"Fit for 55"
FuelsEurope's contribution to the debate on decarbonisation of transport

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Executive Summary

In the framework of EU policy debate on the 2030 GHG reduction target and the 2050 climate neutrality objective, the decarbonisation of transport – a sector of the economy with far reaching implications and unique challenges - is a precious opportunity for the EU economy to:

- Develop and deploy **innovative low-carbon technologies in vehicles and in fuels/energy**[1].
- Create economic value for the **transport ecosystem** and to help the relevant EU industries achieve world-leadership.

At the same time, the transition should carefully address the **societal aspects** deriving from changes in employment pattern, skills requirements and inequalities between EU regions and sectors of society. No one should be left behind, and access to affordable mobility should be protected as one of the fundamental rights of all citizens.

FuelsEurope representing the EU refining industry supports the EU objective of net climate neutrality in 2050.

In 2020, FuelsEurope published the **"Clean Fuels for All" (CF4A)** describing the strategy of the refining industry's transition. The progressive adoption of low-carbon technologies using low-carbon and sustainable, renewable feedstocks, has the potential to substantially cut GHG emissions from refineries and fuels. **Low-**

[1] Crf. "Clean Fuels for All, https://www.fuelseurope.eu/wp-content/uploads/2021_DEF_EN_CFFA_Narrative_digital.pdf"

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carbon liquid fuels[2], in particular, could supply energy to all transport modes, in close complementarity with renewable electricity, hydrogen and gaseous fuels. This strategy provides an **alternative pathway** to achieve the transport decarbonisation target in the 1.5 C "Tech" scenario of the EU Commission's "Clean Planet for All".

The energy transition of refineries and the production of fuels with limited or zero climate impact depend on massive investments in low-carbon technologies – up to 650 bln€ in the 3 decades to 2050 according to the CF4A. **Economically sustainable investments** in low and zero-carbon technologies are the key enabler of climate-neutral transport. Industry requires clear goals and predictable policies to provide the business case for investments. No single policy will be sufficient to create momentum for change throughout a sectoral value-chain: close coordination and integration between policies that impact OEMs, fuels, infrastructures and customer choices are needed. The combination of multiple policy tools should be calibrated for an effective stimulus for investments.

There is a widespread recognition of the fact that **Low-Carbon Liquid Fuels** are a key instrument for the decarbonisation of aviation, maritime and long-distance road transport. However, road transport at large, including passenger cars and vans, **is an essential trigger for unlocking the production of these fuels at industrial scale.** The uptake of electrification will require time to turn over the vehicle fleet and to put in place the distribution infrastructures. During the transition of passenger cars and vans to EVs, low-carbon liquid fuels are the most efficient way to cut emissions from vehicles with an internal combustion engine and to allow the optimisation of the implementation plan of infrastructures for electricity and hydrogen. This is a **no-regret option**: the build-up of production capacity for low-carbon liquid fuels will progressively reduce their cost, through the creation of economies of scale and through the repayment of the capital cost. Over time, the reduction of demand for fuels from road transport will **free-up growing volume for aviation and maritime, at an affordable price**.

The purpose of this paper, building on the recommendations of the CF4A and in view of the upcoming EU Commission's "Fit for 55 Package", is to make specific regulatory proposals for the decarbonisation of transport.

These are the pillars of FuelsEurope's contribution to the debate:

1. The upcoming **revision of the Renewable Energy Directive** creates the best opportunity to make it the primary regulatory instrument to drive the effective and efficient decarbonisation of road transport fuels. Section 1 of this paper presents the recommendations of FuelsEurope in view of this revision, including a recommendation to express RED target in GHG terms.
2. While theoretically one policy objective should call for one regulation, to avoid overlaps and unintended, contradictory consequences, we acknowledge the EU Commission's intention to propose a cap and trade system for the decarbonisation of road transport. In Section 2 we present our recommendations on the **ETS for road transport**.
3. The RED for road transport expressed in GHG terms and the possible addition of an ETS for road transport make the **Fuel Quality Directive art. 7a** redundant and we call for its discontinuation.
4. Another regulatory tool of key importance, which can effectively complement the RED, is the upcoming revision of the **Energy Taxation Directive**. Our recommendations in Section 3 aim at allowing the ETD to contribute, together with the RED and possibly with an ETS for transport, to the creation of a carbon price signal capable to create the business case for investments in low-carbon liquid fuels.

[2] Low-carbon liquid fuels are sustainable liquid fuels from non-petroleum origin, with no or very limited net CO2 emissions during their production and use compared to petroleum-based fuels.

5. Finally, for the upcoming EU Commission proposals on **decarbonisation of Aviation and Maritime transport**, we offer our recommendations in **Section 4** and **Section 5**.
6. To complete the picture, we should mention also the upcoming revision of the **CO2 standards in cars and vans** and the one for **Heavy Duty Vehicles.** They offer an opportunity not to miss for opening this regulation to technology inclusiveness by accounting for the CO2 reduction from fuels with low and net-zero CO2 emissions. This may take the form of credit certificates from fuels as a complementary compliance mechanism for vehicle manufacturers (as in the Frontier Economics proposal and in Cerulogy study on heavy duty road transport). This may also consist of customer-side benefits when a new ICE/Hybrid vehicle is guaranteed a long-term supply of low-carbon liquid fuels. FuelsEurope, in close cooperation with other industrial associations of the automotive supply chain, of the commercial transport and of various renewable, sustainable fuels suppliers, is ready to contribute to the design of such regulatory provisions.

Section 1

Proposal on Revision of the Renewable Energy Directive: renewable energy / GHG reduction obligation for road transport fuels in the 2030-time horizon

1. Objective and scope of the renewable energy obligation

This paper describes the basic principles of a renewable energy obligation as part of the planned RED review in 2021. The current RED II is the reference for these principles, whose aim is to drive the progressive decarbonisation of transport fuels and the development and deployment of renewable fuels, including from biological, non-biological origin, captured or recycled origin for road transport.

2. Design principles of the renewable energy / GHG reduction obligation for road transport fuels

2.1 Scope

- Road transport (fuels and energy used in passenger cars, vans, trucks, buses and coaches).
- Due to close similarity to road transport, non-road mobile machinery (NRMM), including inland waterway vessels and recreational crafts, are included in the scope.
- Dedicated measures in marine and aviation legislations should be put in place. The current RED II allows fuels used in aviation and shipping to contribute to the transport target. This contribution should be discontinued as soon as separate obligations for fuels in aviation and shipping will enter into force.

