THIRD WAY

Climate & Energy Program

June 2023

TO:	Interested Parties
FROM:	Third Way
RE:	FAA's Existing Authority to Create a Low Carbon Aviation Fuel Standard

Executive Summary

Third Way has previously prepared a white paper calling for the introduction of a federal low carbon fuel standard ("LCFS") for the aviation industry.[1] The proposed aviation LCFS would consist of both a sustainable aviation fuel volumetric blending mandate and a carbon intensity ("CI") target. Such a system would blend elements of the federal renewable fuel standard, which exclusively relies on blending mandates, and low carbon fuel standards implemented in California, Oregon, and Washington, which rely exclusively on CI targets. This paper supplements Third Way's previous work by demonstrating that the Federal Aviation Administration ("FAA") is already empowered by existing statute to establish such an aviation LCFS and by anticipating potential legal challenges that should be considered when designing such a program.

The FAA has existing authority under 49 USC 44714 to promulgate standards for the composition of aviation fuel to control or eliminate aircraft emissions for which the Environmental Protection Administration ("EPA") has determined a threat to the public health or welfare exists. EPA issued such a determination for six greenhouse gases from aviation engines in 2016, and the FAA could rely on its existing authority and EPA's finding to require a reduction of such greenhouse gases by implementing an aviation LCFS. In fact, while the statutory structure gives EPA authority to set general emissions standards from aircraft, it gives FAA a stronger mandate to control or eliminate such emissions through fuel composition standards that are in addition to any standards set by EPA. Nonetheless, because such action would not be pursuant to recent and greenhouse gas-explicit Congressional action, there would likely be legal challenges regarding the extent of FAA's authority. Ultimately, these challenges could be mitigated through careful design choices and development of a strong administrative record in the rulemaking establishing an aviation LCFS.

Statutory and Regulatory Background

Section 231 of the Clean Air Act authorizes EPA to make determinations that certain emissions

[1] F. Ghatala *et al.*, Third Way, *Towards a Federal Low Carbon Fuel Standard for Aviation* (2023), *available at* https://thirdway.imgix.net/Towards%20a%20Federal%20Low%20Carbon%20Fuel%20Standard%20for%20Aviation%20Report.pdf.

from aircraft engines "cause[], or contribute[] to, air pollution which may reasonably be anticipated to endanger public health or welfare" (an "Endangerment Finding").[2] Such a finding triggers two separate courses of action, one which is completed through a joint process by EPA and FAA and the second which is the exclusive responsibility of FAA. First, EPA must set emissions standards for aircraft engines after completing a consultation with FAA to ensure the standards do not impact safety.[3] Under Section 232 of the Clean Air Act, FAA must then adopt regulations to enforce the emissions standards set by EPA. Second, in addition to that first course of action, under 49 USC 44714, FAA must adopt aviation fuel standards to "control or eliminate aircraft emissions" that were subject to an Endangerment Finding. Specifically, 49 USC 44714 states that:

> *The Administrator of the Federal Aviation Administration shall prescribe--*
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> *(1) standards for the composition or chemical or physical properties of an aircraft fuel or fuel additive to control or eliminate aircraft emissions the Administrator of the Environmental Protection Agency decides under section 231 of the Clean Air Act (42 U.S.C. 7571) endanger the public health or welfare; and*
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> *(2) regulations providing for carrying out and enforcing those standards.*

Although the two courses of action are distinct and FAA's authority under 49 USC 44714 is, on its face, broader than its authority under Section 232 of the Clean Air Act, to date the FAA has not exercised its 49 USC 44714 authority in response to the Endangerment Finding. While the FAA has expressly exercised its Section 232 authority to promulgate regulations to enforce EPA standards several times[4], in the only identified instance in which FAA has claimed to promulgate fuel standards pursuant to 49 USC 44714, FAA did so only to adopt existing EPA standards.[5] In fact, in that action FAA did not promulgate fuel composition standards but instead promulgated emissions testing procedures that were functionally more in line with its Clean Air Act Section 232 authority.

