some public funding.*

In paragraphs below we discuss the proposed climate change mitigation thresholds (both in Annex I and in Annex II), and we make some alternative proposals to get a robust Taxonomy system enabling a cost-efficient and realistically fast green transition of the power sector. Moreover, we also focus on the proposed Do Not Significant Harm (DNSH) criterion for pollution prevention and control in both Annex I and Annex II.

2.1. Annex I – technical screening criteria for climate change mitigation – activities 4.7 and 4.19

2.1.1. Shortcomings of the Commission's proposal

The proposed threshold for "*substantial contribution to climate mitigation*" for transitional activities **4.7** ("Electricity generation from gaseous and liquid fuels") and **4.19** ("Cogeneration of heat/cool and power from gaseous and liquid fuels") is set to **100 g CO_{2e}/kWh** (as energy input for 4.19) **on a (LCA) life cycle basis** (i.e. scope 3 GHG emissions). Such a threshold presents a number of shortcomings and does not represent a credible path towards climate neutrality as set in recital (41) and e.g. Articles 10(2), 19(1h) and 19(2) of the General Taxonomy Regulation.

A. «Transitional» concept. From the definition of «transitional» as reported above, we can conclude that, by definition, transitional activities are **not low-carbon** (as they are activities for which a viable low-carbon alternative does not exist). On this basis, **the proposed threshold can be questioned**: **does it represent a realistic threshold for activities 4.7 and 4.19?** If we take, for example, activity 4.7: does this threshold indeed represent the "*best performance in the sector*" of "*Electricity generation from* [NOT low-carbon] *gaseous and liquid fuels*? Moreover, it should be underlined that the definition of "transitional" makes explicit that transitional activities contribute to the phasing out of "*greenhouse gas emissions, **in particular emissions from solid fossil fuels**"*: gas-fired power generation plants do represent, in many cases, a crucial alternative to more polluting solid fossil fuels-fired plants and their inclusion in the "transitional" category

would be therefore justified. However, the unrealistic proposed threshold, as described above, would make this inclusion, *in fact*, void.

B. LCA approach. In the 2019 EUROMOT paper (chapter 7.3) it was shown that the upstream GHG intensity of reported emission figures of the gas chain varies considerably, between 0.33 and 80 g CO_{2e}/kWhe (calculation based on an assumed net electrical efficiency of 45 %). Thus **the LCA approach for the threshold criteria is not in line with Article 19 (1 k) of the Taxonomy Regulation** («*Requirements for technical screening criteria*»): *easy to use and be set in a manner that facilitates the verification of their compliance* ..") and recital (47) (quote "..*Technical screening criteria could require carrying out a life-cycle assessment where sufficiently practicable and where necessary*").

In the Commission's Delegated Regulation of 17.7.2020 concerning minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks, scope 3 GHG emission requirement for electric production is postponed by 4 years after date of application of the Regulation (see Article 5 (1c)) and Recital (8): " .. *due to the insufficient quality of data currently available for Scope 3 GHG emissions, it is necessary to set out an appropriate phase-in timeline* … ". Based on this, we believe that, in the EU Taxonomy as well, a **LCA (scope 3 GHG emissions) approach should be postponed at least until reliable upstream section GHG emission data are available**.

Moreover, according to ISO 14067:2018, the design of a product is most notably included in the LCA analysis. For some activities of the EU Taxonomy, such as 4.3 ("*Electricity generation from wind power*") and 4.1 ("*Electricity generation using solar photovoltaic technology*"), **no technical screening criterion for mitigation is set**, despite the fact that their production phase does also produce GHG emissions. Therefore, in order to treat all power producing technologies in a equal manner, **only the operational phase of a power plant should be considered when evaluating its GHG emissions**. See Annex 1B of our 2019 position paper for more information.

C. Grid average Vs individual plant performances. As expressed above (see footnote 1 of this paper), the 100g CO_{2e}/kWhe threshold (e.g. for activity 4.7), proposed by the TEG in the first place, was very likely based on some EU member states' *electrical grid average CO_2 intensity* and not on any individual plant performance values. Therefore, applying such a threshold to individual plants is unjustified.