2.2. Obligated parties

- The obligated party is the fuel supplier (i.e. the entity supplying fuel to the market that is responsible for passing fuel through a duty point, as for art.2 (38) of RED II) at Member State level. This applies to both domestic producers and importers.
- Obligated parties should be able, on a EU-wide level, to:
  - Pool their compliance.
  - Generate and trade credits (i.e. certificates of renewable energy and fuels put on the market).
  - Borrowing and banking of credits for compliance (see point 2.3).

2.3 The obligation level

- The obligation level should be a realistic and achievable yearly target, with enough ambition **to drive the progressive decarbonisation of transport fuels through the development and**

deployment of renewable fuels of biological, non-biological origin or based on captured or recycled carbon.

- The target to achieve is **expressed as a GHG reduction percent** of the yearly average of the fuels put on the market with respect to the reference of the same quantity – in energy terms - of 100% fossil fuels.
- The reduction of GHG is calculated on a WTW basis, where the reference value for 100% fossil fuel is 94 gCO2eq/MJ.
- A certain degree of flexibility for the obligated parties in terms of borrowing and banking of credits for compliance shall complement the yearly objective. The level of borrowing and the banking period shall be appropriately limited, not to weaken the stimulus for obligated parties to develop and invest into renewable solutions.
- The compliance period should be 2025 until 2030, with a possible upward review proposal in 2027 on how to cover the 2030-2040 period. Targets are expected to be in-line with the EU objective to become climate neutral by 2050 over its entire economy.

2.4 Incentives for developing technologies

- Effective regulatory mechanisms should be put in place to allow the **development of multiple solutions** for the progressive decarbonisation of transport through the adoption of renewable and RED-consistent technologies (e.g. sustainable biofuels, e-fuels/synthetic fuels, renewable and low-carbon hydrogen, renewable electricity, recycled carbon fuels, etc.). This requires that, during the time needed to develop scale-economy and reduce costs, less technologically-mature and relatively expensive solutions can compete with those already established.
    - While the market-driven/technology-neutral approach remains the long-term objective, until 2030 maximum / minimum percent level ("quota") in energy terms for specific categories of renewable energy and fuels shall be put in place. Member States shall be afforded a limited discretion to adapt the EU-wide quotas in case of demonstrated specific national situations.
    - In case the "quota" of a specific category of fuel or energy is not met, the obligated party shall either purchase credits (corresponding to actual volume of compliant fuel/energy put on the market by other fuel suppliers) or pay a buy-out price. The buy-out price shall be set at a level matching or exceeding the marginal cost of production of the specific category of fuel or energy.
    - First movers should be protected by appropriate 'grandfathering' or 'no retroactive' clauses so that the fuel they produced that fully meets the requirements of the obligation can be continued to be considered compliant regardless of any subsequent changes to the obligation.

2.5 Compliance mechanisms

- The main compliance mechanisms are:
    - Use of renewable liquid or gaseous fuels of biological or non-biological origin.
    - Use of recycled carbon fuels. Recycled carbon fuels should be a prescribed compliance option within the EU Directive and not at Member States discretion.
    - Use of greenhouse gas (GHG) emission reduction technologies in the production of fossil fuels used in the road transport sector and by non-road mobile machinery. As a result of the use of such technologies, the GHG intensity of the fossil fuels should be correspondingly reduced with respect to the 94 gCO2eq/MJ standard. Such GHG reduction technologies could be (non-exhaustive list):

        - Use of renewable-hydrogen (based on renewable electricity) in refineries to make conventional fuels.
        - Use of low-carbon hydrogen[3] in refineries to make conventional fuels.
        - Use of Carbon Capture and Storage or Utilization (CCS/CCU) by refineries.
    - The use of renewable electricity as allowed under the current RED II. For the calculation of GHG reduction, the adjustment factor (AF) used in the FQD should be used, to take into account the efficiency of electricity in transport.
    - Biofuel and bio-liquids as well as biogas as intermediate to the production of conventional fuels.
- Opt-out or opt-in of compliance mechanisms decided by Member States should not be allowed.
- Trading of credit certificates (corresponding to actual volume of compliant fuel/energy put on the market by other fuel suppliers) as alternative compliance mechanism between obligated parties should be made possible via an EU-wide register.
- An ultimate alternative compliance mechanism, consisting of a buy-out price, should be put in place. The price should be set at a level high enough to ensure that the use of the alternative compliance mechanism is the last resort, and that investments in low-carbon technologies are given priority. Member States can define the price of the ultimate compliance mechanism within a pre-defined range, which should be set at EU-level.

2.6. Sustainability criteria

- Sustainability should be defined based on the RED II criteria, allowing all raw material meeting the criteria of sustainability and GHG emission savings to qualify:
    - The GHG saving thresholds are harmonised for all renewable fuels at 65%.
    - The additionality, geographical and temporal criteria (to be defined by a delegated act on the use of renewable electricity for the production of RFNBO by end 2021) sets equal conditions for fuels as for the direct use of renewable electricity in all sectors (e.g. buildings, transport, industry).
    - Part B cap of Annex IX in RED II: the cap of 1.7% on part B of Annex IX is removed [4].
    - The cap on food and feed crops – 1G biofuels – is maintained at 7% until 2030; and reconsidered in 2028 for the post-2030.
    - The current provision that Annex IX can be reviewed to add but not to remove feedstocks remains in place with no change.
    - Cover crops and energy crops, which can't be considered as food and feed crops, should be explicitly added to Annex IX.
- The current strategy used by the Commission to cover ILUC for fuels from biological origin that are also food and feed crops should continue until at least 2030 within the provisions established in the current RED II directive. This approach is a risk-based assessment of ILUC rather than trying to characterise ILUC by model-based values.
- The EU should continue the use of voluntary certification schemes to certify the sustainability of the used feedstocks. The EU must provide stricter guidelines on the actual implementation of the voluntary certification schemes to the certification bodies, to ensure harmonisation and clarification of responsibilities of all actors throughout the supply chain.

[3] The low-carbon hydrogen may be obtained by applying carbon capture and storage to conventional, fossil based technologies (e.g. steam reforming of natural gas), or by adoption of other low-carbon technologies. In any case, the carbon footprint of low-carbon technologies shall be at least 60% lower than conventional, fossil-based H2.

[4] Effective measures to prevent fraud from use of improperly labelled Used Cooking Oil should be put in place.

