



2023/2405

31.10.2023

**REGULATION (EU) 2023/2405 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**  
**of 18 October 2023**  
**on ensuring a level playing field for sustainable air transport (ReFuelEU Aviation)**  
(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 100(2) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee <sup>(1)</sup>,

After consulting the Committee of the Regions,

Acting in accordance with the ordinary legislative procedure <sup>(2)</sup>,

Whereas:

- (1) Over the past decades, air transport has played a crucial role in the Union's economy and in the everyday lives of Union citizens, as one of the best performing and most dynamic sectors of the Union economy. It has been a strong driver for economic growth, jobs, trade and tourism, as well as for connectivity and mobility for businesses and citizens alike, and one of the main connectors between outermost regions and the mainland, particularly within the Union air transport market. Growth in air transport services has significantly contributed to improving connectivity, fostering cohesion, and reducing regional disparities within the Union, in particular for peripheral, outermost, sparsely populated and insular regions, as well as with third countries, and has been a significant enabler of the Union economy.
- (2) From 2020, air transport has been one of the hardest hit sector by the COVID-19 crisis. It is expected that air traffic will gradually resume in the coming years and recover to its pre-crisis levels. The International Civil Aviation Organisation (ICAO) estimates a growth in Europe of up to 3,1 % per year until 2050 for passenger traffic, and up to 2,4 % per year for freight traffic according to its post-COVID-19 forecast in a high traffic scenario. At the same time, emissions from air transport have been increasing since 1990 and the trend of increasing emissions could return as we overcome the pandemic. Therefore, it is imperative to prepare for the future and make the necessary adjustments ensuring a well-functioning air transport sector that contributes fully to achieving the Union's climate goals, with high levels of connectivity, affordability, safety and security. The Union has established legal obligations under Regulation (EU) 2021/1119 of the European Parliament and of the Council <sup>(3)</sup> to achieve climate neutrality by 2050 at the latest and to achieve a reduction of net greenhouse gas emissions by at least 55 % compared to 1990 by 2030. In order to achieve this, all economic sectors, including the transport sector, have to take rapid steps to decarbonise. For the air transport sector, this necessitates a strong ramp-up of the production, supply and uptake of sustainable aviation fuels (SAF).

<sup>(1)</sup> OJ C 105, 4.3.2022, p. 134.

<sup>(2)</sup> Position of the European Parliament of 13 September 2023 (not yet published in the Official Journal) and decision of the Council of 9 October 2023.

<sup>(3)</sup> Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) No 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1).

- (3) The functioning of the Union air transport sector is determined by its cross-border nature across the Union, and by its global dimension. The aviation market is one of the most integrated sectors in the internal market, governed by uniform rules on market access and operating conditions. The Union's external air transport policy is governed by rules established at global level at ICAO, and in comprehensive multilateral or bilateral agreements between the Union or its Member States, and third countries. It is therefore important that the Union sustains the efforts made at international, multilateral and bilateral level to promote a high level of ambition and convergence in the uptake of SAF, while providing for an international level playing field.
- (4) The air transport market is subject to strong competition between economic actors globally and across the Union, for which a level playing field is indispensable. The stability and prosperity of the air transport market and its economic actors relies on a clear and harmonised policy framework where aircraft operators, airports and other aviation actors can operate on the basis of equal rules and opportunities, leading to a vibrant sector and to job opportunities. To a large extent intra-EU flights are part of global itineraries set in a global air transport market. The same is valid for itineraries from non-EU to non-EU destinations through European airports. Where market distortions occur, aircraft operators or airports are put at risk of a disadvantage with internal or external competitors. In turn, this can result in a loss of competitiveness of the air transport industry, putting air transport businesses and jobs at risk, and a loss of air connectivity and transport choices for citizens and businesses.
- (5) In particular, it is essential to ensure a level playing field across the Union air transport market regarding aviation fuel, which accounts for a substantial share of aircraft operators' costs while fostering the decarbonisation of air transport by promoting SAF. Variations in aviation fuel prices can affect aircraft operators' economic performance and negatively impact competition on the market. Higher aviation fuel prices translating directly into higher end-consumer fares would reduce the connectivity of regions, the mobility of citizens and the competitiveness of the air transport sector and also mobility. Where differences in aviation fuel prices exist between Union airports or between Union and non-Union airports, this can lead aircraft operators to adapt their refuelling strategies for economic reasons. Fuel tankering increases aircraft's fuel consumption and results in unnecessary greenhouse gas emissions. Fuel tankering by aircraft operators accordingly undermines the Union's efforts towards environmental protection. Some aircraft operators are able to use favourable aviation fuel prices at their home bases as a competitive advantage towards other aircraft operators operating similar routes. This can have detrimental effects on the competitiveness of the air transport sector, leading to market distortions and harming air connectivity. This Regulation should set up measures to prevent such practices in order to avoid unnecessary environmental damage as well as to restore and preserve the conditions for fair competition on the Union air transport market.
- (6) A key objective of the common transport policy is sustainable development. This requires an integrated approach aimed at ensuring the effective functioning of Union transport systems, taking into account social standards and environmental objectives. Sustainable development of air transport requires the introduction of measures, including economic instruments, aimed at reducing the carbon emissions from aircraft departing from Union airports and developing a market for the production and supply of SAF. Such measures should contribute to meeting the Union's climate objectives by 2030 and 2050.
- (7) The Commission communication of 9 December 2020 entitled 'Sustainable and Smart Mobility Strategy – putting European transport on track for the future' sets a course of action for the Union transport system to achieve its green and digital transformation and become more resilient. The decarbonisation of the air transport sector is a necessary and challenging process, especially in the short term. Technological advancements, and a clear commitment from the aviation industry, pursued in European and national research and innovation programmes have contributed to important emission reductions in the past decades. However, the global growth of air traffic has outpaced the sector's emissions reductions. Whereas new technologies, including the development of zero-emission electric- or hydrogen-powered aircraft, are expected to help reducing short-haul aviation's reliance on fossil energy in the next decades and can play an important role in commercial aviation in the medium and long term, SAF offer a promising solution for significant decarbonisation of all flight ranges, both in the short, and in the medium and long term. However, this potential is currently largely untapped and needs support.

- (8) The principle of energy efficiency first has been implemented in the air transport sector. The deployment of more energy efficient engines contributes to decreasing the environmental footprint of flights and also more resource efficient use of SAF.
- (9) SAF are aviation fuels that comprise liquid, drop-in fuels, fully fungible with conventional aviation fuels and compatible with existing aircraft engines. Several production pathways of SAF have been certified at global level for use in civil and military aviation. SAF are technologically ready to play an important role in reducing emissions from air transport already in the very short term. They are expected to account for a major part of the aviation fuels mix in the medium and long term. Further, with the support of appropriate international fuel standards, and support for the design of those standards, SAF might contribute to lowering the aromatics content of the final aviation fuel used by an aircraft operator, thus helping to reduce other non-CO<sub>2</sub> emissions. Other aviation fuels such as electricity or hydrogen are promising technologies and are expected to progressively contribute to the decarbonisation of air transport, beginning with short-haul flights. This Regulation has the potential to further accelerate scientific development and deployment of these technologies, as well as boost commercial innovation in respect of them, by allowing economic operators to consider these technologies when they become mature and commercially available. It will also increase market certainty and predictability and act as an incentive for the investments in these new technologies that are necessary.
- (10) The gradual introduction of SAF on the Union air transport market will represent an additional fuel cost for airlines, as such fuel technologies are currently more expensive to produce than conventional aviation fuels. This is expected to exacerbate the pre-existing issues of level playing field on the Union air transport market as regards aviation fuels, and to cause further distortions among aircraft operators and airports, also in the context of the implementation by the Union and its Member States of ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) in accordance with Council Decision (EU) 2020/954 <sup>(4)</sup> and EU Emissions Trading System (EU ETS) established by Directive 2003/87/EC of the European Parliament and of the Council <sup>(5)</sup> as amended by Directive (EU) 2023/958 of the European Parliament and of the Council <sup>(6)</sup>. The availability of feedstock and the production capacity of SAF are limited. An intensified competition for limited feedstock could lead to shortages of supply and market distortions and thereby negatively affect the competitiveness of the aviation sector as a whole. This Regulation should take measures to prevent that the introduction of SAF affects negatively the competitiveness of the aviation sector by defining harmonised requirements across the Union.
- (11) At global level, SAF are regulated and defined by ICAO, where countries agree on detailed requirements on the sustainability, traceability and accounting of certified SAF pathways for use on flights covered by CORSIA. While incentives are set in CORSIA and SAF are considered an integral pillar of the work on the feasibility of the long-term global aspirational goal (LTAG) for international aviation of net-zero carbon emissions by 2050, adopted at the 41st ICAO Assembly in October 2022, there is currently no mandatory scheme on the use of SAF for international flights. Comprehensive multilateral or bilateral air transport agreements between the Union, or its Member States, and third countries generally include provisions on environmental protection. However, for the time being, such provisions do not impose on contracting parties any binding requirements on the use of SAF.

<sup>(4)</sup> Council Decision (EU) 2020/954 of 25 June 2020 on the position to be taken on behalf of the European Union within the International Civil Aviation Organization as regards the notification of voluntary participation in the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) from 1 January 2021 and the option selected for calculating aeroplane operators' offsetting requirements during the 2021-2023 period (OJ L 212, 3.7.2020, p. 14).

<sup>(5)</sup> Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a system for greenhouse gas emission allowance trading within the Union and amending Council Directive 96/61/EC (OJ L 275, 25.10.2003, p. 32).

<sup>(6)</sup> Directive (EU) 2023/958 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC as regards aviation's contribution to the Union's economy-wide emission reduction target and the appropriate implementation of a global market-based measure (OJ L 130, 16.5.2023, p. 115).