D. Grid-stabilising role of gas-fired power plants. This is directly linked to point C. Indeed, such an «individual plant» approach would not «capture» the role of gas-fired power plants in stabilizing the electricity grid and facilitating the expansion of intermittent renewable sources and, ultimately, the decarbonization of the whole electricity sector. Therefore, the proposed «individual plant» approach seems to be in contradiction with Recital (45) of the Taxonomy Regulation: "*The technical screening criteria should ensure that **relevant economic activities within a specific sector can qualify as environmentally sustainable and are treated equally if the contribute equally to one or more of the environmental objectives** ...".* The same principle is expressed in art. 19.1(j) of the Taxonomy Regulation.

E. **More differentiated thresholds would be needed.** In order to be in line with Article 19 (1 j) ("*cover all relevant economic activities within a specific sector ..*) and 19 (1 h) ("*take into account the nature and scale of the economic activity ..*") of the Taxonomy Regulation, **one single threshold is not sufficient to cover all the possible configurations of gas/liquid fuels-fired power plants**. Indeed, the electric power generation sector consists of e.g. base-, mid-merit, and peak load plants (see our paper for more information). Base-load plants often consist of big prime mover unit(s), whereas peak load plants of several smaller units.

Efficiency is a proxy for CO_2 emissions. The MCPD and chapter 10 of LCP BREF show that big plants have in general a better efficiency than smaller ones. At the same time though, the EU Strategy for Energy System Integration clearly states that ".. *decentralised production units and customers contribute actively to the overall balance and flexibility of the system* .. ". For these reasons, a one-size-fits-all solution should be avoided: a separate threshold also *for smaller* (such as decentralised) plant units should be in place and not a "single" value mainly based on a big plant/unit best performance approach.

F. **Taking into consideration efficiency and flexibility aspects.** Recital (7) of Directive (EU) 2018/2002, amending the Energy Efficiency Directive, states: «*The operational efficiency of energy systems at any given moment is influenced by the ability to feed power generated from different sources – with different degrees of inertia and start-up times – into the grid smoothly and flexibly*. *Improving that efficiency will enable better use to be made of renewable energy*». Chapter 6 and Annex 1B (page 27) of the 2019 EUROMOT Paper on Taxonomy deal with these aspects, underlining that high efficiency and high flexibility cannot be simultaneous in many cases. Taking into consideration such aspects when determining the Taxonomy threshold for power generation activities is needed. This would also be in line with art. 19(2) of the Taxonomy Regulation: «*The technical screening criteria [...] shall also include criteria for activities related to the clean energy transition consistent with a pathway to limit the temperature increase to 1,5 0 C above pre-industrial levels, **in particular energy efficiency and renewable energy**, to the extent that those activities substantially contribute to any of the environmental objectives* ».

2.1.2. EUROMOT proposals

Activity 4.7: Plants fulfilling the threshold proposed in the Draft Delegated Regulation (**100 g CO_{2e}/kWh on a (LCA) life cycle basis**) should be considered as fully "sustainable" and not "transition" activities, as they fully comply with art. 10(1) of the Taxonomy Regulation.

For "transitional" plants our proposal is based on the following reasoning. Recital 15 of the Draft Delegated Regulation proposes, for "*combined heat and power generation*", to possibly further assess and review the related technical screening criteria in order to fully capture the benefits of said activity. Based on paragraph 2.1.1, EUROMOT believes that the proposed threshold for activity 4.7 does not fully acknowledge the role of e.g. gas-fired power plants in decarbonizing the power sector. Therefore, **a similar proposal to better assess such a threshold should apply to activity 4.7, as it is the case for** "*combined heat and power generation*". Until such an assessment is completed**,**