- The establishment and the use of an EU-wide renewables energy database is supported. This is seen as a very effective way to ensure compliance with the sustainability criteria and avoid the use of non-compliant feedstocks and/or finished products.

3. Support for investments

While mandates can create a market for alternative fuels, including low-carbon fuels, and provide a supportive policy framework, they do not necessarily provide on their own an investable framework. Any mandate must be part of a wider policy framework that also provide fiscal support for low-carbon fuels and their production plants, support for infrastructure, supply side measures to encourage the production of alternative fuelled vehicles and demand side measures for consumers.

4. Guarantees of Origin

The current RED2 does not foresee guarantees of origin for renewable and low-carbon fuels in the transport sector. Guarantees of origin combined with a robust certification and verification system that accounts for the GHG impact of energy conversions along the value chain, could potentially further support the promotion of renewable and low-carbon fuels in the transport sector.

5. Interaction with other policy instruments

- Overlapping policy instruments should be avoided.
- FDQ/7A should be replaced entirely by the modified renewable energy regulation.

Section 2
Proposal on Emissions Trading for transport fuels – focus on road transport

Background

The new European Green Deal and the Commission's communication on the 2030 decarbonisation target include consideration of applying emissions trading to road transport, and extending emissions trading to the maritime sector. Domestic aviation is already within the scope of the EU ETS.

Bringing road transport into the EU ETS is unlikely to be effective, as this will not trigger a sufficiently high carbon price to incentivize the necessary investment in the development and scale up of low-carbon fuels, in the short/medium term.

In addition, other energy intensive industries are likely to oppose changes to the EU ETS that will result in price rises even well below the carbon price needed for low-carbon fuel investment.

Proposal

Implement a tailor-made Road Transport Fuels ETS, alongside but separate from, the current main EU ETS.

Such a scheme would be market based, technology neutral, and would provide a transparent price signal that is high enough to trigger investment in low-carbon transport fuels.

In the longer term, the Transport Fuels ETS should merge into the main ETS, as carbon prices in the respective schemes converge, consistent with achieving a more uniform cost of carbon across the economy.

Scope

The scope of a Transport Fuels ETS would cover tank to wheel (combustion) emissions from road transport (well to tank emissions are already covered by the main ETS).

However, consistently with the Clean Fuels for All, measures to reduce the manufacturing emissions of fuels may also be accounted for in the reduction of carbon footprint of Low-Carbon Liquid Fuels.
For example: CCS/CCU in refineries, or use of green/blue hydrogen in refineries.
In this case, the refiner has the option to include within the scope of the Road Transport Fuel ETS the portion of manufacturing GHG reduction attributable to fuels.
And, to avoid double counting of the benefits, the corresponding GHG reduction will be excluded from the main EU ETS.

The scope could be extended to include combustion emissions from domestic aviation and maritime, from the outset or at a later stage.

The scope would not include other sectors currently outside the main ETS, such as heating/cooling. Lower abatement costs in the heating/cooling sector, under a common cap with transport, would likely compromise the sustained high carbon price required for investment in low-carbon transport fuels.

Design Elements

- **Scheme: cap and trade, with cap defined in absolute tons of CO_2**
- **Scope:**
  - **Combustion (TTW) emissions from fuels**
  - **Reduction of manufacturing GHG emissions from the use of CCS/CCU and green/blue hydrogen related emissions in refineries. Only the portion attributable to manufacturing of fuels, and without double-counting in the main ETS**
- **Compliance mechanism: supplying low-carbon fuels (e.g. by blending) or buying allowances**
- **Obligated parties: fuels suppliers (road)**
- **Cap trajectory: starting point set at the actual combustion emissions from road transport. Thereafter, the cap would progressively decrease over time, consistent with achieving the desired emissions reduction in transport (a priori linear based on a LRF). This trajectory is expected to provide and sustain a sufficiently high carbon price, without any market intervention**
- **Sustainable Low-Carbon Fuels all deemed zero emissions (tank to wheel) similar to electricity, hydrogen used in vehicles.**
- **Carbon price ceiling: applied as a "safety valve" against excessive costs. A ceiling price of 475 euro/ton of CO2 would be consistent with the penalty carmakers have to pay under the vehicle CO_2 regulation**
- **No free allowances: scheme applies equally to importers and domestic fuel suppliers, thus no carbon leakage concerns**
- **Verification system needed to ensure level playing field**
- **To qualify for compliance, the low-carbon fuels must meet the sustainability standards established in RED II**

Interaction with Other Policy Instruments

A Transport Fuels ETS would work alongside the vehicle CO_2 regulation. However, the vehicle regulation must be changed to ensure all low-carbon fuels are recognised and rewarded in OEM compliance.

Energy taxation should be reformed such that there is very low or zero taxation for low-carbon fuels and energies and to ensure a level playing field for all energy sources used. Net revenues arising from energy

taxation and auctioning of allowances should be directed to support investment in developing and scaling up low-carbon transport fuels.

Interaction with other policy instruments: overlapping policy instruments should be avoided

- FDQ/7A should be discontinued.

RED revision: see FuelsEurope's recommendations in Section 1

Impact on Stakeholders

This ETS approach allows obligated parties the flexibility to choose between investing in low-carbon technologies, purchase allowances, or selling less fossil fuel. Fuel suppliers are not individually required to comply with specific emissions reduction or carbon intensity targets, as would typically be the case with a mandate or standard. Other energy intensive industries are not impacted by a separate Transport Fuels ETS.

Section 3

Proposal on Revision of the energy taxation directive

Summary and key messages

1.1 A reform of fuel and energy taxation is supported as enabler for very low or zero taxation for low-carbon fuels and energies and to ensure a level playing field for all energy sources.

1.2 A need to transform the road transport volume-based excise taxation into a taxation base consisting of primarily, or wholly based on the emitted combustion CO_2.

1.3 If the Commission desires to tax aviation and maritime fuels, coherence with road fuels and energy taxation should be ensured.

1.4 Heating fuels and energies taxation should be made coherent with transport fuel and energy taxation but with special emphasis related to regional specificities as well as social considerations.

1.5 The review is an opportunity to harmonise the way in which several clauses related to the use of fuels and energy in manufacturing processes are handled.