In 2016 EPA made an Endangerment Finding for GHGs, specifically determining that six well-mixed GHGs from aircraft are reasonably likely to endanger both the public health and welfare.[6] Those GHGs are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.[7] In making the Endangerment Finding, EPA declined to credit lifecycle

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[2] 42 USC 7571(a)(2).

[3] *Id.*

[4] *See, e.g.,* Exhaust Emissions Standards for New Aircraft Gas Turbine Engines and Identification Plate for Aircraft Engines, FAA, 78 Fed. Reg. 63015 (Oct. 23, 2013). [hereinafter *Example Section 232 Rule*].

[5] Emission Standards for Turbine Engine Powered Airplanes, FAA, 74 Fed. Reg. 19125 (Apr. 28, 2009). [hereinafter *2009 Fuel Standards*].

[6] Finding that Greenhouse Gas Emissions from Aircraft Cause or Contribute to Air Pollution that may Reasonably be Anticipated to Endanger Public Health and Welfare, EPA, 81 Fed. Reg. 54421 (Aug. 15, 2016) [hereinafter *Endangerment Finding*].

[7] *Id.*

emissions of certain crop-based aviation fuels, stating that:

> The origin and constitution of a fuel prior to its combustion and subsequent emission into the atmosphere has no bearing on the fact that CO[2] and the other well-mixed GHGs are all sufficiently long lived to become well mixed in the atmosphere, directly emitted, of well-known radiative forcing, and generally grouped and considered together in climate change scientific and policy forums as the primary driver of climate change…A molecule of biogenic CO[2] has the same radiative forcing effect as a molecule of fossil-fuel derived CO[2]. In other words, no matter the original source of the CO[2], the behavior of the CO[2] molecules in the atmosphere in terms of radiative forcing, chemical reactivity, and atmospheric lifetime is effectively the same.

This is arguably significant because it is evidence of EPA's interpretation that its authority to set emissions standards does not extend beyond combustion emissions. As described fully in the analysis below, this does not mean that the FAA authority is similarly limited with regard to the adoption of an aviation LCFS because 1) EPA's authority to set emissions standards under Section 231 is far more constrained than FAA's authority to set fuel composition standards under 49 USC 44714 and 2) FAA has exclusive jurisdiction over non-combustion emissions from aviation fuels.

In January 2021, under the outgoing Trump Administration, EPA promulgated GHG emissions standards for certain classes of aircraft engines based upon the 2016 Endangerment Finding.[8] In setting the first GHG emissions standards for aircraft, EPA took a somewhat broader view than it had in setting previous standards. First, rather than considering engine performance only, EPA, in line with international standards, took a "whole airplane" approach and considered aircraft weight and aerodynamics.[9] Second, relying on its whole airplane approach, EPA declined to set numerical emissions limitations and instead set a fuel efficiency standard.[10] This is potentially significant as a precedent for the broader standards FAA is considering under an aviation LCFS.

FAA has proposed, but not finalized, a rule to exercise its Section 232 authority with respect to GHG emissions.[11] To date, FAA has not proposed a rule to execute its duty under 49 USC 44714 to promulgate fuel composition standards with respect to GHG emissions despite the fact that Congress clearly conveyed a non-discretionary duty to the agency upon an Endangerment Finding.

FAA's Authority Under the Plain Language of 49 USC 44714

The strongest argument in favor of an aviation LCFS is that Congress gave the FAA clear and mandatory authority to act once an Endangerment Finding is made. Indeed, the most

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[8] Control of Air Pollution from Airplanes and Airplane Engines: GHG Emission Standards and Test Procedures, EPA, 86 Fed. Reg. 2136 (Jan. 11, 2021) [hereinafter *2021 Emissions Standards*].

[9] *Id* at 2142.