we propose to use energy efficiency as a proxy for CO_2. As we indicated in our 2019 paper, LCP BREF includes, at pages 780/774, **BAT-associated energy efficiency levels** for gas/liquid-fired engines: these could be taken as references when establishing the Taxonomy threshold. **In order to avoid carbon lock-in, transitional plants should reach the threshold indicated for "sustainable" plants by 2030**. Moreover, new transitional plants should be ready to run on hydrogen and/or other low-carbon/decarbonised gases, in keeping with EU technical specifications on gas quality (when available) and with the development of availability of such gases (as underlined in the EU Hydrogen and Energy Sector Integration strategies), or on low-carbon/decarbonised liquid fuels. Finally, **activity 4.7 could also be qualified as an "enabling activity"**, as it enables other activities (such as power generation from intermittent renewable sources) to contribute to climate change mitigation (see art. 16 of the Taxonomy Regulation for the definition of "enabling activities". Art 10(1g) also corroborates our argument). This is typically true for gas-fired grid-stabilisation plants.

Based on the above, please find below (in ***bold italic***) the changes we propose to the wording of the Draft DA.

> ***~~"The activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.~~***
> *Technical screening criteria*
>
> *Substantial contribution to climate change mitigation*
>
> *The activity complies with either of the following criteria:*
>
> *1. Life-cycle GHG emissions from the generation of electricity using gaseous and liquid fuels are lower than 100gCO_2e/kWh.*
>
> *Life-cycle GHG emissions are calculated based on project-specific data, where available, using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.*
>
> *Quantified life-cycle GHG emissions are verified by an independent third party.*
>
> *2. Where facilities incorporate any form of abatement (including carbon capture or use of decarbonised fuels) that abatement activity complies with the criteria set out in the relevant section of this Annex, where applicable. Where the CO2 emitted from the electricity generation is captured as a way to meet the emissions limit set out in point 1 of this Section, the CO2 is transported and stored underground in a way that meets the technical screening criteria for transport of CO2 and storage of CO2 set out in Sections 5.11 and 5.12, respectively of this Annex.*
>
> *3. The activity meets either of the following criteria:*
>
> 1. *at construction, measurement equipment for monitoring of physical emissions, such as methane leakage is installed or a leak detection and repair program is introduced;*
> 2. *at operation, physical measurement of emissions are reported and leak is eliminated.*

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The activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 if:

1. ***Power plants reach the efficiency levels of best available technologies (based on technology-specific LCP BREF BAT Associated Energy Efficiency Levels).***
2. ***New power plants are:***
   a. ***Hydrogen ready (having a target of 20% vol Hydrogen today and 100% vol in 2030, depending on renewable Hydrogen availability and on EU technical specifications on gas quality) or***
   b. ***Ready for renewable, low carbon and/or decarbonised gaseous/liquid fuels (e.g. depending on the availability of such fuels and on EU technical specifications on gas quality).***
3. ***To avoid carbon lock-in, direct emissions reach the emissions threshold outlined in 4.7 (1) (of Annex I, "substantial contribution to climate change mitigation") by 2030, depending on renewable fuel availabilities and on upstream GHG emission reduction capacity in the fuel chain."***

Activity 4.19: As explained above, the Commission is proposing (recital 15 of the Draft Delegated Regulation) to further assess technical screening criteria for this economic activity. In this context, EUROMOT would like to propose **Annex II of the 2012 Energy Efficiency Directive** (see here, page 31) as a reference for such criteria.

Please find below (in ***bold italic***) the changes we propose to the wording of the Draft DA.

~~***"The activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.***~~

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with either of the following criteria:

1. Life-cycle GHG emissions from the cogeneration of heat/cool and power from gaseous and liquid fuels are lower than 100gCO_2e/kWh per 1 kWh of energy input to the cogeneration.

Life-cycle GHG emissions are calculated based on project-specific data, where available, using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

2. Where facilities incorporate any form of abatement (including carbon capture or use of decarbonised fuels) that abatement activity complies with the criteria set out in the relevant section of this Annex, where applicable. Where the CO2 emitted from the electricity generation is captured as a way to meet the emissions limit set out in point 1 of this Section, the CO2 is transported and stored underground in a way that meets the technical screening

criteria for transport of CO2 and storage of CO2 set out in Sections 5.11 and 5.12, respectively of this Annex.