- (12) In order to prevent distortions of competition in the global air transport market, that could lead to the loss of traffic flows connecting through Union airports and to carbon leakage and in order to create a global market of SAF, the Union should take a global lead in the shift towards the use of SAF, engage in international negotiations to harmonise definitions and standards of SAF and promote international convergence on the rules concerning the production, uptake and uplift of SAF. The Commission and Member States should sustain efforts at ICAO for an ambitious global framework for the production and uptake of SAF. Furthermore, the Commission should regularly assess whether the provisions of this Regulation have an adverse effect on the functioning of the Union air transport market, the sector's competitiveness, the international level playing field with regards to air carriers and airport hubs and possible re-routing leading to carbon leakage and, where appropriate, present remedies to address these adverse effects.
- (13) At Union level, general rules on renewable energy for the transport sector are set out in Directive (EU) 2018/2001 of the European Parliament and of the Council <sup>(7)</sup>. In the past, such horizontal cross-sectoral regulatory frameworks have not proven effective to operate a transition from fossil fuels to SAF in air transport. Directive (EU) 2018/2001 and its predecessor set out overarching targets across all transport modes to be supplied with renewable fuels. As aviation is a relatively small fuels market for which renewable fuels are more costly to produce in comparison to other transport modes, and operates in a highly competitive and integrated Union air transport market, the regulatory framework should be complemented with aviation-specific measures to effectively boost the deployment of SAF. Further, national law transposing Directive (EU) 2018/2001 risks creating significant fragmentation in the Union air transport market, where national rules on SAF would set out widely differing targets. This would be expected to further exacerbate the issues of level playing field in air transport.
- (14) Therefore, uniform rules need to be laid down for the Union air transport market to complement Directive (EU) 2018/2001 and to deliver on its overall objectives by addressing the specific needs and requirements arising from the Union air transport market and promoting SAF. In particular, the present Regulation aims to avoid a fragmentation of the Union air transport market, prevent possible competitive distortions between economic actors, or unfair practices of cost avoidance as regards the refuelling of aircraft operators, while fostering the development of SAF in the Union. Targeted support and financing at the Union and national levels, as well as public and private partnerships can further complement this Regulation to improve SAF availability and affordability and to further accelerate the supply and uptake of SAF. Moreover, this Regulation should be without prejudice to the obligations laid down in Directive (EU) 2018/2001; Member States can claim the use of relevant fuels covered by this Regulation for achieving the objectives and targets laid down in that Directive subject to the conditions and within the limits of that Directive.
- (15) This Regulation aims in the first instance to set out a framework restoring and preserving a level playing field on the Union air transport market as regards the use of aviation fuels. Such a framework should prevent divergent requirements across the Union that would exacerbate refuelling practices distorting competition between aircraft operators or putting some Union airports at competitive disadvantage with others. In a second instance, it aims to gear the Union air transport market with robust rules to ensure that gradually increasing shares of SAF can be introduced at Union airports without detrimental effects on the competitiveness of the Union air transport market.
- (16) It is essential to set harmonised rules across the internal market, applying directly and in a uniform way to air transport market actors on the one hand, and aviation fuels market actors on the other hand. The overarching framework set out by Directive (EU) 2018/2001 should be complemented with a *lex specialis* applying to air transport. It should include gradually increasing minimum shares for the supply of SAF. Such minimum shares should be carefully defined, taking into account the objectives of a well-functioning Union air transport market, the need to decarbonise the air transport sector and the current status of the SAF industry.

---

<sup>(7)</sup> Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (OJ L 328, 21.12.2018, p. 82).

- (17) The present Regulation should apply to aircraft engaged in civil aviation, carrying out commercial air transport flights. It should not apply to aircraft such as military aircraft and flights used only for operations for humanitarian, repatriation and returns, whether voluntary or enforced, including readmissions, search, rescue, disaster relief or medical purposes, as well as for customs, police and fire-fighting operations. Indeed, flights operated in such circumstances are of exceptional nature and as such cannot always be planned in the same way as standard commercial air transport flights. Due to the nature of their operations, they might not always be in a position to fulfil obligations under this Regulation, as it might represent an unnecessary burden. In order to cater for a level playing field across the Union aviation market, this Regulation should cover the largest possible share of commercial air traffic operated from airports located on Union territory. At the same time and in order to safeguard air connectivity for the benefits of the citizens, businesses and regions of the Union, it is important to avoid imposing an undue burden on air transport operations at small airports. A threshold of yearly passenger air traffic and freight traffic should be defined, below which airports would not be covered by this Regulation; however, the scope of this Regulation should cover at least 95 % of total traffic departing from airports located on the Union territory. For the same reasons, a threshold should be defined to exclude from the scope aircraft operators accountable for a very low number of departures from airports located on Union territory. However, in order to achieve a higher level of ambition, Member States should be able to decide that an airport located on its territory, which does not reach the thresholds laid down in this Regulation or which is located in an outermost region as defined in Article 349 of the Treaty on the Functioning of the European Union (TFEU), is subject to this Regulation. An airport located on the Union territory that does not reach the thresholds laid down in this Regulation, or located in outermost regions, should be able to request the respective competent authorities to be treated as a Union airport and be subject to this Regulation. Moreover, a person operating commercial air transport flights that does not reach the thresholds laid down in this Regulation or a person operating flights other than commercial air transport flights using aviation turbine fuels should be able to decide to be treated as an aircraft operator for the purposes of this Regulation and therefore to be subject to this Regulation or that its non-commercial air transport flights be covered by this Regulation.
- (18) International aviation fuel standards define which types of conventional aviation fuels can be blended or mixed with SAF, which affects the applicability of this Regulation as concerns aviation fuels. Moreover, the definition of aviation fuels is limited to drop-in fuels and therefore includes neither hydrogen nor electricity used to power aircraft. Therefore, obligations on aviation fuel suppliers, Union airport managing bodies and aircraft operators apply to drop-in fuels whenever aviation fuels are referred to, unless hydrogen or electricity is concerned.
- (19) It is essential that less-connected European regions, such as insular and outermost regions, that often rely on aviation as the sole means of connection, are not disproportionately affected by the obligations resulting from this Regulation and that access of these regions to essential goods and services is ensured. In order to help to safeguard the air-connectivity of regions with fewer alternative transport options, attention should be paid to the possible effects of the provisions in this Regulation with regards to the affordability, competitiveness and potential price increases of air routes connecting remote regions and other areas of the Union.
- (20) Development and deployment of SAF with a high potential for sustainability, commercial maturity and innovation and growth to meet future needs should be promoted. This should support the creation of an innovative and competitive market for SAF and ensure the sufficient supply of SAF for aviation in the short and long term to contribute to Union transport decarbonisation ambitions, while strengthening the Union's efforts towards a high level of environmental protection. Incentives on the use of renewable fuels of non-biological origin in transport granted under other Union law will have a positive impact on the uptake of such fuels in aviation. A single, clear and robust sustainability framework is necessary to provide legal certainty and continuity for the aviation and fuels industries actors, on the eligibility of SAF under this Regulation. For this purpose, all aviation biofuels which comply with the sustainability and lifecycle emissions criteria laid down in Directive (EU) 2018/2001 and are certified in accordance with that Directive, with the exception of biofuels produced from 'food and feed crops' and certain feedstock listed in Article 4(5) of this Regulation, synthetic aviation fuels and recycled carbon aviation fuels complying with the lifecycle emissions savings threshold referred to in that Directive should be eligible. In that respect, to ensure consistency with other related Union policies, the eligibility of aviation biofuels, synthetic aviation fuels and recycled carbon aviation fuels should be based on the sustainability criteria and thresholds established in Directive (EU) 2018/2001.

In particular, SAF produced from feedstock listed in Part B of Annex IX to Directive (EU) 2018/2001 are essential, as currently the most commercially mature technology to decarbonise air transport in the short term. The renewable share of fuels produced through co-processing should be eligible under the definition of SAF, as long as the renewable share is produced from feedstock listed in Directive (EU) 2018/2001 with the exception of biofuels produced from 'food and feed crops' as defined in that Directive, and of certain feedstock listed in Article 4(5) of this Regulation, determined in line with the methodology to be set out in a Commission delegated regulation adopted pursuant to Directive (EU) 2018/2001. Renewable hydrogen for aviation and low-carbon aviation fuels achieving at least same level of lifecycle emissions savings as synthetic aviation fuels can play a role in substituting conventional aviation fuels and support aviation decarbonisation and therefore should also be included within the scope of this Regulation.

- (21) Given the use of feedstock for cosmetics and animal feed, aviation biofuels other than advanced biofuels as defined in Directive (EU) 2018/2001 and other than biofuels produced from the feedstock listed in Part B of Annex IX to that Directive supplied across Union airports by each aviation fuel supplier should account for a maximum of 3 % of aviation fuel supplied for the purposes of complying with the minimum shares of SAF to be supplied at each Union airport under this Regulation.
  
- (22) A wide pool of eligible feedstock is essential to maximise the potential for scaling up the production of SAF at affordable costs, while at the same time guaranteeing its sustainability. This Regulation excludes certain types of feedstock unless such feedstock is included in Annex IX of Directive (EU) 2018/2001, and meets all applicable conditions if such conditions are set out in that Annex. The list of feedstock eligible under this Regulation should therefore not be static but should evolve over time to include new sustainable feedstock in line with that Directive. Changes in the list of feedstock in Annex IX of that Directive, fulfilling the relevant conditions of that Annex, should be directly reflected in the list of eligible fuels under this Regulation for the production of SAF.
  
- (23) For sustainability reasons, feed and food crop-based aviation biofuels, including high indirect land-use change risk biofuels, should not be eligible. In particular, indirect land-use change occurs when the cultivation of crops for biofuels displaces traditional production of crops for food and feed purposes. Such additional demand increases the pressure on land and can lead to the extension of agricultural land into areas with high-carbon stock, such as forests, wetlands and peatland, causing additional greenhouse gas emissions and loss of biodiversity concerns. Research has shown that the scale of the effect depends on a variety of factors, including the type of feedstock used for fuel production, the level of additional demand for feedstock triggered by the use of biofuels and the extent to which land with high-carbon stock is protected worldwide. The highest risks of indirect land-use change have been identified for biofuels, fuels produced from feedstock for which a significant expansion of the production area into land with high-carbon stock is observed. Therefore, feed and food crop-based fuels should not be promoted. This approach is in line Union policy and in particular with Directive (EU) 2018/2001, which limits and sets a cap on the use of such biofuels in road and rail transport, considering their lower environmental benefits, lower performance in terms of greenhouse gas emissions reduction potential and broader sustainability concerns. In addition to the greenhouse gas emissions linked to indirect land-use change – which is capable of negating some or all greenhouse gas emissions savings of individual biofuels – indirect land-use change also poses risks to biodiversity.

Those risks are particularly serious in connection with a potentially large expansion of production determined by a significant increase in demand. The air transport sector has currently insignificant levels of demand for food and feed crops-based biofuels, since over 99 % of currently used aviation fuels are of fossil origin. It is therefore appropriate to avoid the creation of a potentially large demand for food and feed crops-based biofuels by promoting their use under this Regulation. The non-eligibility of crop-based biofuels under this Regulation also minimises any risk to slow down the decarbonisation of road transport, which could otherwise result from a shift of crop-based biofuels from the road to the aviation sector. It is essential to minimise such a shift, as road transport currently remains by far the most pollutant transport sector.