1.1 FuelsEurope supports aligning the taxation of energy products and electricity with EU energy and climate objectives

FuelsEurope supports the Green Deal's ambition for climate neutrality in 2050 and will work with the EU institutions, Member States, and stakeholders, to help create the essential enabling policy framework. The Green Deal is clearly work in progress and will require careful societal consultation and impact assessment. FuelsEurope's Clean Fuels for All shows that several key technologies could potentially be deployed across Europe to deliver low-carbon liquid fuels (including net-zero carbon liquid fuels) bringing benefits both to the climate and to the economy, and making a critical contribution to the EU's 2050 climate neutrality objective. Key regulatory measures are needed to help the development and deployment of these low-carbon liquid fuels, one of which relates to the taxation of fuels and energies.

FuelsEurope supports a reform of fuel and energy taxation which should enable very low or zero taxation for low-carbon fuels. Taxation can be an important tool to provide strong market signals for the development of low-carbon fuels. Currently all liquid fuels for a certain purpose or a specific sector are taxed at a similar level regardless of carbon intensity. Zero or very low tax for low-carbon liquid fuels would facilitate fuel pricing that is both socially acceptable, and able to contribute to a business case for investments.

FuelsEurope understands that taxation rates could be different for fuels and energies as function of their use as transport, heating or industrial energy source but is of the opinion that the taxation calculation base should be uniform for all their uses. In the heating sector, taxation rates could be lower based on social considerations.

1.2 FuelsEurope supports a reform of the Energy Taxation Directive as a mean to support development and deployment of low-carbon fuels

FuelsEurope supports a reform of the ETD as an important means to provide additional support to the development and deployment of low-carbon fuels. As such, it helps to contribute to the energy and climate objectives of the EU. We are of the opinion that:

- The energy taxation should shift away from a volume-based taxation towards a primarily, or wholly combustion CO_2-based taxation;
- The Energy Taxation Directive review should strive for an EU-harmonised approach and provide a long term visibility on the applied taxation rates;
- The taxation should concentrate on the CO_2 emissions and not on all the greenhouse gas components to try to keep the legislation simple and effective;
- Sustainability criteria should be based on the Renewables Energy Directive[5]. The energy taxation directive review will need to evaluate how to adequately promote greenhouse gas emission reduction via several routes, including via alternative fuels. Within the list of indicated alternative fuels, we would like to see that all sustainable biofuels are considered in the energy taxation directive review and not as indicated in the inception impact assessment only the advanced biofuels;
- The framework must ensure that national tax systems reflect the above principles, and in particular that across the EU national tax levels of specific energy carriers follow the ratios between the minimum tax levels as set by the ETD.

1.3 FuelsEurope position on the review of the road transport taxation under the Energy Taxation Directive

- Road transport fuels are a crucial lead market for the timely development and scale-up of low-carbon technologies. Since this sector has already a well-developed excise taxation base, it is also a lead market to initiate the shift from an excise volume-based taxation to a primarily, or wholly combustion CO_2-based taxation.
- The CO_2-based taxation should be determined based on the combustion carbon intensity[6] of the fuel emitted at the point of final consumption. The point of consumption is considered as the point where currently excise tax becomes due. This is at the moment products are removed from the EU excise warehouse system and are supplied to a non-exempt destination (such as a retail station), which is the point of supply to the market, or any point of obligation that the Member State selects as being representative for the final consumption
- Sustainable low-carbon fuels should be exempted from the combustion-CO_2 based taxation, creating as such the ability to deliver a contribution to a business case for investments.

1.4 FuelsEurope position on the review of the aviation taxation under the Energy Taxation Directive

- If the European Commission desires to introduce aviation fuel taxation, then FuelsEurope thinks that following elements should be taken into consideration:
  - The aviation fuel taxation should only be applied for all intra-EU flights with a review to include international aviation at a later stage

[5] Directive (EU) 201/2001 of 11 December 2018 on the promotion of the use of energy from renewable sources (recast)
[6] This is equivalent to a tank-to-wheel (TTW) approach

- The aviation fuel taxation should be coherent with the taxation base of road transport fuel and energy taxation;
- The mandatory exemption on taxation should be changed into a mandatory application. Exemptions should still be allowed but in exceptional cases and after formal approval by the Commission[7].

➢ FuelsEurope is of the opinion that aviation ticket taxation based on CO_2 is not an adequate way to provide incentives for the development and deployment of the sustainable aviation fuels. Ticket based-taxation is not addressing the main players in the delivery or use of sustainable aviation fuels, is not necessarily proportional to the CO_2-emissions and has a much bigger impact on low cost fares compared to higher cost fares.

1.5 FuelsEurope position on the review of the maritime fuel taxation under the Energy Taxation Directive

➢ If the European Commission desires to introduce maritime fuel taxation, then FuelsEurope thinks that following elements should be taken into consideration:

- The maritime fuel taxation should be coherent with the taxation base of road transport fuel and energy;
- The mandatory exemption of taxation of maritime fuels in Community waters should be changed into a mandatory application. Exemptions should still be allowed in exceptional cases and after formal approval by the Commission[8];
- Particular measures should be foreseen to avoid bunkering outside the EU as mean to circumvent EU marine fuel taxation. The risk for bunkering is much higher for maritime transport compared to the risk of tankering for aviation due the flexibility in navigation for maritime transport.

1.6 FuelsEurope position on the review of the taxation of heating energy sources under the Energy Taxation Directive

➢ If the European Commission desires to review the taxation on heating fuels and energies then FuelsEurope thinks that the following elements should be taken into consideration:

- The taxation on heating fuels and energies should be coherent with the taxation base of road transport fuel and energy;
- Exemptions or use of lower taxation rates should be allowed when due to specific regional conditions there is a lack in the availability of alternative fuels/energies for heating purposes or for social considerations.

1.7 FuelsEurope position on the review of the taxation related to fuels and energy used in the manufacturing processes under the Energy Taxation Directive

➢ FuelsEurope welcomes the review of the ETD as an opportunity to harmonise the way in which several clauses are handled under the current ETD. They lead to distortion of competition among companies located in different Member States and contribute to the fragmentation of the internal market.

➢ FuelsEurope is of the opinion that in order to avoid double taxation, fuels and/or energies used in the manufacturing and in the logistics chain, should be exempted from combustion-CO_2 based taxation when used as energy source. Therefore, we would like to maintain the provisions provided under article 2, article 21(3) and article 17 of the ETD as unchanged, with following recommendations:

- Introduction of mandatory exemptions for both the produced and purchased energy under article 21 (3), without the possibility to tax those upon Member States decision;

[7] The Commission's approval of the exemption should also clear all issues related to state aid.
[8] Idem to footnote 7

- Maintaining the exemptions for the energy intensive businesses but considering the revision of the eligibility criteria (article 17). These exemptions should be mandatory, avoiding the possibility for taxation upon Member States decision.
- The own use privilege covers the production of all energy products defined in article 2 (1) of the ETD, irrespective of their uses.