3. The activity meets either of the following criteria:

a) at construction, measurement equipment for monitoring of physical emissions, such as methane leakage is installed or a leak detection and repair program is introduced;
b) at operation, physical measurement of emissions are reported and leak is eliminated.

The activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 if:

1. ***Power plant fulfills the high-efficiency cogeneration criteria laid down in Annex II of Directive 2012/27 EU. The reference values for separate heat and electricity production should be taken from Annexes I and II of Directive 2015/2402 EU.***

2. ***New power plants are:***
   a. ***Hydrogen ready (having a target of 20% Hydrogen vol today and 100% vol in 2030, depending on renewable Hydrogen availability and on EU technical specifications on gas quality) or***

   b. ***Ready for renewable, low carbon and/or decarbonised gaseous/liquid fuels (e.g. depending on the availability of such fuels and on EU technical specifications on gas quality).***

3. ***To avoid carbon lock-in, direct emissions reach the emissions threshold outlined in 4.19 (1) (of Annex I, "substantial contribution to climate change mitigation") by 2030, depending on renewable fuel availabilities and on upstream GHG emission reduction capacity in the fuel chain."***

2.2. Annex II – adaptation: Do Not Significant Harm threshold for climate change mitigation – activities 4.7 and 4.19

Recital 40 of the Taxonomy Regulation states "… *The technical screening criteria should identify the minimum requirements necessary to avoid significant harm to other objectives including by building on any minimum requirements laid down pursuant to Union law. When establishing and updating the technical screening criteria the Commission should ensure that those criteria are based on available scientific evidence…*".

For **activities 4.7** and **4.19** the proposed DNSH threshold for climate change mitigation is **270 g CO_{2e}/kWh (direct GHG emissions** of the activity). As mentioned above, such a threshold (for e.g. activity 4.7) seems to be based on the EU average grid CO_2 intensity and **not an individual plants' performances**.

In our opinion, if the EU regulator intends to focus on individual plant performances, a much more appropriate regulatory basis would be Regulation (EU) 2019/943 on the internal market for electricity. See also the official press release related to this Regulation: "*On 1 January 2020, the Electricity Regulation EU/2019/943 entered into force .. Finally, it puts an end to state aid which supports a new generation of polluting electricity, thereby making concrete progress towards decarbonisation*". To be noted: being an official EU Regulation, such a choice would also be coherent with Recital 40 mentioned above, as well as with art. 19(1d) of the Taxonomy Regulation ("*where appropriate, build*

upon Union labelling and certification schemes, […] and take into account any relevant existing Union legislation").

Article 22.4 of Regulation 2019/943 establishes some requirements regarding CO_2 emission limits that capacity mechanisms shall incorporate. In particular, "*from 4 July 2019 at the latest, generation capacity that started commercial production on or after that date and that emits more than **550 g of CO_2 of fossil fuel origin per kWh of electricity** shall not be committed or to receive payments or commitments for future payments under a capacity mechanism*". Older assets have an alternative more favourable CO_2 limit. To be noted: this Regulation **only** takes into account the CO_2 component of GHG emissions: the abovementioned CO_2 emission limit "*shall be calculated on the basis of the design efficiency of the generation unit meaning the **net efficiency at nominal capacity** under the relevant standards provided for by the International Organization for Standardization*". In other words, the set CO_2 threshold limit is a *direct* emission limit.

Moreover, based on recital 15 of the Draft Delegated Regulation, for activity 4.19 a "heat bonus" should also be worked out/added.

EUROMOT proposal: Based on the above, EUROMOT proposes the DNSH climate change mitigation threshold in Annex II to be set at **550 g CO_2 (direct emissions) per kWh of electricity for activities 4.7 and 4.19**. For activity **4.19**, an **additional "heat bonus" approach** should be included into the threshold.