- (24) Accurate and correct information about the characteristics of SAF is of major importance for the proper functioning of this Regulation. In order to promote consumer confidence and ensure transparency and traceability, aviation fuel suppliers should be responsible to provide the correct information with regards to the characteristics of the SAF supplied, its sustainability characteristics and the origin of the feedstock used in the production of SAF. That information should be reported in the Union database established in accordance with Directive (EU) 2018/2001. Aviation fuel suppliers that have been proven to have provided misleading or inaccurate information regarding the characteristics or origin of the SAF they supply should be subject to a penalty. Member States should ensure that aviation fuel suppliers enter timely and accurate information in the Union database and that that information is verified and audited. In order to combat possible fraud, including as concerns feedstock needed for the production of SAF imported from outside the Union, it is necessary for Member States, in cooperation with the relevant Union bodies, to strengthen the control mechanisms for shipments, including on-site audits, in accordance with relevant Union rules. In this respect, the Commission set out implementing rules on sustainability certification in line with Directive (EU) 2018/2001 in order to further harmonise and strengthen the rules on reliability, transparency and independent auditing as well as on cooperation of competent authorities of the Member States in audit supervision.
- (25) The present Regulation should aim at ensuring that aircraft operators can compete on the basis of equal opportunities as regards the access to SAF. To avoid any distortions on the Union air transport market, all Union airports should be supplied with uniform minimum shares of SAF. Whereas the market is free to supply and use larger quantities of SAF, this Regulation should ensure that the mandatory minimum shares of SAF are identical across all Union airports. In order to ensure clarity and legal certainty and in doing so encourage market development and deployment of the most sustainable and innovative aviation fuel technologies with growth potential to meet future needs, this Regulation should set out gradually increasing minimum shares of SAF, including of synthetic aviation fuels over time. Setting out dedicated minimum shares on synthetic aviation fuels as part of the minimum shares of SAF is necessary in view of the significant decarbonisation potential of such aviation fuels, and in view of their current estimated production costs. When produced from renewable electricity and carbon captured directly from the air, synthetic aviation fuels can achieve as much as 100 % emissions savings compared to conventional aviation fuel. They also have notable advantages compared to other types of SAF with regards to resource efficiency (in particular for water needs) of the production process. However, synthetic aviation fuels' production costs are currently estimated at three to six times higher than the market price of conventional aviation fuel. Therefore, this Regulation should establish dedicated minimum shares for this technology.
- (26) While ensuring the achievement of these Union harmonised requirements on SAF supply, Member States could pursue supportive policies and initiatives that aim to increase the level of SAF production and uptake, including synthetic aviation fuels. Those policies and initiatives should be transparent, non-discriminatory, proportionate and of a general nature open to all enterprises. This Regulation should not prevent Member States from implementing dedicated measures outside its scope aiming to facilitate the use of SAF or to decarbonise the air transport sector.
- (27) Lack of common methodology, criteria and indicators adequately certified, reported and monitored allows aircraft operators to claim levels of emissions performance of their flights that cannot be compared with each other. Passengers need to be able to trust the information from aircraft operators regarding the sustainability of the aviation fuels which aircraft operators use and the sustainability of their flights to make informed choices when comparing between different flight options, both for direct and indirect flights, offered by aircraft operators. In order for consumers to be able to make an informed choice, more robust, reliable, independent and harmonised information is needed on the environmental impact of flights. Therefore, it is necessary to set up the criteria and indicators used to communicate the level of the emissions performance of their flights under a voluntary common environmental label (the 'label'). It should be possible to update them easily to keep up with technological changes and international and European standards. Since some of the data necessary to calculate the level and quality of the SAF used and other criteria to measure the sustainability performance of a flight might be commercially sensitive, it is equally necessary that an independent body centralises the reports from the aircraft operators, monitors their data, certifies their accuracy and issues a label at the appropriate level. Considering the dynamic nature of data provided by aircraft operators, the label should be subject to periodic control and validation, such as at the end of each IATA season. Whenever necessary, that data would be based on estimations such as the average load factor for a given flight, route and season. Considering that the European Union Aviation Safety Agency (the 'Agency') has monitoring and reporting obligations under this Regulation, it is appropriate that the Agency be the Union body in charge of the

implementation of the label. It is therefore appropriate to provide the conditions for the issuance of the label to measure the environmental performance of aviation and, in order to ensure compliance with those conditions, to require the Agency to review them periodically.

- (28) With the introduction and ramping-up of SAF at Union airports, practices of fuel tankering could be exacerbated as a consequence of aviation fuel cost increases. Tankering practices are unsustainable and should be avoided as they undermine the Union's efforts to reduce the environmental impact from transport. Those would be contrary to the aviation decarbonisation objectives as increased aircraft weight would increase fuel consumption and related emissions on a given flight. Tankering practices also put at risk the level playing field in the Union between aircraft operators, and between airports. This Regulation should therefore require aircraft operators to refuel prior to the departure from a given Union airport. The amount of fuel uplifted prior to the departure from a given Union airport should be commensurate with the amount of fuel necessary to operate the flights departing from that airport. The requirement ensures that equal conditions apply to Union and foreign aircraft operators across the Union, while ensuring a high level of environmental protection. As the Regulation does not define maximum shares of SAF in all aviation fuels, aircraft operators and aviation fuel suppliers may pursue more ambitious environmental policies with higher SAF uptake and supply in their overall network of operations, while avoiding fuel tankering. Nevertheless, this Regulation should also take into account the fact that fuel tankering at times occurs in order to comply with fuel safety rules in line with Commission Regulation (EU) No 965/2012<sup>(8)</sup> and in such cases is justified by safety reasons. This may include for example cases of fuel shortage or fuel contamination at the destination airport confirmed by a Notice to Airmen or Notice to Air Missions (NOTAM). Furthermore, fuel tankering can be the consequence of specific operational difficulties for some aircraft operators at some airports, inter alia, in terms of disproportionate longer turnaround times for aircraft or reduced airport capacity at peak times. The Commission with the Agency should therefore closely monitor, evaluate and analyse reported cases of fuel tankering and their underlying reasons and, if appropriate, submit legislative proposals to amend this Regulation. This is without prejudice of the Commission's and the Member States competition authorities' power under Articles 101 and 102 TFEU to investigate and sanction anticompetitive behaviour by actors on the market to protect the proper functioning of the market for SAF, in particular, where information contained in the Union database and other data reported to the competent authorities reveal anticompetitive practices.
- (29) However, this Regulation should provide for the possibility to exempt for a limited period aircraft operators from the obligation to refuel prior to departure on specific routes departing from Union airports in case those aircraft operators can demonstrate serious and recurrent operational difficulties in refuelling aircraft at a given Union airport preventing them from performing turnaround flights within a reasonable time, which might have an impact on connectivity especially of peripheral regions, or structural fuel supply difficulties leading to significantly higher prices of fuels compared to prices applied on average to similar types of fuels in other Union airports. The significantly higher prices at the Union airport in question should not primarily be the result of the higher use of SAF at that Union airport.
- (30) The further uptake of SAF, that typically have lower aromatics and sulphur content, will contribute to reducing the non-CO<sub>2</sub> climate impact. A further reduction of the aromatic and sulphur content in aviation fuels could reduce contrail cirrus formation, improve air quality in and around airports, and increase the quality of the fuel for the benefit of airlines, both through high energy density and lower maintenance costs due to lower soot levels. Furthermore, interdependencies between CO<sub>2</sub> and non-CO<sub>2</sub> emissions should be considered. However, reducing the aromatics content in aviation fuels needs to be done while adhering to international fuel safety rules and while preserving an international level playing field. Therefore, aviation fuel suppliers should report to the Agency and the relevant competent authorities the aromatics, naphthalenes and sulphur content of the aviation fuels supplied. When reporting such information, aviation fuel suppliers could rely on relevant certificates on fuel quality produced to meet the requirements of international fuel quality standards provided by fuels producers and blenders.

<sup>(8)</sup> Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1).



- (31) In addition to its climate change effects, conventional aviation fuels also negatively impact air quality. Increased uptake of SAF can play a role in improving air quality.
- (32) It is important to ensure that Union airport managing bodies covered by this Regulation take the necessary measures to facilitate the access of aircraft operators to aviation fuels that contain SAF, so as not to constitute an obstacle with respect to the uptake of SAF. If necessary, the competent authorities of the Member State where the Union airport is located should be able to require the Union airport managing body to provide necessary information on compliance with this Regulation for the seamless distribution and refuelling of aircraft operators with SAF. The role of the competent authorities should allow the Union airport managing bodies and aircraft operators to have a common focal point, in the event that technical clarification is necessary regarding the availability of aviation fuel infrastructure. When electric or hydrogen-powered aircraft become mature and commercially available and where appropriate, it will be necessary that Union airport managing bodies, aviation fuel suppliers and fuel handlers covered by this Regulation, take all necessary measures to cooperate and facilitate access to the appropriate infrastructure for hydrogen and electric recharging for aircraft, in accordance with the respective national policy framework for alternative fuels infrastructure.
- (33) Many Union airports are supplied with aviation fuels principally via pipelines from refineries or SAF blending stations. It is therefore essential that the parties in charge of such pipelines cooperate and take all necessary measures to enable the continued and uninterrupted access of aviation fuel suppliers to civil transport aviation fuels infrastructure to supply both conventional aviation fuels and aviation fuels containing shares of SAF.
- (34) Aircraft operators should be required to report yearly to their respective competent authority or authorities and to the Agency on their purchases of SAF, and on their attributes. Information should be provided on the characteristics and origin of the feedstock, conversion process and lifecycle emissions for each purchase and type of SAF.
- (35) Aircraft operators should also be required to report yearly on their actual aviation fuel uplift per Union airport, including their compliance with applicable fuel safety rules, so as to prove that no unjustified fuel tankering was performed. Reports should be verified by independent verifiers and transmitted to the competent authority or authorities and to the Agency for the purpose of monitoring and assessment of compliance. Independent verifiers should determine the accuracy of the yearly aviation fuel required reported by the aircraft operators using a tool approved by the Commission.
- (36) Without prejudice to the data recorded by aviation fuel suppliers in accordance with Directive (EU) 2018/2001 and Commission Implementing Regulation (EU) 2022/996 <sup>(9)</sup>, aviation fuel suppliers should be required to report yearly in the Union database referred to in that Directive, on their supply of aviation fuel, including SAF and its attributes. Information should be provided on the characteristics and origin of the feedstock, conversion processes and lifecycle emissions of supplied SAF. Information on characteristics of SAF includes the type of product and raw materials used and other sustainability characteristics required for demonstrating compliance of SAF with the sustainability criteria under Directive (EU) 2018/2001.
- (37) Member States should designate a competent authority or authorities responsible for enforcing the application of this Regulation upon aircraft operators, Union airports managing bodies and aviation fuel suppliers. This Regulation should define the rules for the attribution of aircraft operators, Union airport managing bodies and aviation fuel suppliers to competent authorities. The Agency should send to the competent authorities data aggregated for the aircraft operators and aviation fuel suppliers for which these authorities are competent. As far as possible, the level of aggregation should make it possible for the competent authorities to compare that aggregated data with other data sources.

---

<sup>(9)</sup> Commission Implementing Regulation (EU) 2022/996 of 14 June 2022 on rules to verify sustainability and greenhouse gas emissions saving criteria and low indirect land-use change-risk criteria (OJ L 168, 27.6.2022, p. 1).