Section 4
Proposal on Reducing GHG emissions in aviation

1. Summary and key messages

1.1 Since aviation is primarily a global industry, global commitments are preferred over regional initiatives to ensure the competitiveness of the aviation sector and its supply of fuel. The unprecedented impact of the COVID-19 outbreak on the aviation sector has created the need for support to both ensure quick recovery while maintaining the transition to a sustainable aviation sector.

1.2 If the EU desires to implement the use of sustainable aviation fuels then a combination of several policies aiming to promote a faster development and deployment of sustainable aviation fuel are needed. FuelsEurope supports measures on obligations on sustainable aviation fuels targeting volumes, energy, CO_2 emissions, or carbon intensity.

1.3 The ability to trade compliance certificates uniformly and across the EU between obligated parties is necessary to allow a cost-effective compliance for all participants involved in the introduction of sustainable aviation fuels.

1.4 Coherence between the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) and the EU ETS for aviation should be aimed for to avoid double regulation for international aviation. If free allowances under the EU ETS for aviation are reduced or eliminated, competitiveness safeguards should be provided.

1.5 There may be a need for a number of policy levers to enable the development and investments in sustainable aviation fuels and a practical implementation of sustainable aviation fuels.

1.1 Global demand of liquid fuels and their importance to the aviation sector

The global demand for liquid hydrocarbon products such as fuels for transport, petrochemical feedstock amongst others, is expected to increase until at least 2040[9]. These products have an unrivalled energy density making them an ideal means to carry and store energy. While alternatives for some of their current uses are being developed (e.g. in passenger cars, where electrification is expected to play a major role), liquid hydrocarbons remain difficult to replace in heavy-duty transport, marine transport, and the aviation sector as well as for the petrochemical industry. To allow the EU to reach its climate neutrality ambitions, there is undoubtedly a clear need to lower GHG emissions from all transport sectors, whilst aiming to maintain the significant social and economic benefits that aviation sector in particular has enabled.

The COVID-19 outbreak has hit the aviation sector extremely hard in an unprecedented way. Therefore, it is important that this sector can regain its economic viability quickly in order to maintain its efforts in the transition towards a more sustainable sector. Support measures to help the recovery as well as the decarbonisation efforts are now more the ever required.

1.2 Global holistic aviation commitments are preferred over regional initiatives

[9] According to the International Energy Agency (IEA) World Energy Outlook (WEO) 2017, as well as the EU Commission's Clean Planet for All, some specific sectors will continue to be mainly dependent on liquid fuels and products beyond this date.

A significant reduction of the CO_2 emissions of the aviation sector will require a holistic approach at global level, incorporating:

- The improvement of the energy efficiency of engines over time, something that is already well underway by the use of increasingly more efficient airplanes.
- The reduction of unnecessary CO_2 emissions in all the operational aspects of flying activities, both on the ground and in the air (e.g. implementation of Single European Sky).
- The continued growth in the use of sustainable alternative fuels.
- Implementation of global market-based mechanisms like CORSIA.

Since aviation is primarily a global industry, global commitments are preferred over regional initiatives to ensure the competitiveness of the aviation sector and its supply of fuel. To ensure the international competitiveness of the sector, it is essential that all players, airlines, airports and fuel suppliers, be subject to the same measures. If EU-wide initiatives are desired before global aviation CO_2 emission reduction agreements have been agreed, it should at least endeavour to:

- Ensure alignment between the EU aviation policies and global initiatives under consideration.
- Ensure a policy framework that supports investment in SAF production and ensure international support for the EU's use of sustainable aviation fuels as long as other regions have no equivalent measures.
- Develop EU-wide policies to avoid fragmentation of measures across the Union.
- Maintain access for citizens to air transport.
- Focus on policies that incentives the production and use of sustainable alternative fuels in aviation.

1.3 FuelsEurope position if EU sustainable aviation fuels initiatives are desired.

FuelsEurope supports the introduction of a combination of policies aiming to promote a faster development and deployment of sustainable aviation fuels on all intra-EU flights[10] with a review to include international flights with an aim to contribute to the reduction of CO_2 emissions from the EU aviation sector under following principles:

- Employ a holistic approach whereby energy efficiency, operational efficiencies next to the use of sustainable aviation fuels all contribute to achieve a lower carbon footprint from aviation.
- Ensure a technology neutral approach meaning that the same regulatory principles should apply regardless of the technology or feedstock used.
- Recognize and safeguard international competitiveness. It is essential that the international competitiveness of airlines, airports and fuel suppliers is protected by avoiding the carbon leakage. A proper design of the regulation should avoid that market participants change their behaviour to avoid the cost of legislation (tankering).
- Create a market for SAF in a time horizon corresponding to the economic life of the investment. To incentivise SAF it is necessary that investors in low-CO_2 technologies get return on their investments.
- Support well-to-wing CO_2 emission savings considerations to ensure adequate sustainability considerations. Those cover CO_2 emissions from the production and use of fuels and energy accounted for at every stage.

[10] All intra-EU flights are defined as the sum of the national (domestic) flights and the intra-EU flights (between countries of the EU or countries of an extended EU-region)

With the right policy framework in place, the EU has the potential to deliver the required SAF needed to enable to reach the EU's overall climate objective. The set of several key regulatory measures to enable the timely development and deployment of SAF could be:

- Fuel obligation fulfilment possible options:
  - Option 1: A Renewable Energy Directive mandate for the aviation sector with temporary incentives under the road transport target to speed up the deployment before 2030:
    - The first policy that could be supported is a uniform sustainable aviation fuel mandate across all Member States (EU-wide) under the Renewable Energy Directive aiming to ensure that a viable, diverse range of sustainable aviation fuel technologies are developed up to commercial scale. This will also promote the diversification and increased availability of feedstock needed to produce the sustainable aviation fuels commercially.
      - The mandate level must be realistic and achievable. The level of the mandate should take into consideration the flexibility provided in the feedstock that can be used to make SAF. It is crucial that an as wide feedstock base as possible is needed.
      - The mandate should be set until 2030 by a combination of mandatory values and the review of the 2030 indicative target depending on the progression of sustainable aviation fuels and the global CO_2 emission reduction initiatives.
      - The obligated parties would be both fuel suppliers as well as airline operators under an obligation to supply and to uplift SAF. Exemption from uplifting should be granted if supply is not provided.
      - An ultimate alternative compliance option should be foreseen to avoid incurring excessive cost. It is very important that the ultimate alternative compliance option be set at an EU-level to ensure harmonization and revenues are recycled to enable the large-scale demonstration of pre-commercial sustainable aviation fuel technologies.
      - Until a sustainable aviation fuel mandate is put in place, a temporary incentive is proposed to count the use of SAF in the aviation sector towards the road transport sector aiming to accelerate the deployment of SAF production. This incentive would replace the current multiplier of 1.2 applicable to the aviation sector.
      - Under an intra-EU flights mandate only, the voluntary use of sustainable aviation fuels on extra-EU flights should be promoted by making their use eligible and equivalent to the sustainable aviation fuels used on all intra-EU flights, provided mechanisms are in place to prevent double counting under other schemes (e.g. CORSIA or extra EU national requirements).
      - The sustainability criteria should be based on the Renewable Energy Directive II criteria. Those are more stringent than the CORSIA eligibility criteria. This should be reflected in the level of ambition that could be achieved under this policy option.

    - Option 2: The second policy option is the creation of a market for SAF, providing an adequate incentive to fuels based on their well-to-wing (WTWg) carbon footprint. A significant carbon-price signal is essential to unlock investments and innovation in low-carbon technologies and fuels. This could be achieved by a well-to-wing carbon intensity standard for fuels, with the fuel suppliers and airline operators as obligated party:
      - The mandate level must be realistic and achievable. The level of the mandate should take into consideration the flexibility provided in the feedstock that can be used to make sustainable aviation fuels.
      - The mandate should be set until 2030 by a combination of mandatory values and the review of the 2030 indicative target depending on the progression of sustainable aviation fuels and the global CO_2 emission reduction initiatives.

- An ultimate alternative compliance option should be foreseen to avoid incurring excessive cost. It is very important that the ultimate alternative compliance option be set at an EU-level to ensure harmonization and revenues are recycled to enable the large-scale demonstration of pre-commercial sustainable aviation fuel technologies.
- The sustainability criteria should possibly be defined coherent with the CORSIA sustainability criteria.
- In case of insufficient supply of low-carbon fuels, relief should be provided to airline operators for not obtaining the aviation fuel carbon intensity standard.

- Also, creating harmonised approaches to develop a single EU market for SAF such as a book and claim method, as well as the ability to trade compliance certificates between obligated parties are needed. Compliance trading should be possible amongst obligated parties since this will contribute to a more cost-effective compliance for all participants of the obligation. It will help to meet the obligation without having to develop small uneconomic supply chains and instead maximize production where there is sufficient feedstock, production and demand.
- If new policy proposals overlap with existing fuel policies, then these should be considered for retirement over a certain transition period.

➢ Aviation into CORSIA and the EU ETS:

- CORSIA and the EU ETS should be made coherent:
  - The inclusion of aviation emissions from flights which depart from or arrive in an EU airport in the ETS and the implementation of the ICAO market-based mechanism – CORSIA – as a global tool to achieve the aspirational goal of carbon neutral growth from 2020 onwards are setting a valuable regulatory framework. Global measures like CORSIA have the potential to create a competitive level playing field between EU and non-EU economic actors. In reviewing the design of those two schemes, it is essential to maintain their coherence while ensuring that the competitiveness of both airlines and fuel suppliers is protected.
  - Double regulation of international aviation under both CORSIA and any kind of EU ETS system should be avoided.

- An additional incentive towards the development and deployment of sustainable aviation fuels could be achieved via the creation of a standalone EU ETS for aviation. This is considered an effective mechanism to incentivise the deployment of low-carbon fuels, in particular when free allowances are reduced significantly or even possibly eliminated completely. However, this should occur only under following considerations:
  - It is supported to maintain all intra-EU flights under the EU ETS. This scope should be maintained as long as there is no coherence with the CORSIA system.
  - The reduction of free allocations for the EU aviation sector can be supported provided this reduction in free allowances is accompanied by the establishment of an EU ETS aviation ceiling/buy-out price from the date of significant reduction/withdrawal of the free allowances. Double regulation of international aviation under both CORSIA and the EU ETS should be avoided.
  - Sustainable aviation fuel use should yield an aviation EU-ETS credit consistent with the well-to-wing savings of the sustainable aviation fuel used. This aviation EU ETS

credit can be used to show compliance with the aviation emissions to surrender as obligated party under the aviation EU ETS mechanism.
    - In summary, we could support that the EU ETS aviation system evolves towards setting its own market compliance price limited by the ceiling price associated with the reduction of the free aviation allowances.
    - If several transport sectors would be elected to form part of a separate EU ETS system, then it is required to assess whether it is not desirable to put those transport sectors under a common, specific EU ETS transport system.

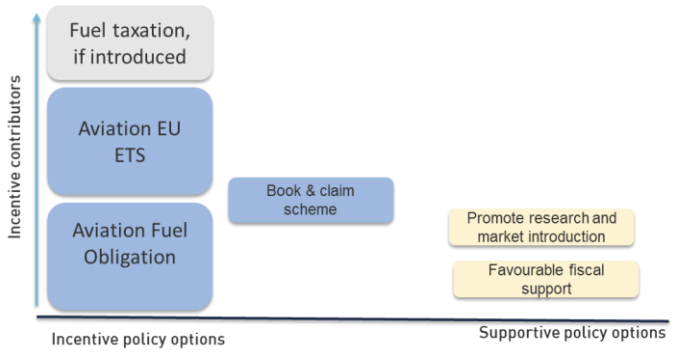
- Additional sustainable aviation fuels deployment and development could be incentivised via fuel taxation. If taxation of aviation fuels is introduced it should be used smartly and should be aimed at directly incentivising the use of sustainable alternative fuels. If the EU would consider aviation fuel taxation it should contain at least an element related to the combustion carbon intensity of the aviation fuel used. Sustainable aviation fuels should be exempted as a means to drive the deployment of sustainable alternative fuels.

- We are of the opinion that part of the revenues from several aviation related policies could be used to support for development and the production of sustainable aviation fuels as well as for the accelerated deployment of sustainable aviation fuel supply logistics.