2.3. Annexes I and II: DNSH criteria for pollution prevention & control – activities 4.7 and 4.19

As to DNSH threshold criteria for pollution prevention & control for activities 4.7 and 4.19, EUROMOT's main concerns are related to the possible application of the EU Taxonomy outside of the EU. In this regard, we would like to reiterate the arguments expressed in our 2019 Position paper: "*Essential preconditions of compliance with EU environmental Directives … are a good existing infrastructure (fuel quality, reagent availabilities) and economy. In many areas around the world outside EU the existing infrastructure is very restricted and thus fulfilment of EU Environmental Directives will be very challenging/if even possible (lack of reagents, spare parts, suitable fuel qualities, lack of needed financial resources, etc.). Thus the **worldwide GIIP (Good International Industry Practice) approach promoted by World Bank/IFC** (International Finance Corporation) EHS (Environment, Health and Safety) Guidelines .. should be **an alternative to EU Environmental Directives in areas with a restricted existing infrastructure** in order to secure a truly sustainable development from an economic, social and environmental perspective. By this the acceptance of Taxonomy as a suitable global tool will be enhanced*".

3. INLAND WATER TRANSPORT

3.1. Criteria for climate change mitigation: Annex I and Annex II

Activity 3.3 (i) and (j). The stated options of (i) zero direct tailpipe CO_2 emissions (in sections 3.3(i) and (j)) or (ii) 50% zero direct tailpipe's CO_2 emissions in conjunction with plug in the power effectively until 31 December 2025 (in section 3.3(i)) exclude the use of renewable and low carbon fuels. Such fuels will provide a significant decrease of GHG emissions during the transition and may be produced from waste, bio matter or even directly from water and air using renewable energy. Production of some of these fuels are included in section 4.13 of Annex I and Annex II, which has a requirement of at least 65% saving in relation to the GHG saving methodology and the relative fossil

fuel comparator set out in Annex V to Directive (EU) 2018/2001 (Renewable Energy Directive). **A further option allowing equipment that operates on fuels meeting the at least 65% GHG saving requirement should be included**.

EUROMOT supports the proposal to include in the inland freight water transport section (3.3(j)) an energy efficiency operational indicator of 50% of that of a heavy-duty vehicle.

Activities 6.7 and 6.8 of Annex I. Same comments as above (same proposed criteria).

Activities 6.16 in Annex I and Annex II. As currently written infrastructure to supply renewable and low carbon fuels would be excluded. Again, a further option to allow these fuels should be added.

EUROMOT proposal: (in ***bold italic***)

Annex I and II, Activity 3.3 (Manufacture of low carbon technologies for transport)

"(i) inland passenger water transport vessels that:
(i) have zero direct (tailpipe) CO2 emissions;
(ii) until 31 December 2025, are hybrid vessels using at least 50% of zero direct (tailpipe) CO2 emission fuel mass or plug-in power for their normal operation;
(new iii) Operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered.

(j) inland freight water transport vessels, not dedicated to transporting fossil fuels, that:

(i) have zero direct (tailpipe) CO2 emission;
(ii) until 31 December 2025, have direct (tailpipe) emissions of CO2 per tonne kilometre (gCO2/tkm), calculated (or estimated in case of new vessels) using the Energy Efficiency Operational Indicator113, 50 % lower than the average reference value for emissions of CO2 defined for heavy duty vehicles (vehicle subgroup 5- LH) in accordance with Article 11 of Regulation (EU) 2019/1242;
(new iii) Operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."

Annex I, activity 6.7 (Inland passenger water transport)

"(a) have zero direct (tailpipe) CO2 emissions;
(b) until 31 December 2025, are hybrid vessels using at least 50% of zero direct (tailpipe) CO2 emission fuel mass or plug-in power for their normal operation;
(c) Operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."

Annex I, activity 6.8 (Inland freight water transport)

"(a) the vessels have zero direct (tailpipe) CO2 emission;
(b) until 31 December 2025, the vessels have direct (tailpipe) emissions of CO2 per tonne kilometre (gCO2/tkm), calculated (or estimated in case of new vessels) using the Energy Efficiency Operational Indicator452, 50 % lower than the average reference value for

emissions of CO2 defined for heavy duty vehicles (vehicle subgroup 5- LH) in accordance with Article 11 of Regulation 2019/1242;
(c) Operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered".

