



March 2021

## Decarbonisation in the aviation and maritime sectors

The European transport industry is fully supportive of the European Green Deal's ambition to make Europe the first climate neutral continent by 2050. With this statement, and considering the new post-COVID 19 reality, **BusinessEurope offers specific considerations and recommendations for effectively decarbonising the aviation and maritime modes of transport, in particular in view of the upcoming “ReFuelEU Aviation” and “FuelEU Maritime” proposals.**

The European aviation and maritime sectors are facing huge decarbonisation challenges in the next decades, such as the current lack of market ready zero-emission technologies, long development and life cycles of aircraft and vessels, significant investments to be done in refuelling equipment and infrastructure, and fierce international competition. The massive deployment of alternative sustainable fuels<sup>1</sup> is key for decarbonising these sectors. Battery technologies are currently too heavy and not able to store enough energy for large airplanes and deep-sea shipping. Reduction of CO<sub>2</sub> emissions already in this decade - with the current and nearby fleet - is possible with drop-in fuels such as bio-based fuels or LNG, and synthetic fuels will gradually take their part as renewable electricity and renewable hydrogen become more and more available for their production. For the longer-term, electrification and hydrogen will go together with new generation of airplanes and vessels design.

### 1. A European approach to alternative sustainable fuels

Alternative sustainable fuels are an essential pillar for the transport sector to decarbonise in the next decades. For example, sustainable aviation fuels (SAF) can reduce overall CO<sub>2</sub> emissions by up to 85% compared with conventional A-1 jet fuel based on a life cycle approach<sup>2</sup>. Yet, we see that the market for sustainable fuels is currently still very scarce. For aviation, the current commercially available SAF are 3 to 6 times more expensive than regular kerosene. Other future fuel technologies, such as Power-to-Liquid (PtL) fuels, are expected to be 8 to 10 times more expensive, also because of higher feedstock and production costs<sup>3</sup>.

For maritime, while several studies attest the CO<sub>2</sub> savings potential of sustainable marine fuels (SMF), the commercialisation has so far been slow, notably impeded by the higher costs and the engine technology of the current fleet. Except for LNG which is cheaper than fuel oil, most of the SMF are between two and four times more expensive than fuel oil. If comparing with green hydrogen it could even reach 8 times the cost of fuel oil<sup>4</sup>.

The EU has a great opportunity and is well-placed to take the lead in the creation of a European sustainable transport fuel industry. Europe has the know-how, place for the infrastructure and expertise. It would be good for growth and job creation and lessens our dependence on other parts of the world.

---

<sup>1</sup> Renewable and low-carbon liquid and gaseous fuels such as hydrogen, ammonia, methanol, LNG, LPG, sustainable biofuels, eFuels or synthetic fuels.

<sup>2</sup> See [ReFuelEU Aviation Inception Impact Assessment](#) and [Airlines for Europe](#).

<sup>3</sup> See [European Union Aviation Safety Agency](#)

<sup>4</sup> See [IMO](#), [IRENA](#) and [IEA](#)



In this context, we welcome the European Commission's plans to come with two dedicated initiatives referred to as "ReFuelEU Aviation" and "FuelEU Maritime" to ramp up the production, deployment, and supply of affordable, high quality alternative sustainable fuels in Europe. Having two distinct and tailor-made initiatives is important in order to fully take into account the specific technological and economic challenges of each sector whose business models still have to be built to guarantee their viability and profitability. The following points should be duly considered:

- *Put in place a predictable, coherent, and long-term EU framework.* To scale up the production and ramp up the supply of affordable alternative sustainable fuels for the transport sector in Europe, a comprehensive, coherent and technologically neutral EU framework needs to be in place. The EU framework should be predictable and long-term in nature (i.e., stay largely the same for 10-15 years, aligned with the minimum lifetime of producing plants, with no retroactivity rules) to ensure the stability needed to trigger investment. Such a framework should not lose sight of the overall objectives to ensure balanced co-modality in the EU transport systems.
- *Sustainability at the heart of any proposal.* Feedstock used to produce alternative sustainable fuels needs to be truly sustainable and meet high sustainability criteria. The criteria should be standardised and verified through an independent assessment. Production of truly sustainable fuels must have a minimal impact on biodiversity and land use change, not compete with food production or access to food resources, have a positive impact on local development, and lead to a high level of CO<sub>2</sub> reduction as specified in the Renewable Energy Directive (RED II). Such feedstock is available for road, aviation and maritime without relaxing the sustainability criteria of RED II. However, the list of recognised feedstocks in RED II annex IX should be extended to other sustainable sources.
- *For aviation, only introduce quotas or EU Blending Mandates when the market is mature enough.* We support the introduction of quotas or EU Blending Mandates for the medium-term as long as the market is mature enough and the right conditions are in place. Any obligation should be proportional to the potential supply of high-quality alternative sustainable fuels and must avoid a rapid spike in the fuel price. For any obligation, it is crucial to focus on the right quantity and quality of alternative sustainable fuels that would fall under the EU quotas or blending mandates, which is a function of both the scope and the percentage of the mandate. Any blending mandate should ensure sufficient compliance flexibility to increase overall efficiency.
- *Avoid overlap between EU and national obligations.* If EU obligations are introduced, it must be ensured that they do not overlap with national obligations. An obligation at EU level is better than a system of national duplicating and overlapping measures, which distort the single market. Should the national obligation remain in place, the amount of alternative sustainable fuels used should count for the national and EU obligations. Additionally, it is important to avoid any overlap between different EU-legislative instruments related to obligations.



- *Support the ramp-up of electricity-based fuels in aviation (PtL).* With aviation having the biggest challenge to decarbonise in terms of lack of alternatives to kerosene in the short-term, focus should not only be on the production and deployment of biofuels and electric-powered aircraft, but also on the ramp-up of PtL for aviation. This must be done through dedicated EU policy for clean renewable energy and appropriate funding. The market ramp-up of PtL fuels to be used in aviation could also be supported by promoting the use of by-products, created during the PtL-production process, in cars and trucks.
- *For maritime, the “FuelEU Maritime” proposal provides an opportunity to lay out a pathway for the sector to reach net zero emissions by 2050, for instance, via a carbon intensity standard for that incentivise all alternative sustainable fuels (well-to-wake based) linked to a credit system that allows all alternative fuels for compliance flexibility.*

## 2. Support schemes through funding

To promote the deployment and the production of alternative sustainable fuels in Europe, we do not only need a stable and coherent EU policy framework, but also direct EU support. It is fundamental for industry to be successful in its green transition by supporting the upscaling of production and development of the new technologies producing the sustainable fuels to achieve the required mature level. It is crucial to bring the production cost and price of alternative fuels down not only by upscaling production and more mature application of technologies (e.g., by mobilising the first window of InvestEU), but also by closing the “price gap” using EU funds for instance from the EU ETS revenues, i.e., the EU ETS Innovation Fund or by building production capacity through national plans and the NextGenerationEU recovery fund.

Support through EU and national funding mechanisms should *at least* be in place until 2030 as we expect the price of alternative sustainable fuels to remain significantly higher than that of conventional oil-based fuels during the next 10 years. As more than 30% of EU funds must be used to build back better and greener, spending on alternative fuel production scale-up in Europe would be an excellent way to do this. Market development and level of maturity of these fuels should be monitored closely to readjust funding mechanisms accordingly. Another aspect that should be considered when developing funding strategies is the potential of a technology chain to generate positive impacts on European economic and industrial landscape, also in terms of technological know-how. Moreover, direct public investment (also possibly through EU/state ownership) in alternative fuel production facilities is key to achieve a quicker scale-up.

In this context, we welcome the idea of bringing together all relevant actors in a Renewable and Low-Carbon Fuels Value Chain Alliance to complete the common understanding and the necessary conditions for rapid investments in new production facilities that are needed to secure the additional demand for alternative sustainable fuels such as for aviation and shipping. However, while considering the possible synergies, such a broad alliance must reflect the specific characteristics of each sector. Therefore, we advocate for dedicated sector alliances such as for Sustainable Aviation Fuels (SAF) that will bring together their most relevant industrial players and investors, thus guaranteeing efficiency and concrete nature of this alliance. The alliance should be result oriented and finally help to identify a pipeline of concrete industrial projects to boost production.



### 3. Articulation with CORSIA and IMO

Aviation was the first sector ever to establish a global system to offset its emissions through the United Nations' Carbon Offsetting Scheme for International Aviation (CORSIA). It intends to achieve carbon-neutral growth from 2020<sup>5</sup>, even if the first phase of the agreement (2021-2026) is voluntary. To date, 88 countries have declared their intention to participate in the first phase (including the United States, China and Gulf countries), representing 77% of international emissions.<sup>6</sup> CORSIA is expected to deliver projects that will reduce carbon emissions by around 2.5 billion tons between 2021 and 2035.