- (38) The Agency should publish a technical report on a yearly basis and forward it to the European Parliament and to the Council. This is necessary in order to provide clear visibility on the implementation of this Regulation, on the purchase and supply of SAF in the Union and in the relevant third countries, on the state of market, including information on the evolution of the price gap between SAF and fossil fuels, and on the composition of aviation fuel.
- (39) Without additional procedures, it is not possible to determine accurately whether aircraft operators have physically uplifted shares of SAF in their tanks at specific Union airports. Therefore, aircraft operators should be allowed to report on their use of SAF based on purchasing records. Aircraft operators should be entitled to receive from the aviation fuel supplier the information that is necessary to report on the SAF purchase. The purpose of using the mass balance system referred to in Directive (EU) 2018/2001 is to ensure the traceability of aviation fuels, and aviation fuel suppliers may demonstrate compliance with this Regulation by using such a mass balance system, including when such a system is shared between two or more Member States.
- (40) The introduction in the Union of a mandate on the uptake of SAF could lead to an undue competitive disadvantage for Union airlines that operate direct long-haul flights from a Union airport in comparison with their competitors that connect via an airport hub outside the scope of this Regulation without equivalent SAF policies. In order to further promote the uptake of SAF in the Union, for which prices are projected to have a substantial price difference compared to conventional aviation fuels in the foreseeable future, aircraft operators should be able to claim allowances for the uplifting of SAF in accordance with the EU ETS.
- (41) In order to promote the uptake of SAF that are projected to have a substantial price difference compared to conventional aviation fuels, it is essential that aircraft operators are able to claim the use of SAF under greenhouse gas schemes such as the EU ETS or CORSIA, at their own discretion, without double claiming the reduction of emissions. Aircraft operators should not claim benefits for the use of a batch of SAF under more than one greenhouse gas scheme. Aviation fuel suppliers should be requested to provide free of charge to aircraft operators any information pertaining to the properties of the SAF sold to that aircraft operator and that is relevant for reporting purposes by the aircraft operator under this Regulation or greenhouse gas schemes.
- (42) In order to ensure a level playing field of the aviation internal market and the adherence to the climate ambitions of the Union, this Regulation should introduce effective, proportionate and dissuasive penalties on aviation fuel suppliers and aircraft operators in case of non-compliance. The level of the penalties needs to be proportionate to the environmental damage and to the damage created on the level-playing field of the internal market inflicted by the non-compliance. When imposing fines and other penalties, the authorities should take into account the evolution of the price of aviation fuel and SAF in the reporting year and may also take into account the degree of non-compliance, for example where there are repeated infringements.
- (43) The transition from fossil fuels to SAF will play a considerable role in facilitating decarbonisation. However, considering the current underdevelopment of the Union market for SAF, the high level of competition between aircraft operators and the important price differential between conventional aviation fuels and SAF, this transition should be supported through incentives that reflect the environmental benefit of SAF and make them more competitive for aircraft operators. Using revenues generated from the fines, or the equivalent in the financial value of those revenues, to support research and innovation projects in the field of SAF, the production of SAF or mechanisms allowing the price differences between SAF and conventional aviation fuels to be bridged would contribute to the achievement of that objective.
- (44) The fines liable on the aviation fuel suppliers who fail to meet the minimum shares set out in this Regulation should be complemented by the obligation to supply the market with the quantities of SAF, including synthetic aviation fuels, corresponding to the shortfall of meeting the minimum shares set out in Article 4 and Annex I in the subsequent reporting period. Nevertheless, aviation fuel suppliers should have flexibility in meeting the obligations with respect to the supply of synthetic aviation fuels and the related shortfall obligation in a transitional period between 2030 and 2034, when this obligation enters into force for the first time, in order to facilitate the transition and achievement of the targets.

- (45) It is essential to ensure that the minimum shares of SAF can be successfully supplied to the aviation market without supply shortages. For this purpose, a flexibility mechanism should be designed and applied to allow a lead-time of 10 years for the SAF industry to develop production and supply capacity accordingly and to allow aviation fuel suppliers to meet their obligations in the most cost-effective way, without reducing the overall environmental ambitions of this Regulation, as well as to allow Union airports managing bodies, aviation fuel suppliers and aircraft operators to make the necessary technological and logistical investments. The supply of SAF should start in 2025, with the flexibility provided for in the flexibility mechanism. During the application of the flexibility mechanism, aviation fuel suppliers may supply aviation fuel containing higher shares of SAF in certain airports to compensate for aviation fuels with lower shares of SAF in other airports or for the reduced availability of conventional aviation fuel at other airports. Similarly, in order to provide legal certainty and predictability for the market and drive investments durably towards SAF production capacity, this Regulation should remain stable over time.
- (46) The successful transition to SAF requires a comprehensive approach and the appropriate enabling environment to stimulate innovation, involving both public and private investment in research and development and support for the redeployment, re-skilling and up-skilling of workers, as well as technological and operational measures, and the deployment of SAF and of zero-emission technologies, including the necessary refuelling and recharging infrastructure in Union airports, taking into account the energy efficiency first principle. For this purpose, the revenues generated by the fines under this Regulation should be allocated to SAF projects. Furthermore, the setting up of a European Industrial Alliance through a voluntary collaboration of stakeholders in the value chain aims to further foster SAF supply and uptake in Europe.
- (47) Research and innovation have played a substantial role in the development of SAF and synthetic aviation fuels and the production capacity building. The development and production of SAF should exponentially increase in the coming years. It is therefore important to continue these efforts and facilitate investment in SAF. Investment into SAF capacity projects present both an environmental and an industrial opportunity, with spillover effects in terms of job creation and innovation.
- (48) In order to increase the environmental effectiveness of Union measures and to facilitate the ability of aviation fuel suppliers to meet their SAF supply obligations and the uplifting of SAF by aircraft operators in a cost-effective way and hence to strengthen the competitiveness of the Union aviation sector, the Commission should, after consulting all relevant stakeholders, assess whether further measures should be taken to facilitate the cost-effective distribution and use of SAF in the Union air transport market by separating the purchase of SAF from its physical delivery and use. This could be done, *inter alia*, by assessing the feasibility of setting-up a system of tradable SAF supply and purchase certificates, with elements of a book and claim scheme, while guaranteeing a level playing field and a high level of environmental integrity, ensuring consistency with other Union law, including Directives 2003/87/EC and 2009/28/EC, as well as minimising the risk of fraud, irregularities or double claiming. In its analysis, the Commission should take into consideration all relevant global trends and initiatives, as well as the potential impact that such a system could have on the functioning of the market, including with regards to any market volatility, price evolution or trading behaviour of market participants.
- (49) This Regulation should include provisions for periodic reports to the European Parliament and to the Council on the evolution of the aviation and fuels markets, on the implementation of this Regulation and its impact on the Union air transport market, on connectivity for islands and remote territories and on the competitiveness of Union air carriers and airport hubs in comparison with their competitors in neighbouring countries, the effectiveness of key features of this Regulation such as the minimum shares of SAF, the level of fines or policy developments on SAF uptake at international level. Such elements are key to provide a clear state of play of the SAF market and should be taken into account when considering a revision of this Regulation. The Commission's reports should also refer to the interaction of this Regulation with other relevant legislative acts, identifying provisions that may be updated and simplified, as well as actions and measures that have been or could be taken to reduce the total cost pressure on the air transport sector. In those reports, the Commission should consider options for amendments, where appropriate,

including mechanisms to support the production and uplifting of SAF as well as mechanisms allowing the price differences between SAF and conventional aviation fuels to be bridged in order to limit the adverse impact of this Regulation on air connectivity and competition and to mitigate carbon leakage.

- (50) The requirement laid down by this Regulation to ensure that minimum shares of SAF are made available at each Union airport could incentivise aircraft operators operating connecting flights departing from Union airports with a final destination outside the Union to transit via non-EU airport hubs which are not subject to that requirement rather than via EU airport hubs. This could lead to distortions of competition at the expense of Union airports and operators using such airports and to a risk of carbon leakage. In the absence of a mandatory scheme on the use of SAF for international flights at ICAO level or in comprehensive multilateral or bilateral air transport agreements between the Union and/or its Member States and third countries with a similar level of ambition in comparison with the requirements outlined in this Regulation and the objectives of the Paris Agreement <sup>(10)</sup>, adopted under the United Nations Framework Convention on Climate Change, or of mechanisms developed at international level to prevent the risk of carbon leakage and of distortion of competition, the Commission should in particular consider the development of targeted mechanisms aiming at preventing those effects.
- (51) In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission with respect to the exemptions of the obligation to refuel prior departure that may be granted to aircraft operators and to establish the detailed provisions and technical standards for the functioning of the labelling system. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council <sup>(11)</sup>.
- (52) The transition to SAF will also have the secondary effect of reducing dependence on fossil fuel imports from third countries, thus increasing the Union's energy security. The need for this move is only accentuated by the current international political situation.
- (53) Since the objective of this Regulation, namely to maintain a level playing field on the Union air transport market while increasing the use of SAF, cannot be sufficiently achieved by the Member States due to the cross-border nature of aviation, but can rather, by reason of the characteristics of the market and effects of the action, be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve that objective,

HAVE ADOPTED THIS REGULATION:

#### *Article 1*

#### **Subject matter**

This Regulation lays down harmonised rules on the uptake and supply of sustainable aviation fuels (SAF).

#### *Article 2*

#### **Scope**

1. This Regulation applies to aircraft operators, to Union airports and their respective Union airport managing bodies, and to aviation fuel suppliers.

<sup>(10)</sup> OJ L 282, 19.10.2016, p. 4.

<sup>(11)</sup> Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13).

Without prejudice to paragraph 3, this Regulation shall apply only to commercial air transport flights.

2. A Member State may decide, after consulting the airport managing body, that an airport not covered by Article 3, point (1), located on its territory, is to be treated as a Union airport for the purposes of this Regulation, provided that the requirements laid down in Article 6(1) are fulfilled at the time of the Member State decision.

An airport managing body for an airport not covered by Article 3, point (1), located on the territory of a Member State, may make a request for that airport to be treated as a Union airport for the purposes of this Regulation, provided that it fulfils the requirements laid down in Article 6(1) at the time of that request. That airport managing body shall notify the Member State whose authority or authorities are responsible for the airport under Article 11(6) of that request. That notification shall be accompanied by a confirmation that the airport fulfils the requirements laid down in Article 6(1).

The Member State concerned shall notify the decision referred to in the first subparagraph of this paragraph to the Commission and the European Union Aviation Safety Agency (the 'Agency') at least six months before the beginning of the reporting period from which that decision applies. The Member State decision shall be accompanied by a reasoned opinion showing that it is based on proportionate and non-discriminatory criteria, among airports sharing similar competitive characteristics.

3. A person operating commercial air transport flights who is not covered by Article 3, point (3), may decide to be treated as an aircraft operator for the purposes of this Regulation. A person operating flights other than commercial air transport flights within the meaning of Article 3, point (4), may decide to be treated as an aircraft operator for the purposes of this Regulation. A person covered by Article 3, point (3), may decide that its non-commercial air transport flights are also to be covered by this Regulation. Any such person shall notify its decision to the Member State whose competent authority or authorities are responsible for that aircraft operator in accordance with Article 11(5). That Member State shall notify that decision to the Commission and the Agency at least six months before the beginning of the reporting period from which that decision applies.

4. On the basis of the information received pursuant to paragraphs 2 and 3, the Commission shall provide an updated and consolidated list of the Union airports and aircraft operators concerned. That list shall be easily accessible.

### Article 3

### Definitions

For the purposes of this Regulation, the following definitions apply:

- (1) 'Union airport' means an 'airport' as defined in Article 2, point (1), of Directive 2009/12/EC of the European Parliament and of the Council <sup>(12)</sup> where passenger traffic was higher than 800 000 passengers or where the freight traffic was higher than 100 000 tonnes in the previous reporting period, and which is not situated in an outermost region, as listed in Article 349 TFEU;
- (2) 'Union airport managing body' means, in respect of a Union airport, the 'airport managing body' as defined in Article 2, point (2), of Directive 2009/12/EC or, where the Member State concerned has reserved the management of the centralised infrastructures for fuel distribution systems for another body pursuant to Article 8(1) of Council Directive 96/67/EC <sup>(13)</sup>, that other body;
- (3) 'aircraft operator' means a person that operated at least 500 commercial passenger air transport flights, or 52 commercial all-cargo air transport flights departing from Union airports in the previous reporting period or, where it is not possible for that person to be identified, the owner of the aircraft;

<sup>(12)</sup> Directive 2009/12/EC of the European Parliament and of the Council of 11 March 2009 on airport charges (OJ L 70, 14.3.2009, p. 11).