Annex I and II, Activity 6.16 (Infrastructure for water transport)

"1. The activity complies with one or more of the following criteria:
(a) the infrastructure is dedicated to the operation of vessels with zero direct (tailpipe) CO2 emissions: electricity charging, hydrogen-based refueling;
(b) the infrastructure is dedicated to the provision of shore-side electrical power to vessels at berth;
(c) the infrastructure is dedicated to the performance of the port's own operations with zero direct (tailpipe) CO2 emissions;
(d) the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods.
(e) The infrastructure is dedicated to the supply of fuels with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."

3.2. DNSH criteria for pollution prevention and control: Annex I and Annex II

Activities 6.7, 6.8 and 6.9. EUROMOT supports the requirement for vessels to comply with emission limits set out in Annex II to Regulation (EU) 2016/1628. However, the allowance for retrofit solutions that are not type approved opens the opportunity for poor quality retrofit that do not achieve the environmental targets. A suitable certification process for such retrofit equipment must be in-place before this option is allowed. Such a certification process should be based on the UN-ECE R132 method used for heavy-duty and non-road equipment engines.

EUROMOT proposal: (in ***bold italic***)

Annex I and II, activities 6.7, 6.8 and 6.9

(5) Pollution prevention and control	*(5) Engines in vessels comply with emission limits set out in Annex II to Regulation (EU) 2016/1628 (including vessels meeting those limits ~~without~~* ***with a*** *type-approved* ***retrofit*** *solution such as through after-treatment).*

4. SEA AND COASTAL WATER TRANSPORT

4.1. Criteria for climate change mitigation: Annex I and Annex II

Activities 6.10, 6.11, 6.16 and 3.3

In order to increase the efficiency of ships and their propulsion systems and to lower climate impact and emissions of pollutants, the marine propulsion industry has invested in the development of innovative products and processes. It is indeed the marine propulsion industry's aim to support owners and operators with solutions in line with the path to climate neutral shipping as set by international and national targets.

In this regard, the industry is convinced that technical requirements, but also financing criteria like the Taxonomy, need to be ambitious but also based on a thorough review of available and future technologies.

Energy density, weight, and volume are important criteria of future fuel / propulsion system options, regardless if it may be a weight-critical pilot boat or wind park supply vessel with a catamaran hull or an ocean going bulk-carrier or container vessel.

Therefore, especially due to their high energy density, there will be no alternative to liquid and gaseous fuels for many applications in the short-to-medium term. In contrast to today's fossil-based fuels, new alternative fuels can be produced on the basis of renewable energy, the so-called Power-to-X fuels. These fuels are produced on the basis of hydrogen and carbon molecules, captured for example from other industrial processes or waste. Power-to-X technologies enable the coupling of the electricity and mobility sectors, the use of existing costly infrastructure and the global transport of renewable fuels.

Most importantly, the use of Power-to-X fuels allows a massive reduction of the total CO2 emissions. However, the full effect of this sustainable reduction in greenhouse gas emissions appears on a well-to-wheel (respectively well-to-wake basis for shipping). Hence, **the focus on zero direct (tailpipe) CO2 emissions as specified in sections 6.10 and 6.11 does not reflect the reduction potentials of such technologies**. We ask the EU Commission to **include options allowing equipment that operates on such low-carbon Power-to-X fuels in the Technical Screening Criteria for climate change mitigation for activities 6.10 and 6.11, as well as, accordingly, for activities 3.3 and 6.16**.

Note: Currently used IMO carbon factors of EEDI are based on tank-to-wake emissions of the fuel. In order to reflect the considerable reductions of GHG emissions during the use of the vessel, additionally a method to determine the well-to-tank emissions of current and future fuels, including the upcoming renewable and low carbon fuels as described above, should be included. These methods are currently under development and are expected to be discussed at IMO shortly.

EUROMOT proposal: (in ***bold italic***)

Annex I and II, Activity 3.3 (Manufacture of low carbon technologies for transport)

"(k) sea and coastal freight water transport vessels not dedicated to transporting fossil fuels, that:

(i) have zero direct (tailpipe) CO2 emissions;
(ii) until 31 December 2025, are hybrid vessels that use at least 50% of zero direct (tailpipe) CO2 emission fuel mass or plug-in power for their normal operation;
[…]
(new v) Operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered.