- A policy framework to provide a favourable fiscal support framework may be needed. This may be justified as the technology and supply chains for sustainable aviation fuels are not fully developed and so for the first plants will be expensive. In order to get initial projects up and running, to learn by doing, direct tangible support may be needed, and the terms for this initial direct support need to be sufficiently firm, e.g.:
    - Capital grants.
    - Investment tax credits.
    - Loan guarantees.
    - Tendered volumes by either Governments, airlines or airports using a contract for difference approach.
    - Provide reduced landing fees for aircraft using sustainable aviation fuels.

- Research and support for market introduction and sustainable aviation fuels is needed:
    - Funding for research and market introduction of sustainable aviation fuels should be mobilized.

All the above measures and incentives would contribute to the deployment of sustainable aviation fuels as represented in the graph below:



Section 5
Proposal on reducing GHG emissions in shipping

1. Executive Summary: Marine Emissions in the EU Climate Ambition

Shipping is the backbone of international trade and commerce and an indispensable driver of EU prosperity. At the same time, maritime transport was responsible for the emission of 1,076 million tonnes of GHG in 2018, about 2.9% of global anthropogenic GHG emissions, according to the 4th IMO GHG study. Shipping emissions are projected to increase from 90% of 2008 emissions in 2018 to 90% and 130% of 2008 emissions by 2050 for a range of plausible long-term economic and energy scenarios in accordance with the Initial IMO Strategy on reduction of GHG emissions from ships.

Hence, for the EU to curb the rising GHG emissions from this important sector, and thus realising the EU Green Deal's ambition of climate neutrality by 2050 whilst remaining prosperous and competitive, it will need practicable and science-based policy solutions.

FuelsEurope fully supports the EU Green Deal's ambition of climate neutrality by 2050. In view of the dramatic challenges to the economy created by the Covid-19 crisis, FuelsEurope and its members recognise that there is no business as usual and are ready to fully play their part by developing alternative fuels, products, and services needed to achieve the climate-neutrality objective.

Specifically, the refining industry's Clean Fuels for All strategy indicates how low-carbon liquid fuels[11] for transport could contribute to the EU net climate neutrality goal, enabling the decarbonisation of maritime, aviation and road transport. The full-scale deployment of technologies for the production of these low-carbon fuels requires policies providing clear, stable and strong regulatory signals to investors. To facilitate a reduction of GHG emissions from shipping specifically, we strongly believe the following principles are necessary determinants of success:

- Given the international market structure of the shipping sector, global approaches should be the primary lever to drive the reduction of GHG emissions. We hence invite the EU to collaborate closely with its partners in the IMO, as well as endeavour to avoid climate ambition gaps between the EU and the rest of the world in the maritime sector, and regulatory overlap with the IMO energy efficiency design index (EEDI) and ship energy efficiency management plan (SEEMP).
- To curb the GHG emissions from the shipping sector efficiently, any policy regime should consider GHG abatement along the full value chain of marine transport, from efficient ship design and ship operation, over low-carbon port infrastructure, to sustainable marine fuels.
- As part of any basket of policy solutions, establishing a market for low-carbon marine fuels will be an essential component. Key enablers of such a market would be a sufficiently high carbon price, predictable regulatory framework, investment certainty, a well-to-wake consideration of shipping emissions to support their long-term sustainability, as well as a technology neutral approach.
- If the EU wishes to move ahead of the international community with regard to shipping decarbonisation and create the enabling conditions for a low-carbon marine fuels market, it should do so in a manner that avoids carbon leakage, safeguards the competitiveness of the EU shipping sector and marine fuel industry, and avoids frictions or redundancies between global and national policy schemes. Options for the EU could include:
    - Integration of shipping into a dedicated, stand-alone cap & trade system.
    - Regulation on sustainable marine fuels through carbon intensity requirements.
    - Policy levers that provide investment support, which may include fiscal measures.

[11] Low-carbon fuels are able to reduce CO2 emissions during their production and use (also referred to as "well-to-wake") compared to conventional, fossil-based fuels.

2. The Case for a Globally Integrated Approach

Handling almost 90% of the EU's external freight trade[12], the shipping sector is a distinctly global market that will require similarly global solutions if GHG emissions are to be meaningfully reduced. With this in mind, the **IMO should be the principal forum to address GHG emissions reductions in shipping in a coordinated manner with global partners**.

Beyond this, **we invite the EU to avoid ambition gaps between the EU and the rest of the world in the maritime sector**, and ensure consistency with global regulatory regimes to avoid legislative overlap or discrepancies. Currently, a number of IMO policies are already successfully driving emissions reductions:

The Energy Efficiency Design Index (EEDI)

- Facilitates improvements in energy efficiency of new vessels, and does so successfully, as noted in the EU's recent 2019 Annual Report on CO2 Emissions from Maritime Transport. These measures may range from, but are not restricted to, using "lighter materials, slender designs, less friction, [and] waste heat recovery"[13]:
  - The IMO is already advancing the EEDI phase 3 from 2025 to 2022 for some segments. To avoid market fragmentation, and maximise the effectiveness of this scheme, **we recommend maintaining alignment with the IMO targets**.

The Ship Energy Efficiency Management Plan (SEEMP)

- Facilitates improvements in operational efficiency, from reducing ship speed, to increasing ship loading factor, and optimising the ship-port interfaces:
  - Operational energy efficiency standards on a global level are complementary measures to meaningfully reduce shipping emissions. **We invite the EU to advocate at the IMO for the consideration of the well-to-wake contribution of marine fuel** towards the carbon intensity counted under the SEEMP to facilitate the deployment of sustainable marine fuels and trigger up-stream emissions reductions through Carbon Capture and Storage (CCS), Carbon Capture and Utilisation (CCU), and decarbonised hydrogen[14].

In case the EU pursues specific measures within its own jurisdiction, we recommend lawmakers to consider the following principles to deliver on the EU's climate objective:

- Ensure coherence between regional and global measures; **we invite the EU to design policy which, even if first deployed regionally, can be expanded in scope to provide global solutions.**
- Carefully impact-assess the effects of EU-specific policy measures aiming at creating a meaningful carbon price on the international competitiveness of the marine business. Whilst facilitating the up-take of low-carbon technologies, these policies may make shipping to/from the EU more expensive. Hence, **we ask the EU Commission/Member States to ensure that their respective measures are effective in reducing global GHG emissions** from shipping.
- Consider the sector's projected growth over the next decades, and design policy that reduces GHG emissions without limiting maritime transport as such.