<sup>(13)</sup> Council Directive 96/67/EC of 15 October 1996 on access to the groundhandling market at Community airports (OJ L 272, 25.10.1996, p. 36).

- (4) 'commercial air transport flight' means a flight operated for the purposes of transport of passengers, cargo or mail for remuneration or hire, including a business aviation flight operated for commercial purposes;
- (5) 'route' means a journey carried out on a flight, having regard to the places of departure and destination of that flight;
- (6) 'aviation fuel' means drop-in fuel manufactured for direct use by aircraft;
- (7) 'sustainable aviation fuels' ('SAF') means aviation fuels that are either:
  - (a) synthetic aviation fuels;
  - (b) aviation biofuels; or
  - (c) recycled carbon aviation fuels;
- (8) 'aviation biofuels' means aviation fuels that are either:
  - (a) 'advanced biofuels' as defined in Article 2, second paragraph, point (34), of Directive (EU) 2018/2001;
  - (b) 'biofuels' as defined in Article 2, second paragraph, point (33), of Directive (EU) 2018/2001, produced from the feedstock listed in Part B of Annex IX to that Directive; or
  - (c) 'biofuels' as defined in Article 2, second paragraph, point (33), of Directive (EU) 2018/2001, with the exception of biofuels produced from 'food and feed crops' as defined in Article 2, second paragraph, point (40), of that Directive, and which comply with the sustainability and lifecycle emissions savings criteria laid down in Article 29 of that Directive and are certified in compliance with Article 30 of that Directive;
- (9) 'recycled carbon aviation fuels' means aviation fuels that are 'recycled carbon fuels' as defined in Article 2, second paragraph, point (35), of Directive (EU) 2018/2001, which comply with the lifecycle emissions savings threshold referred to in Article 29a(2) of that Directive and are certified in compliance with Article 30 of that Directive;
- (10) 'batch' means a quantity of SAF that can be identified with a number and can be traced;
- (11) 'lifecycle emissions' means carbon dioxide equivalent emissions of SAF that take into account carbon dioxide equivalent emissions of energy production, transport, distribution and use on-board, including during combustion, calculated in accordance with the methodologies adopted pursuant to Article 28(5) or Article 31(5) of Directive (EU) 2018/2001 or pursuant to relevant Union law;
- (12) 'synthetic aviation fuels' means aviation fuels that are 'renewable fuels of non-biological origin', as defined in Article 2, second paragraph, point (36), of Directive (EU) 2018/2001, which comply with the lifecycle emissions savings threshold referred to in Article 29a(1) of that Directive and are certified in compliance with Article 30 of that Directive;
- (13) 'synthetic low-carbon aviation fuels' means aviation fuels that are of non-biological origin, the energy content of which is derived from non-fossil low-carbon hydrogen, which meet lifecycle emissions savings threshold of 70 % and the methodologies for assessing such lifecycle emissions savings pursuant to relevant Union law;
- (14) 'conventional aviation fuels' means aviation fuels produced from fossil non-renewable sources of hydrocarbon fuels;
- (15) 'low-carbon hydrogen for aviation' means hydrogen for use in aircraft the energy content of which is derived from non-fossil non-renewable sources, which meets a lifecycle emissions savings threshold of 70 % and the methodologies for assessing such lifecycle emissions savings pursuant to relevant Union law;
- (16) 'renewable hydrogen for aviation' means hydrogen for use in aircraft that qualifies as a 'renewable fuel of non-biological origin', as defined in Article 2, second paragraph, point (36), of Directive (EU) 2018/2001, and which complies with the lifecycle emissions savings threshold referred to in Article 29a(1) of that Directive and is certified in compliance with Article 30 of that Directive;
- (17) 'hydrogen for aviation' means renewable hydrogen for aviation or low-carbon hydrogen for aviation;
- (18) 'low-carbon aviation fuels' means synthetic low-carbon aviation fuels or low-carbon hydrogen for aviation;

- (19) 'aviation fuel supplier' means a 'fuel supplier' as defined in Article 2, second paragraph, point (38), of Directive (EU) 2018/2001, supplying aviation fuel or hydrogen for aviation at a Union airport;
- (20) 'fuel handler' means a supplier of groundhandling services that organises and carries out fuelling and defuelling operations, including the storage of fuel and the control of the quality and quantity of fuel deliveries, to aircraft operators at Union airports, as referred to in the Annex to Directive 96/67/EC;
- (21) 'principal place of business' means the head office or registered office of an aviation fuel supplier in the Member State within which the principal financial and operational control of the aviation fuel supplier takes place;
- (22) 'reporting year' means a period of one year, in which the reports referred to in Articles 8 and 10 are to be submitted, starting 1 January and ending 31 December;
- (23) 'reporting period' means a period from 1 January until 31 December of the year preceding the reporting year;
- (24) 'yearly aviation fuel required' means the amount of aviation fuel referred to as 'trip fuel' and 'taxi fuel' in Annex IV to Commission Regulation (EU) No 965/2012 <sup>(14)</sup> that is necessary to operate all the flights covered by this Regulation operated by an aircraft operator, departing from a given Union airport, over the course of a reporting period;
- (25) 'yearly non-tanked quantity' means the difference between the yearly aviation fuel required and the actual fuel uplifted by an aircraft operator prior to flights covered by this Regulation departing from a given Union airport, over the course of a reporting period;
- (26) 'total yearly non-tanked quantity' means the sum of the yearly non-tanked quantities by an aircraft operator at all Union airports over the course of a reporting period;
- (27) 'greenhouse gas scheme' means a scheme granting benefits to aircraft operators for the use of SAF.

#### Article 4

### Shares of SAF available at Union airports

1. Subject to Article 15, aviation fuel suppliers shall ensure that all aviation fuel made available to aircraft operators at each Union airport contains the minimum shares of SAF, including the minimum shares of synthetic aviation fuel in accordance with the values and dates of application set out in Annex I. Without prejudice to those minimum shares, aviation fuel suppliers shall also ensure that all aviation fuel made available to aircraft operators at each Union airport over the periods from 1 January 2030 until 31 December 2031 and from 1 January 2032 until 31 December 2034 contains at least the average shares of synthetic aviation fuels in accordance with the values set out in Annex I.

This obligation shall also be deemed to be met where the minimum shares mentioned in the first subparagraph are reached using:

- (a) renewable hydrogen for aviation;
- (b) low-carbon aviation fuels.

2. For the purpose of the calculation of the minimum shares in Annex I, when hydrogen for aviation is made available to aircraft operators at Union airport:

- (a) the values regarding the energy content of all relevant fuels shall be those referred to in Article 27(2), points (f) and (g) of, and Annex III to, Directive (EU) 2018/2001 or relevant international aviation standards regarding fuels not included in that Annex; and
- (b) the energy content of hydrogen for aviation supplied shall be taken into account both in the numerator and in the denominator.

---

<sup>(14)</sup> Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1).

3. Where an aviation fuel supplier makes use of the possibility laid down in the second subparagraph of paragraph 1 or where an aircraft operator uplifts fuels referred to in that subparagraph, references to SAF in Article 3, points (10), (11) and (27), Articles 8, 9 and 10, Article 12(6) and (7), Article 13(1), points (a), (b) and (g), Article 14, Article 15(1) and Annex II shall be construed as referring also to low-carbon aviation fuels and to renewable hydrogen for aviation.

4. For each reporting period, aviation biofuels other than advanced biofuels as defined in Article 2, second paragraph, point (34), of Directive (EU) 2018/2001 and other than biofuels produced from the feedstock listed in Part B of Annex IX to that Directive, supplied across Union airports by each aviation fuel supplier, shall account for a maximum of 3 % of aviation fuels supplied for the purposes of complying with the minimum shares referred to in paragraph 1 of this Article and Annex I to this Regulation.

5. SAF produced from the following feedstocks shall be excluded from the calculation of the minimum shares of SAF set out in Annex I to this Regulation: 'food and feed crops' as defined in Article 2, second paragraph, point (40), of Directive (EU) 2018/2001, intermediate crops, palm fatty acid distillate and palm and soy-derived materials, and soap stock and its derivatives.

However, that exclusion shall not apply to any feedstock that is included in Annex IX to Directive (EU) 2018/2001, under the conditions set out in that Annex.

6. Aviation fuel suppliers may demonstrate compliance with the obligation contained in paragraph 1 of this Article by using the mass balance system referred to in Article 30 of Directive (EU) 2018/2001.

7. Without prejudice to the application of Article 12(4) and (5), where an aviation fuel supplier fails to supply the minimum shares set out in Annex I for a given reporting period, it shall at least complement that shortfall in the subsequent reporting period. Exceptionally, where an aviation fuel supplier fails to supply the average shares of synthetic aviation fuel over the period from 1 January 2030 until 31 December 2031, it shall at least complement that shortfall before the end of the period from 1 January 2032 until 31 December 2034, and where an aviation fuel supplier fails to supply the average shares of synthetic aviation fuel over the period from 1 January 2032 until 31 December 2034, it shall at least complement that shortfall in the subsequent reporting period.

#### Article 5

### Refuelling obligation for aircraft operators

1. The yearly quantity of aviation fuel uplifted by a given aircraft operator at a given Union airport shall be at least 90 % of the yearly aviation fuel required.

2. An aircraft operator may fall below the threshold in paragraph 1 of this Article where necessary for reasons of compliance with applicable fuel safety rules. In such cases, the aircraft operator concerned shall duly justify to the competent authority or authorities referred to in Article 11(6) and the Agency falling below that threshold, including giving an indication of the routes impacted. That information shall be included in the report under Article 8. The associated fuel quantities shall be reported separately in accordance with Article 8.

3. Exceptionally, an aircraft operator may, when duly justified, request from the competent authority or authorities referred to in Article 11(6) a temporary exemption from the obligation laid down in paragraph 1 of this Article for the flights on a specific existing or new route of less than 850 kilometres, or 1 200 kilometres for routes connecting with airports situated on islands without rail or road connections, departing from a Union airport. That distance shall be measured by the great circle route method.

Such request shall be made at least three months before the envisaged date of application of the exemption, supported by a detailed and adequate justification. Such exemption should be limited to the following situations:

(a) serious and recurrent operational difficulties in refuelling aircraft at the given Union airport preventing aircraft operators from performing turnarounds within a reasonable time; or



(b) structural aviation fuel supply difficulties stemming from the geographic characteristics of a given Union airport, leading to significantly higher prices of aviation fuels compared to prices applied on average to similar types of aviation fuels in other Union airports due in particular to specific fuel transport constraints or to limited availability of fuels at that Union airport and placing the aircraft operator concerned at a significant competitive disadvantage compared to market conditions existing in other Union airports with similar competitive characteristics.

4. The competent authority or authorities shall assess that request. In light of the justification provided, it may ask for additional information.