(l) sea and coastal passenger water transport vessels, not dedicated to transporting fossil fuels, that:

(i) have zero direct (tailpipe) CO2 emissions;
(ii) until 31 December 2025, hybrid vessels use at least 50% of zero direct (tailpipe) CO2 emission fuel mass or plug-in power for their normal operation;
[…]
(new iv) Operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."

Annex I, activity 6.10 (Sea and coastal freight water transport)

"(a) the vessels have zero direct (tailpipe) CO2 emissions;
(b) until 31 December 2025, hybrid vessels use at least 50% of zero direct (tailpipe) CO2 emission fuel mass or plug-in power for their normal operation;
[…]
(new point e) Vessels operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."

Annex I, activity 6.11 (Sea and coastal passenger water transport)

"(a) the vessels have zero direct (tailpipe) CO2 emissions;
(b) until 31 December 2025, hybrid vessels use at least 50% of zero direct (tailpipe) CO2 emission fuel mass or plug-in power for their normal operation;
[…]
(new point d) Vessels operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."

Annex I and II, Activity 6.16 (Infrastructure for water transport)

> *"1. The activity complies with one or more of the following criteria:*
> *(a) the infrastructure is dedicated to the operation of vessels with zero direct (tailpipe) CO2 emissions: electricity charging, hydrogen-based refueling;*
> *(b) the infrastructure is dedicated to the provision of shore-side electrical power to vessels at berth;*
> *(c) the infrastructure is dedicated to the performance of the port's own operations with zero direct (tailpipe) CO2 emissions;*
> *(d) the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods.*
> ***(new point e) The infrastructure is dedicated to the supply of fuels with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."***

5. RAIL TRANSPORT

5.1. Annex I – Scope of activity 6.1 ("Passenger interurban rail transport")

To a large extent mainline railroad networks are already using electrified tracks and electric propulsion. This activity could be regarded as **providing substantial contribution** to climate change mitigation (and not "transitional").

Moreover, as this activity only covers **"mainline networks"**, such a concept **should be defined**. Indeed, **non-electrified tracks** operated with other propulsion systems in **remote/rural areas** allow more people to access this highly energy efficient and environmentally friendly transport mode (compared to road transport), including for long distance interurban travel. Therefore, such tracks should either be explicitly regarded as supporting the transition to a climate-neutral economy (Technical Screening Criteria to be determined on best performance in sector) or be **explicitly excluded from the definition of "mainline networks"** (recommended).

5.2. Criteria for climate change mitigation: Annex I and Annex II

The same reasoning described in paragraph 3.1 applies here. Therefore, EUROMOT suggests the following amendments (in ***bold italic***):

Annex I and II, Activity 3.3 (Manufacture of low carbon technologies for transport)

> *"(a) trains, passenger coaches and wagons that have zero direct (tailpipe) CO2 emissions;*
> *(b) trains, passenger coaches and wagons that have zero direct tailpipe CO2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode);*
> ***(new c) Trains operating on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."***

Annex I, activity 6.1 (Passenger interurban rail transport)

"(a) the trains and passenger coaches have zero direct (tailpipe) CO2 emissions;
(b) the trains and passenger coaches have zero direct tailpipe CO2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode);
(new c) The trains and passenger coaches operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."

Annex I, activity 6.2 (Freight rail transport)

"(a) the trains and wagons have zero direct (tailpipe) CO2 emissions;
(b) the trains and wagons have zero direct tailpipe CO2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode);
(new c) The trains and wagons operate on a fuel with a GHG emission saving of at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001 or equivalent comparator for fuels not currently covered."