3. Design Principles for Creating a Market for Low-Carbon Marine Fuels

In addition to measures under the EEDI and SEEMP, complementary policy signals are needed to build a business case for sustainable marine fuels (SMF). SMF may take the form of sustainable first generation and advanced biofuels, renewable ammonia and methanol, LNG, decarbonised H2, as well as e-fuel or non-biological origin fuels and will be an integral part of the solution, alongside other options. While a number of studies attest to their GHG savings potential, the commercialisation has so far been slow, impeded by the high costs for first movers, very limited demand, the absence of a coherent policy framework, and

[12] https://ec.europa.eu/transport/modes/maritime_en
[13] https://www.itf-oecd.org/sites/default/files/docs/decarbonising-maritime-transport-2035.pdf
[14] Including both hydrogen produced from electrolysis with renewable electricity, as well as hydrogen produced from steam-methane reforming and CCS.

international competitive pressures. For SMF to become a part of the EU maritime decarbonisation strategy, we believe the following design principles to be important enablers of success:

- Regulatory predictability is an important pre-condition for mobilising investment, and minimising the risk profile of low-carbon projects generally, and sustainable marine fuel particularly:
  - This entails that the respective sustainability criteria underlying the eventual policy design are sufficiently robust and coherent with other transport modes to develop synergies and avoid arbitrage.
- Ensure a technology neutral approach, meaning that the same regulatory principles should apply regardless of the technology.
- A well-to-wake approach at an international level.
- Develop a market for low-carbon fuels with a sufficiently high carbon price to support a business case for SMF's supply and uptake, whilst being mindful of the competitive effects of regionally specific measures.
- To develop new solutions to reducing shipping emissions, and scale up existing ones, sufficient funding for R&D activities are vital, and access to finance for low-carbon projects for all shipping segments should be actively facilitated.
- Enabling the decarbonisation of the shipping sector requires an integrated approach along the full value chain, taking into account not just the ship and its fuel, but also port infrastructure. **We would welcome if the upcoming revision of the Directive for Alternative Fuel Infrastructure take these points into considerations.**
- Establish policy in a way that facilitates industrial synergies between fuel, waste & residue, and other industrial clusters.

4. Policy Options to Facilitate the Deployment of Low-Carbon Fuels at EU level

FuelsEurope points towards the following considerations when designing policy solutions to reduce emission on the shipping sector:

Option 1: Applying a dedicated cap & trade mechanism to the maritime sector

- **Should the EU apply a cap & trade system to the shipping sector**, **FuelsEurope recommends to establish a dedicated, stand-alone marine ETS, separate from the main EU ETS.** With the ship operator/ owners as the obligated party, this measure would draw on data gathered under the MRV Directive (include vessels >5000GT, hence capturing around 90% of emissions measured under the MRV system[15], possibly complemented with a de-minimis threshold for small operators based on annual CO2 emissions as exists for aviation. The emissions covered by this cap & trade systems are those emitted from the ship (i.e. the "tank-to-wake" GHG emissions), with sustainable biofuels, waste-to-fuel, and e-fuels all deemed zero emissions. In this scenario, SMF would reduce the amount of allowances that are surrendered consistent with the well-to-wake GHG savings of the fuel used, in a manner that is entirely technology neutral. In addition, a price corridor for allowances may be established to provide additional investment certainty.
- Considering the administrative challenges of applying an ETS to shipping emissions (such as monitoring of emissions and emission reports), **FuelsEurope recommends to apply the cap & trade system to intra-EU voyages only.**
- **FuelsEurope does not support bringing shipping emissions into the main ETS** since it would send only a weak incentive for decarbonisation, as the comparatively high marginal abatement costs in the shipping sector would risk cross-subsidisation of other, less difficult to abate, sectors. In addition, the cascading effects on other EU ETS sectors should be carefully impact assessed prior to changes to the system's scope. With a sharp linear reduction in available allowances, coupled with a the

[15] 2019 Annual Report on CO2 Emissions from Maritime Transport

projected growth in the shipping sector, the price of allowances might rise beyond what EU industry exposed to international competitive pressures may be able to tolerate. Strengthened carbon leakage protection mechanisms would hence be indispensable to ensure its resilience.

- The eventual integration of the stand-alone European Marine ETS into a global system should be sought, by advocating at IMO level and seeking to avoid overlap with other existing, comparable cap & trade systems around the world, including Europe.
- We recommend to ear-mark revenues from auctioned allowances for them to remain into the shipping sector through funding mechanisms for decarbonisation projects, which may include ships themselves, ports, and fuel infrastructure.

Option 2: Regulation on Sustainable Marine Fuels through carbon intensity requirements

- **Should the EU set a regulation on sustainable marine fuels, we believe that this regulation should be on a well-to-wake carbon intensity basis**. Setting a carbon intensity (CI) factor for marine transport, with the ship operator as the obligated party, would incentivize development of SMF, whilst remaining entirely technology neutral.
- A regional carbon intensity scheme would face considerable risk of carbon leakage. Hence, **we invite the EU to maintain close alignment with the IMO and international partners.**
- When considering the efficacy of a CI factor in shipping, we invite the EU to consider the supply and demand of low-carbon technologies across all transport modes. The road sector, given its present regulatory environment, price structure and scale, coupled with its lower sensitivity to carbon leakage, is an important lead market that will be critical for providing a business case to mobilising investments and innovation in low-carbon fuels for marine.

Possible introduction of Taxation as a complementary lever

- If taxation of marine fuels is introduced, it should be used smartly and **should be aimed at directly incentivising the use of SMF**. If the EU would consider marine fuel taxation **it should be based primarily, or wholly on the combustion CO2 of the fuel used**. The portion of CO2 emitted by SMF during use which is of renewable or recycled nature should enjoy tax exemption, as well as electricity, as a means to drive the deployment of sustainable alternative fuels, and facilitate the deployment of alternative port infrastructure.
- Fuel taxation alone is unlikely to deliver sufficient incentives to facilitate the deployment of SMF at scale, particularly due to the risk of carbon leakage. However, if set up in a way that is harmonised across the EU, and sufficiently stable, it may serve as a complementary policy lever to build a business case for SMF.

FuelsEurope, the voice of the European petroleum refining industry

FuelsEurope represents with the EU institutions the interest of 40 companies operating refineries in the EU. Members account for almost 100% of EU petroleum refining capacity and more than 75% of EU motor fuel retail sales.

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