5. The competent authority or authorities shall take a decision on that request without undue delay at the latest one month before the date of application of the envisaged exemption. Where the competent authority or authorities ask for additional information pursuant to paragraph 4, the deadline for the competent authority or authorities to take a decision shall be suspended until complete information is provided by the aircraft operator.

The exemption granted shall have a limited period of validity, not exceeding one year, after which it shall be reviewed upon request of the aircraft operator.

6. The competent authority or authorities shall take a decision to accept or reject any first request for exemption submitted pursuant to paragraph 3. Failure to adopt such a decision within the time limit laid down in paragraph 5 shall not be considered to be a decision authorising the requested exemption. Failure to adopt a decision relating to a request for the renewal of an existing exemption, provided that such request is supported by a detailed and adequate justification, at the latest one month before the date of the envisaged renewal shall be considered to be a decision of authorisation to continue applying the requested exemption.

7. The aircraft operator shall have the right to appeal a decision of the competent authority or authorities that reject a request for exemption.

8. The competent authority or authorities shall notify the list of authorised and rejected exemptions to the Commission, giving the justification for its decision and the assessment upon which it is based. The Commission shall publish the list of authorised exemptions and update that list at least once a year.

9. Following a written complaint submitted by a Member State, an aircraft operator, the managing body of the Union airport concerned, or an aviation fuel supplier, or on its own initiative, the Commission may, after assessing the justification provided for the exemption granted pursuant to paragraph 5 of this Article in the light of the criteria set out in of paragraph 3 of this Article, adopt implementing acts requesting the competent authority or authorities to adopt a decision repealing that exemption from the beginning of the next scheduling period within the meaning of Article 2, point (d), of Council Regulation (EEC) No 95/93<sup>(15)</sup>. When that scheduling period starts less than two months after the publication of the decision, the decision repealing the exemption shall start applying from the beginning of the following scheduling period. Those implementing acts shall be adopted in accordance with the advisory procedure referred to in Article 16(2).

10. In order to be able to adopt the implementing acts referred to in paragraph 9, the Commission may request all necessary information from Member States and aircraft operators. Member States and aircraft operators shall provide such information without undue delay. Member States shall facilitate the provision of information by aircraft operators.

11. The Commission shall, by 1 September 2024, adopt guidelines on the application of the exemptions referred to in this Article. Such guidelines shall include elements that an aircraft operator is to provide to justify those exemptions.

<sup>(15)</sup> Council Regulation (EEC) No 95/93 of 18 January 1993 on common rules for the allocation of slots at Community airports (OJ L 14, 22.1.1993, p. 1).

*Article 6***Obligations of Union airport managing body to facilitate the access to SAF**

1. Union airport managing bodies shall take all necessary measures to facilitate the access of aircraft operators to aviation fuels containing minimum shares of SAF in accordance with this Regulation.
2. Where aircraft operators report to the competent authority or authorities difficulties in accessing at a given Union airport aviation fuels containing minimum shares of SAF in accordance with this Regulation, the competent authority or authorities shall request the Union airport managing body to provide the information necessary to prove compliance with paragraph 1. The Union airport managing body concerned shall provide the information to the competent authority without undue delay.
3. The competent authority or authorities shall assess all the information received in accordance with paragraph 2. Where the competent authority or authorities concludes that the Union airport managing body fulfils its obligations under paragraph 1, it shall inform the Commission and the Agency thereof. In cases of non-compliance, the competent authority or authorities shall request the Union airport managing body to identify and take the necessary measures to address the lack of adequate access of aircraft operators to aviation fuels containing minimum shares of SAF without undue delay, and in any case no later than three years after the request of the competent authority pursuant to paragraph 2.
4. For the purpose of paragraphs 2 and 3, where appropriate, aviation fuel suppliers, fuel handlers, aircraft operators and any other party concerned by the reported difficulties, shall provide, upon request and without undue delay, all the necessary information to the Union airport managing body and cooperate with the Union airport managing body in identifying and taking the necessary measures to address the reported difficulties.
5. The competent authority or authorities shall transmit without undue delay all the relevant information provided under paragraphs 2 and 3 of this Article to the Agency to enable it to draw up the technical report referred to in Article 13.

*Article 7***Promoting hydrogen and electricity supply at the Union airports**

1. Union airport managing bodies, aviation fuel suppliers and fuel handlers shall, where appropriate, cooperate with their respective Member State for the preparation of the national policy frameworks for the deployment of alternative fuels infrastructure in airports falling within the scope of Regulation (EU) 2023/1804 of the European Parliament and of the Council <sup>(16)</sup>.
2. Union airport managing bodies, aviation fuel suppliers and fuel handlers shall, where appropriate, in accordance with the national policy frameworks referred to in paragraph 1 when such a framework has been adopted, cooperate and undertake efforts to facilitate the access of aircraft operators to hydrogen or electricity used primarily for the propulsion of an aircraft and to provide the infrastructure and services necessary for the delivery, storage and uplifting of such hydrogen or electricity to refuel or recharge aircraft in line with national policy frameworks for deployment of alternative fuel infrastructure where relevant.
3. By 31 March 2025, and every two years thereafter, Union airport managing bodies shall report to the competent authorities and the Agency on the state of advancement of existing projects, for their respective Union airport, that pursue any of the initiatives referred to in paragraph 2. That report shall include information, which is publicly available or which can be made public, including, where appropriate, projections on the volumes and type of hydrogen and electricity production and supply to aircraft operators at the Union airport as well as deployment plans for recharging and refuelling infrastructure and services where such plans are adopted.

<sup>(16)</sup> Regulation (EU) 2023/1804 of the European Parliament and of the Council of 13 September 2023 on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU (OJ L 234, 22.9.2023, p. 1).

*Article 8***Reporting obligations for aircraft operators**

1. By 31 March of each reporting year, and for the first time in 2025, aircraft operators shall report the following information with respect to a given reporting period to the competent authorities and the Agency:
  - (a) the total amount of aviation fuel uplifted at each Union airport, expressed in tonnes;
  - (b) the yearly aviation fuel required, per Union airport, expressed in tonnes;
  - (c) the yearly non-tanked quantity, per Union airport, which is to be reported as 0 (zero) if the yearly non-tanked quantity is negative or if it is lower than or equal to 10 % of the yearly aviation fuel required;
  - (d) the yearly tanked quantity, per Union airport for reasons of compliance with applicable fuel safety rules pursuant to Article 5(2), expressed in tonnes;
  - (e) the total amount of SAF purchased from aviation fuel suppliers, for the purpose of operating their flights covered by this Regulation, departing from Union airports, expressed in tonnes;
  - (f) for each purchase of SAF, the name of the aviation fuel supplier, the amount purchased expressed in tonnes, the conversion process, the characteristics and origin of the feedstock used for production, and the lifecycle emissions of the SAF, and, where one purchase includes different types of SAF with differing characteristics, providing that information for each type of SAF;
  - (g) total flights operated covered by this Regulation departing from Union airports, expressed in number of flights and in flight hours.
2. The report shall be presented in accordance with the templates laid down in Annex II.
3. The report shall be verified by an independent verifier in accordance with the requirements set out in Articles 14 and 15 of Directive 2003/87/EC, and the implementing acts adopted on the basis thereof.

*Article 9***Aircraft operator claiming of use of SAF**

1. Aircraft operators shall not claim benefits for the use of an identical batch of SAF under more than one greenhouse gas scheme. The emission factor for the use of SAF under the EU Emission Trading System (EU ETS) is established in Annex IV to Directive 2003/87/EC or the implementing acts adopted pursuant to Article 14 of that Directive. For the purpose of allocating allowances under the EU ETS, Directive 2003/87/EC shall apply. For the purpose of allocating allowances reserved for the uplifting of SAF under the EU ETS, Article 3c(6) of Directive 2003/87/EC shall apply.

Together with the report referred to in Article 8, aircraft operators shall provide the Agency with:

- (a) a declaration of the greenhouse gas schemes that they participate in and in which it is possible for them to report SAF;
  - (b) a declaration that they have not reported under more than one greenhouse gas scheme identical batches of SAF; and
  - (c) information on participation in Union, national or regional financial support schemes that enables aircraft operators to be compensated for the costs of SAF purchased and information on whether the same batch of SAF has received support under more than one financial support scheme.
2. For the purpose of reporting SAF use under Article 8 of this Regulation, or under a greenhouse gas scheme, aviation fuel suppliers shall provide aircraft operators with relevant, accurate information relating to the reporting period, free of charge, as soon as possible, and in any case not later than 14 February of each reporting year.

3. The aircraft operator may request the aviation fuel supplier to provide it with the information referred to in paragraph 2 for other reporting obligations, including those under national law. The aviation fuel supplier shall provide that information free of charge. Where the request concerns information relating to a period that has already ended at the time of the request, the aviation fuel supplier shall provide that information within 90 days from the date of that request. Where the request concerns information relating to a reporting period that has not yet ended at the time that the request was made, the aircraft operator shall endeavour to submit its request at least 45 days before the end of that period. The aviation fuel supplier shall provide that information within 45 days from the end of that period.

#### Article 10

### Reporting obligations for aviation fuel suppliers

By 14 February of each reporting year, and for the first time in 2025, aviation fuel suppliers shall report in the Union database referred to in Article 31a of Directive (EU) 2018/2001, the following information relating to the reporting period:

- (a) the amount of aviation fuel supplied at each Union airport, expressed in tonnes;
- (b) the amount of SAF supplied at each Union airport, and for each type of SAF, as detailed in point (c), expressed in tonnes;
- (c) the conversion process, the characteristics and origin of the feedstock used for production, and the lifecycle emissions of each type of SAF supplied at Union airports;
- (d) the content of aromatics and naphthalenes by percentage volume and of sulphur by percentage mass in aviation fuel supplied per batch, per Union airport and at Union level, indicating the total volume and mass of each batch and test method applied to measure the content of each substance at batch level;
- (e) the energy content for aviation fuel and SAF supplied at each Union airport, for each type of fuel.

Member States shall have the necessary legal and administrative framework in place at national level to ensure that information entered by aviation fuel suppliers in that Union database is accurate, and has been verified and audited pursuant to Article 31a of Directive (EU) 2018/2001.

The Agency and the competent authorities shall have access to that Union database. The Agency shall use the information contained in that Union database, once the information has been verified at Member State level pursuant to Article 31a of Directive (EU) 2018/2001.

#### Article 11

### Competent authority

1. Member States shall designate the competent authority or authorities responsible for enforcing the application of this Regulation and for imposing the fines for aircraft operators, on the Union airport managing bodies, and on aviation fuel suppliers. Member States shall inform the Commission and the Agency of the identity of the competent authority or authorities that they have designated.

2. Member States shall ensure that their competent authorities exercise their oversight and enforcement tasks impartially and transparently, and in a manner independent from aircraft operators, aviation fuel suppliers and Union airport managing bodies. Member States shall also ensure that their competent authorities have the necessary resources and capabilities to carry out the tasks assigned to them under this Regulation in an efficient and timely manner.

3. The Commission, the Agency and the competent authorities of the Member States shall cooperate and exchange all relevant information to ensure effective implementation and compliance with this Regulation.

4. The Agency shall send to the competent authorities data aggregated for the aircraft operators, Union airports and their respective Union airport managing bodies and aviation fuel suppliers for which these authorities are competent pursuant to paragraphs 5, 6 and 7.