EUROMOT – 2020-12-17

For more information please contact:

EUROMOT aisbl - European Association of Internal Combustion Engine Manufacturers
Rue Joseph Stevens 7, 1000 Brussels, Belgium
Domenico Mininni – Technical and Regulatory Affairs Manager
Phone: +32 (0) 28932140
Email: domenico.mininni@euromot.eu
www.euromot.eu

TVA BE 0599.830.578
RPM Brussels
EU Transparency Register ID number: 6284937371-73

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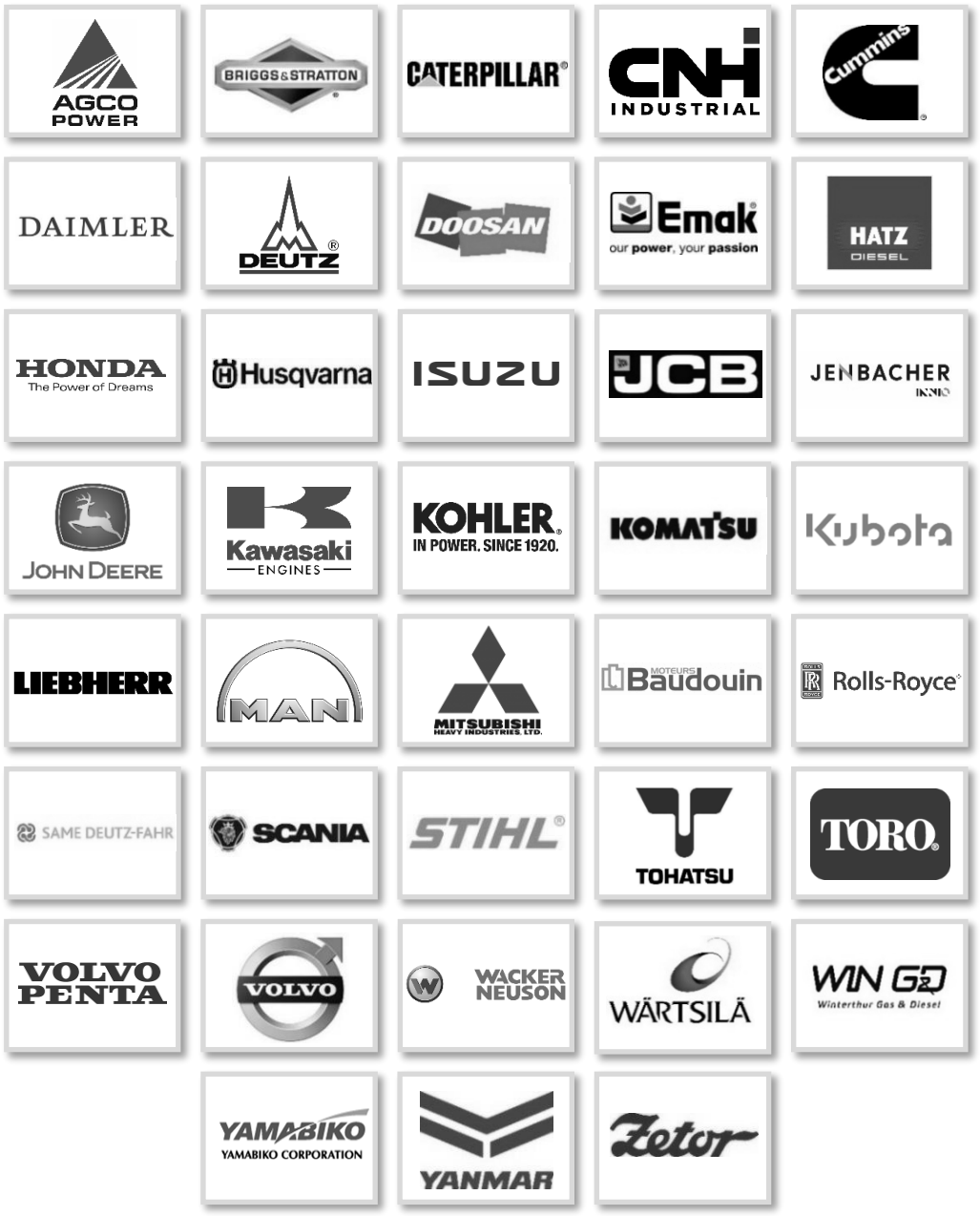

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Georg Diderich

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