For maritime, the environmental theme has historically been central among the policies of the International Maritime Organization (IMO), that in 1973 has adopted the International Convention for the Prevention of Pollution from Ships (MARPOL), that entered into force in 1983. As of January 2018, 156 states are parties to the convention, being flag states of 99.42% of the world's shipping tonnage. The IMO GHG strategy (adopted in April 2018) envisages a reduction in carbon intensity of international shipping (per transport work as an average across international shipping) by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008. Moreover, the total annual GHG emissions from international shipping should be reduced by at least 50% by 2050 compared to 2008.

It is essential that all national and regional policies addressing aviation and maritime emissions are carefully aligned with and support CORSIA and MARPOL, avoid double regulation of the same CO<sub>2</sub> emissions, and do not lead to international disputes. This applies especially when considering the revision of the EU ETS. We support the continuation of aviation's inclusion into the EU ETS in full compatibility with CORSIA. Should maritime be included, only separate emissions trading schemes could be envisaged at the beginning and it should also be in full compatibility with MARPOL. For both, aviation and maritime, it is very important to avoid overlap between the EU and international frameworks.

### 4. Carbon leakage measures

As EU climate legislation becomes more stringent, it is crucial to ensure that a global level playing field is maintained for European companies operating globally, such as businesses in the aviation and maritime sectors. European ambitions towards climate neutrality in 2050 will add costs for companies that non-EU based companies are often not subjected to, such as the EU ETS. The global picture has to be taken into account to avoid carbon leakage.

For example, if an EU blending mandate, adding significant costs for airlines or shipping operators, or other measures to the same effect - such as a reduction of free EU ETS allowances - are put in place without adequate protection measures, it would cause carbon leakage, meaning that a significant share of emissions may be merely displaced as traffic flows are captured outside EU. Clauses conditioning the levels of blending obligations to the adoption of mandates in other regions of the world should also be considered.

---

<sup>5</sup> Due to Covid pandemic, the baseline is now 2019

<sup>6</sup> See [ICAO](#)



In order to avoid unfair competition and carbon leakage, with a risk of negative impact on jobs and employment, adequate protection measures (e.g., free EU ETS allowances) for European companies operating in sectors that compete globally such as aviation or maritime must be conducted simultaneously to that of reinforcements of EU environmental standards.

#### 5. Changes in fuel taxation

While we support the Commission's intention to restructure and update energy taxation in Europe through its upcoming revision of the Energy Taxation Directive (ETD), we believe that CO<sub>2</sub> reductions in the aviation and maritime sector can be better achieved through market-based measures, which are already applied to aviation through the EU Emissions Trading System (ETS), and globally through CORSIA and the IMO MARPOL Annex VI convention for maritime. Moreover, many ports and airports in Europe apply differentiating fees for more polluting fleet providing further incentives to decarbonise. An increase in the sectors' tax burden would substantially reduce the investment capacity of the sector into new decarbonisation technologies, including cleaner fleet, carbon capture and alternative sustainable fuels.

If fuel taxes were put in place nonetheless, the following points should be taken into consideration:

- To keep a level playing field for the European businesses, it is necessary to carefully evaluate any changes to the ETD, such as the impact on the structure of excise rates, the ETD's relationship with existing carbon pricing tools at EU and national level. Furthermore, revenues should at least be earmarked to projects and measures that effectively contribute to decarbonising the specific transport mode that is being taxed or should bring a lower tax burden in other areas within aviation and maritime sectors, such as lower taxes on labour income and capital.
- Policy makers should discuss when revising the ETD the current rules for shore-side energy carriers, and how an alteration or expansion of the current tax exemption - e.g. towards electricity but also towards other innovative green energy carriers - can incentivise further efforts for a reduction in greenhouse gas emissions.
- For the aviation sector, it is paramount to also consider the existing international treaties regarding taxing fuels in international aviation. Furthermore, a fuel tax would certainly not efficiently support the decarbonisation of the sector, in particular as there is currently no wide easy access to sustainable aviation fuels. Finally, there should be a thorough evaluation of the potential impact of the tax on the tourism sector, in particular for island countries and regions. This concern is particularly acute in light of the COVID-19 pandemic.

\* \* \*