5. The responsible Member State, whose competent authority or authorities, designated in accordance with paragraph 1 of this Article, are responsible for a given aircraft operator, shall be determined pursuant to Commission Regulation (EC) No 748/2009 <sup>(17)</sup>. For aircraft operators not attributed to a Member State in that Regulation, the responsible Member State shall be determined pursuant to the rules laid down in Article 18a of Directive 2003/87/EC. The Commission may support the Member States in the attribution process. To that end, the Commission may request the assistance of Eurocontrol and may conclude any appropriate agreement with Eurocontrol to that effect.

6. The responsible Member State, whose competent authority or authorities, designated in accordance with in paragraph 1, are responsible for a given Union airport managing body, shall be determined on the basis of the respective territorial jurisdiction of the Union airport.

7. The responsible Member State, whose competent authority or authorities, designated in accordance with in paragraph 1, are responsible for a given aviation fuel supplier, shall be the Member State in which the aviation fuel supplier has its principal place of business.

8. For aviation fuel suppliers which do not have their principal place of business in a Member State, the responsible Member State shall be the one in which the aviation fuel supplier supplied the most aviation fuel in 2023 or in the first year of providing aviation fuel in the Union market, whichever the latest.

Such aviation fuel supplier may present to its competent authority a reasoned request asking to be reattributed to another Member State if it has supplied the highest shares of its aviation fuel in that Member State over the two years preceding the request. The reattribution decision shall be made within six months following the request by the aviation fuel supplier, shall be subject to the agreement of the competent authorities of the Member State of reattribution and shall be transmitted without undue delay to the Agency and the Commission. It shall apply from the beginning of the reporting period following the date of adoption of that decision.

## Article 12

### Enforcement

1. Member States shall lay down the rules on penalties applicable to infringements of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive taking into account, in particular, the nature, duration, recurrence and gravity of the infringement. Member States shall, by 31 December 2024, notify the Commission of those rules and of those measures and shall notify it without delay of any subsequent amendment affecting them.

2. Member States shall ensure that any aircraft operator that fails to comply with the obligations laid down in Article 5 is liable to a fine. That fine shall be proportionate and dissuasive and not less than twice as high as the amount resulting from the multiplication of the yearly average price of aviation fuel per tonne by the total yearly non-tanked quantity. An aircraft operator may be exempted from a fine if it can prove that its failure to comply with the obligations laid down in Article 5 was caused by exceptional and unforeseeable circumstances, outside its control, the effects of which could not have been avoided, even if all reasonable measures had been taken.

3. Member States shall ensure that any Union airport managing body that fails to take the necessary measures to address a lack of adequate access by aircraft operators to aviation fuels containing minimum shares of SAF pursuant to Article 6(3) is liable to a fine.

4. Member States shall ensure that any aviation fuel supplier that fails to comply with the obligations laid down in Article 4 relating to the minimum shares of SAF is liable to a fine. That fine shall be proportionate and dissuasive and not less than twice as high as the amount resulting from the multiplication of the difference between the yearly average price of conventional aviation fuel and SAF per tonne by the quantity of aviation fuels not complying with the minimum shares referred to in Article 4 and Annex I.

---

<sup>(17)</sup> Commission Regulation (EC) No 748/2009 of 5 August 2009 on the list of aircraft operators which performed an aviation activity listed in Annex I to Directive 2003/87/EC on or after 1 January 2006 specifying the administering Member State for each aircraft operator (OJ L 219, 22.8.2009, p. 1).

5. Member States shall ensure that any aviation fuel supplier that fails to comply with the obligations laid down in Article 4 relating to the minimum shares of synthetic aviation fuels and, over the period from 1 January 2030 until 31 December 2034, the average shares of synthetic aviation fuels, is liable to a fine. That fine shall be proportionate and dissuasive and not less than twice as high as the amount resulting from the multiplication of the difference between the yearly average price of synthetic aviation fuel and conventional aviation fuel per tonne by the quantity of the aviation fuel not complying with the minimum shares referred to in Article 4 and Annex I. When establishing the fine relating to the average shares of synthetic aviation fuels, Member States shall take into account any fine, relating to the minimum shares of synthetic aviation fuels to which the aviation fuel supplier is already liable in respect of the respective period referred to in this paragraph, in order to avoid a double penalty.

6. Member States shall ensure that any aviation fuel supplier that has been proven to have provided misleading or inaccurate information regarding the characteristics or origin of the SAF that it supplied under Article 9(2) and Article 10 is liable to a fine. That fine shall be proportionate and dissuasive and not less than twice as high as the amount resulting from the multiplication of the difference between the yearly average price of conventional aviation fuel and SAF per tonne by the quantity of aviation fuels about which the misleading or inaccurate information was provided.

7. In the decision imposing the fines referred to in paragraphs 2, 4, 5 and 6 of this Article, the competent authority or authorities shall explain the methodology applied for determining the price of aviation fuel, of SAF and of synthetic aviation fuel on the Union aviation fuel market. That methodology shall be based on verifiable and objective criteria, including from the latest available technical report referred to in Article 13.

8. Member States shall ensure that any aviation fuel supplier which has accumulated a shortfall from the obligation laid down in Article 4 relating to the minimum shares of SAF or of synthetic aviation fuels in a given reporting period, shall supply the market in the subsequent reporting period with a quantity of that respective fuel equal to that shortfall, in addition to their reporting period obligation.

By way of derogation from the first subparagraph, the following rules shall apply to synthetic aviation fuels for the periods from 1 January 2030 until 31 December 2031 and from 1 January 2032 until 31 December 2034:

- (a) any aviation fuel supplier which has accumulated a shortfall from the obligation laid down in Article 4 relating to the average shares of synthetic aviation fuels in the period from 1 January 2030 until 31 December 2031, shall supply the market before the end of the period from 1 January 2032 until 31 December 2034 with a quantity of synthetic aviation fuel equal to that shortfall, in addition to the obligations of that period; and
- (b) any aviation fuel supplier which has accumulated a shortfall from the obligation laid down in Article 4 relating to the average shares of synthetic aviation fuels in the period from 1 January 2032 until 31 December 2034, shall supply the market in the subsequent reporting period with a quantity of synthetic aviation fuel equal to that shortfall, additional to their reporting period obligation.

Fulfilling the obligations referred to in the first and second subparagraphs of this paragraph shall not exonerate the aviation fuel supplier from the obligation to pay the fines laid down in paragraphs 4 and 5.

9. Member States shall have the necessary legal and administrative framework in place at national level to ensure the fulfilment of the obligations and the collection of the fines.

10. Member States shall endeavour to ensure that revenues generated from fines, or the equivalent in financial value of those revenues, are used to support research and innovation projects in the field of SAF, the production of SAF or mechanisms allowing the price differences between SAF and conventional aviation fuels to be bridged.

Where such revenues are allocated to the general budget of a Member State, a Member State shall be deemed to have complied with the first subparagraph, if it implements financial support policies to support research and innovation projects in the field of SAF, the production of SAF or policies that support mechanisms allowing the price differences between SAF and conventional aviation fuels to be bridged, which have a value equivalent or higher to the revenues generated from fines.

By 25 September 2026, and every five years thereafter, Member States shall make public a report on the use made of the aggregated revenues generated from the fines, and information on the level of expenditure allocated to research and innovation projects in the field of SAF, the production of SAF or policies that support mechanisms allowing the price differences between SAF and conventional aviation fuels to be bridged.

#### Article 13

##### **Data collection and publication**

1. The Agency shall publish every year a technical report on the basis of the reports referred to in Articles 7, 8 and 10 and forward it to the European Parliament and to the Council. That report shall contain at least the following information:
  - (a) the aggregated amount of SAF purchased by aircraft operators at Union level, for use on flights covered by this Regulation departing from a Union airport, and per Union airport;
  - (b) the aggregated amount of SAF and of synthetic aviation fuels supplied at Union level, per Member State and per Union airport. The report shall include the amount and type of feedstock used at Union level, per Member State and per Union airport and an analysis on the ability of aviation fuel suppliers to comply with the minimum shares defined in Annex I;
  - (c) as far as possible, the amount of SAF supplied, in the third countries with which an agreement regulating the provision of air services has been concluded by the Union, or the Union and its Member States, and in other third countries where such information is publicly available;
  - (d) the state of the market, including price information, and trends in SAF production and use in the Union and per Member State and, as far as possible, in the third countries with which an agreement regulating the provision of air services has been concluded by the Union, or the Union and its Member States, and in other third countries, including information on the evolution of the price gap between SAF and conventional aviation fuels;
  - (e) the status of compliance of the Union airport managing body per airport, regarding obligations set out in Article 6;
  - (f) the compliance status of each aircraft operator and aviation fuel supplier having an obligation under this Regulation in the reporting period;
  - (g) the origin and characteristics of all SAF and the sustainability characteristics of hydrogen for aviation purchased by aircraft operators for use on flights covered by this Regulation departing from Union airports;
  - (h) the average total content of aromatics and naphthalenes by percentage volume and of sulphur by percentage mass in aviation fuel supplied by Union airport and at Union level;
  - (i) the state of advancement of projects at Union airports pursuing initiatives referred to in Article 7(3).
2. The Agency may consult the experts of the Member States when drawing up that report.

#### Article 14

##### **Environmental Labelling Scheme**

1. A voluntary environmental labelling scheme enabling the environmental performance of flights to be measured is hereby established.
2. Labels issued pursuant to this Article shall apply to aircraft operators falling within the scope of this Regulation for flights covered by this Regulation departing from Union airports. Where an aircraft operator requests the issuance of a label under this Article, it shall request such a label for all its flights covered by this Regulation departing from Union airports.

Aircraft operators may request the issuance of labels under this Article also for their flights covered by this Regulation arriving at Union airports. Where an aircraft operator requests the issuance of a label under this subparagraph, it shall request such a label for all its flights arriving at Union airports.

3. Labels issued pursuant to this Article shall certify the level of environmental performance of a flight on the basis of the information referred to in the second subparagraph of this paragraph. The level of environmental performance of a flight shall be determined on the basis of the average environmental performance of the flights carried out by a given aircraft operator on a specific route for the previous corresponding scheduling period within the meaning of Article 2, point (d), of Regulation (EEC) No 95/93.

Labels issued pursuant to this Article shall consist of the following information:

- (a) the expected carbon footprint per passenger, expressed in metrics such as in kilograms of CO<sub>2</sub> per passenger, for the period of validity of the label;
- (b) the expected CO<sub>2</sub> efficiency per kilometre, expressed in metrics such as in grams of CO<sub>2</sub> per passenger per kilometre, for the period of validity of the label.

4. The expected carbon footprint per passenger and the expected CO<sub>2</sub> efficiency per kilometre of a flight shall be determined by the Agency on the basis of a standardised and science-based methodology and the information from the aircraft operators concerning all or some of the following factors:

- (a) the types of aircraft, average number of passengers and freight loads supplemented when needed with estimations of those factors, such as the average load factors for the specified route for a given time period; and
- (b) the performance of the fuel used on the flights carried out by the aircraft operator based on the fuel uptake and using metrics such as the total amount of SAF uplifted, the percentage over the total fuel uptake, the quality and origin, the composition and the lifecycle emissions from fuel use calculated for the flight.

5. Labels issued pursuant to this Article shall be valid for a limited period not exceeding one year specified in the implementing acts referred to in paragraph 11, point (c). The period of validity of the label shall be clearly displayed by the aircraft operator together with the label.

6. The Agency shall issue labels at the request of an aircraft operator for each flight or set of flights operated under the same conditions, on the basis of the information referred to in paragraph 3 and the standardised and science-based methodology and factors referred to in paragraph 4.

The Agency may require the aircraft operator to provide additional information necessary for the issuance of the label.

Where the aircraft operator does not submit all the information necessary for the Agency to issue the requested label, the Agency shall reject the request.

An appeal may be brought by the aircraft operator against decisions of the Agency taken pursuant to this paragraph and paragraph 7 of this Article. Such appeal shall be filed to the Board of Appeal referred to in Article 105 of Regulation (EU) 2018/1139 of the European Parliament and of the Council<sup>(18)</sup> within 10 days of notification of the decision. Articles 106 and 107, Article 108(2) and (3), and Articles 111, 112, 113 and 114 of Regulation (EU) 2018/1139 shall apply. Any decision taken by the Agency pursuant to this paragraph shall be taken without undue delay.

7. The Agency shall review periodically whether the factors on the basis of which a label was issued for each flight or set of flights operated under the same conditions have changed. If the Agency concludes that a label is no longer appropriate, it shall, after giving the operator the opportunity to be heard revoke the existing label or issue a new label. The Agency shall inform the aircraft operator of its decision.

The aircraft operator shall without any delay adjust the display of the label accordingly.

<sup>(18)</sup> Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212 22.8.2018, p. 1).



8. Aircraft operators that have been granted a label pursuant to paragraph 6 shall display the label containing the information referred to in paragraph 3, second subparagraph. The label shall be easily accessible and understandable. It shall be presented in a way that enables customers to easily compare the environmental performance of flights operated by different aircraft operators flying the same route. Where an aircraft operator displays the label at a point of sale or any other contact with the customers, they shall do so for all flights within scope of this Regulation.

9. In order to finance the costs of the service provided by the Agency, the issuing of a label at the request of an aircraft operator shall be subject to the payment of a charge. The revenues generated from such charges shall constitute other revenues within the meaning of Article 120(1) of Regulation (EU) 2018/1139 and shall be treated as assigned revenues to be allocated by the Agency to cover those costs. Article 126(2) and (3) of Regulation (EU) 2018/1139 shall apply. The amount of the charge shall be defined pursuant to Article 126(4) of Regulation (EU) 2018/1139.

10. As part of its tasks in the field of environmental protection as set out in Article 87(2) of Regulation (EU) 2018/1139, the Agency shall contribute to raising awareness of the existence of the labelling scheme set up by this Article.

11. In order to ensure the uniform implementation and compliance with the rules set out in this Article, the Commission shall adopt by 1 January 2025 implementing acts laying down detailed provisions concerning:

- (a) the standardised and science-based methodology referred to in paragraph 4, based on the best available scientific data, in particular the data provided by the Agency and including the methodology for using estimations referred to in paragraph 4, point (a);
- (b) the procedure through which aircraft operators are to provide the Agency with the relevant information for the issuance of a label, and the procedure for the Agency to issue that label, including the time-limit by which the Agency is to take a decision pursuant to paragraph 6;
- (c) the duration of the validity of labels issued pursuant to this Article, not exceeding one year;
- (d) the conditions under which the Agency is to carry out the review referred to in paragraph 7;
- (e) the procedure mentioned in paragraph 7 through which the Agency can either revoke existing labels or issue a new label;
- (f) the templates for displaying labels issued pursuant to this Article;
- (g) ensuring an easy access to all issued labels in machine-readable format;
- (h) the possibility and conditions under which aircraft operators may display, without using a label under this Article, any environmental performance information similar to the one referred to in paragraph 3 for flights departing from Union airports.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 16(3).

12. By 1 July 2027, the Commission shall identify and assess the developments on the functioning of the labelling scheme set up by this Article as well as possible improvements or additional measures to such scheme, with a view in particular to establish a compulsory environmental labelling scheme encompassing all aspects of the environmental performance of flights or set of flights and the different decarbonisation measures that aircraft operators take, in full compliance with Union law. The Commission shall present a report with the main findings of the assessment carried out pursuant to this paragraph to the European Parliament and to the Council. It may, where appropriate, accompany that report with a legislative proposal.

*Article 15***Flexibility mechanisms**

1. By way of derogation from Article 4(1), from 1 January 2025 until 31 December 2034, for each reporting period, an aviation fuel supplier may supply the minimum shares of SAF defined in Annex I as a weighted average over all the aviation fuel it supplied across Union airports for that reporting period.
2. By 1 July 2024, the Commission shall identify and assess the developments on SAF production and supply on the Union aviation fuel market as well as assess possible improvements or additional measures to the existing SAF flexibility mechanism referred to in paragraph 1, such as setting up or recognising a system of tradability of SAF to enable fuel supply in the Union without it being physically connected to a supply site, with a view to further facilitate the supply and uptake of SAF for aviation during the flexibility period.

Such a possible system, incorporating elements of a book and claim scheme, could enable aircraft operators or fuel suppliers, or both, to purchase SAF through contractual arrangements with aviation fuel suppliers and to claim the use of SAF at Union airports.

The Commission shall present a report to the European Parliament and to the Council setting out the main findings of the evaluation carried out pursuant to this paragraph and accompanied, where appropriate, by a legislative proposal.

*Article 16***Committee procedure**

1. The Commission shall be assisted by the ReFuelEU Aviation Committee, hereinafter referred to as 'the Committee'. The Committee shall be a committee within the meaning of Regulation (EU) No 182/2011.
2. Where reference is made to this paragraph, Article 4 of Regulation (EU) No 182/2011 shall apply.
3. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

*Article 17***Reports and review**

1. By 1 January 2027, and every four years thereafter, the Commission shall present a report to the European Parliament and to the Council, on the application of this Regulation.
2. The report shall contain a detailed assessment of the evolution of the aviation fuels market, and the impact of that evolution on the functioning of the aviation internal market of the Union including on the competitiveness and connectivity, in particular for islands and remote territories, and on the cost-effectiveness of lifecycle emissions reductions. The report shall also assess the need for investments, employment and training, and research and innovation in SAF. In addition, the report shall inform on technological advancements in the area of research and innovation in the aviation industry which are relevant to SAF, including with regards to the reduction of non-CO<sub>2</sub> emissions or direct air capture technologies.
3. The report shall evaluate the possible need to revise the scope of this Regulation, the SAF definition, the eligible fuels and the minimum shares in Article 4 and Annex I, and the level of fines. The report shall evaluate the possible widening of the scope of this Regulation to include other energy sources and other types of synthetic fuels defined in Directive (EU) 2018/2001, while taking due account of the principle of technological neutrality. The report shall also assess initiatives, improvements and additional measures to further facilitate and promote an increased supply and uptake of non-drop-in aviation fuels, and related services, infrastructure and technologies consistent with the objective of decarbonising air transport while preserving a level playing field.

4. The report shall consider the possible inclusion of mechanisms to support the production and uplift of SAF, including the collection and use of funds, and to limit the adverse impact of this Regulation on connectivity and competitiveness. The report shall consider whether such mechanisms should include financial and other mechanisms to bridge the price differences between SAF and conventional aviation fuels.

5. The report shall assess the impact on the functioning of the aviation internal market of the exemptions granted under Article 5.

As far as possible, the report shall include information on the policy developments in relevant third countries, including in the context of their multilateral and bilateral agreements with the Union or with the Union and its Member States, as well as on the development of a potential policy framework for supply and uplift of SAF at ICAO level.

The report shall assess the competitiveness of Union air carriers and airport hubs compared with their competitors in relevant third countries, as well as possible rerouting, notably through a shift in traffic towards airport hubs in third countries, leading to carbon leakage. In particular, in the absence of a mandatory scheme at international level on the use of SAF for international flights with a similar level of ambition as the requirements laid down in this Regulation or of mechanisms developed at international level enabling the risk of carbon leakage and the distortion of competition for international aviation to be avoided, the Commission shall, by 31 December 2026, where appropriate, consider targeted mechanisms that aim to prevent those effects, including, if appropriate, the extension to international aviation of the carbon border adjustment mechanism established by Regulation (EU) 2023/956 of the European Parliament and of the Council <sup>(19)</sup>, as well as other types of measures taking into account the fact that the final destination of the flight is located outside the territory of the Union.

6. The report shall include detailed information on the enforcement of this Regulation. The report shall consider whether this Regulation should be amended and, where appropriate, which amendments should be considered, in line with a potential policy framework on SAF uptake at ICAO level.

As part of the first report or earlier as a stand alone report presented to the European Parliament and to the Council, the Commission shall assess possible measures to optimise the fuel content of aviation fuels.

7. The Commission may consult Member States when drawing up that report, at least six months before its adoption.

#### Article 18

#### Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply from 1 January 2024.

However, Articles 4, 5, 6, 8 and 10 shall apply from 1 January 2025.

<sup>(19)</sup> Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism (OJ L 130, 16.5.2023, p. 52).

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Strasbourg, 18 October 2023.

*For the European Parliament*  
*The President*  
R. METSOLA

*For the Council*  
*The President*  
J. M. ALBARES BUENO

---

## ANNEX I

**Shares of SAF referred to in Article 4**

- (a) From 1 January 2025, each year a minimum share of 2 % of SAF;
  - (b) From 1 January 2030, each year a minimum share of 6 % of SAF, of which:
    - (i) for the period from 1 January 2030 until 31 December 2031, an average share over the period of 1,2 % of synthetic aviation fuels, of which each year a minimum share of 0,7 % of synthetic aviation fuels;
    - (ii) for the period from 1 January 2032 until 31 December 2034, an average share over the period of 2,0 % of synthetic aviation fuels, of which each year a minimum share of 1,2 % from 1 January 2032 until 31 December 2033 and of which a minimum share of 2,0 % from 1 January 2034 until 31 December 2034 of synthetic aviation fuels;
  - (c) From 1 January 2035, each year a minimum share of 20 % of SAF, of which a minimum share of 5 % of synthetic aviation fuels;
  - (d) From 1 January 2040, each year a minimum share of 34 % of SAF, of which a minimum share of 10 % of synthetic aviation fuels;
  - (e) From 1 January 2045, each year a minimum share of 42 % of SAF, of which a minimum share of 15 % of synthetic aviation fuels;
  - (f) From 1 January 2050, each year a minimum share of 70 % of SAF, of which a minimum share of 35 % of synthetic aviation fuels.
-

## ANNEX II

**Template for aircraft operator reporting**

## Template for aircraft operator reporting on uplift of aviation fuels

Union airport	ICAO code of Union airport	Yearly aviation fuel required (tonnes)	Actual aviation fuel uplifted (tonnes)	Yearly non-tanked quantity (tonnes)	Total yearly non-tanked quantity (tonnes)	Yearly tanked quantity for fuel safety rules (tonnes)

## Template for aircraft operator reporting on purchases of SAF

Total number of flights operated	Total number of flight hours	Fuel supplier	Amount purchased (tonnes)	Conversion process	Characteristics	Origin of feedstock	Lifecycle emissions