[10] *Id.*

[11] Airplane Fuel Efficiency Certification, FAA, 87 Fed. Reg. 36076 (June 15, 2022).

foundational concept of statutory interpretation is that the plain language of the statute controls the interpretation. The Supreme Court has stated "[w]e must enforce plain and unambiguous statutory language according to its terms."[12] Further, "there is no need to consult extratextual sources when the meaning of a statute's terms is clear."[13]

Here, the plain language of 49 USC 44714 clearly authorizes the promulgation of an aviation LCFS. Under the language, FAA "shall prescribe standards for the composition…of an aircraft fuel…"[14] "Composition" is defined as "the qualitative and quantitative makeup of a chemical compound" or "a product of mixing or combining various elements or ingredients."[15] A blending requirement combined with content-neutral CI target squarely falls within the definition of standards for fuel composition.

The statute further states that standards must be to "control or eliminate" emissions.[16] "Control" means "to reduce the incidence or severity of especially to innocuous levels."[17] An aviation LCFS designed to decrease emissions clearly falls within this definition.

Lastly, the controlled emissions must be "aircraft emissions" that EPA has previously found to "endanger the public health or welfare."[18] Under the statutory language of section 231 of the Clean Air Act, EPA's role is to make Endangerment Findings and set standards for aircraft emissions.[19] FAA, in turn, has two separate statutory directives. Under section 232 of the Clean Air Act, FAA is directed to implement regulations for aircraft that ensure compliance with the standards EPA sets under section 231.[20] Separately, under 49 USC 44714, FAA has the sole and exclusive authority to set standards for aviation fuel after an Endangerment Finding. Because of its exclusive jurisdiction in the fuels area, FAA arguably must, or at least is allowed to, consider the broader lifecycle for the fuels under its jurisdiction in the same way EPA considered other factors of the aircraft beyond emissions per volume of fuel combusted in the 2021 Emissions Standards.

Further, FAA's plain statutory authority in promulgating "standards" is far less constrained than EPA's similar authority. EPA's authority under section 231 of the Clean Air Act is constrained to promulgating "emissions standards" "which limit[] the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design,

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[12] *Hardt v. Reliance Std. Life Ins. Co.,* 560 US 242 (2010).

[13] *McGirt v. Oklahoma,* 140 S.Ct. 2452 (2020).

[14] 49 USC 44714.

[15] Merriam-Webster, definition of composition, *available* at https://www.merriam-webster.com/dictionary/composition.

[16] 49 USC 44714.

[17] Merriam-Webster, definition of control, *available at* https://www.merriam-webster.com/dictionary/control.

[18] 49 USC 44714.

[19] 42 USC 7571.

[20] 42 USC 7572.

equipment, work practice or operation standard."[21] Although the list of examples is not necessarily an exclusive list, all of the examples relate to the design and operation of equipment. Under generally accepted canons of interpretation, when all examples of allowed actions in a statutory list are within the same category, then the list is interpreted to the exclusion of actions not in the same category.[22] FAA is not so limited in its authority under 49 USC 44714. FAA is directed to "control or eliminate" emissions, a broad mandate, and its authority is not bound by the above definition of "emissions standards" from the Clean Air Act or any other narrow definition or written constraint on the types of standards it may set.

Section 231 of the Clean Air Act also requires EPA to consider factors such as cost, safety, and noise. Despite an overall purpose of the Clean Air Act to reduce emissions, the DC Circuit held that EPA has "broad discretion" in weighing those factors and may even weigh the cost, safety and noise factors greater than pollution reduction, so long as some amount of pollution reduction does result from any new regulations.[23] 49 USC 44714 contains no other factors for FAA to weigh, only a much broader mandate that it "shall" "control or eliminate" pollution via regulation of the composition, chemical, or physical properties of aviation fuel upon an EPA endangerment finding, which occurred in 2016.

For all of the above reasons, "aircraft emissions" may be interpreted broadly to encompass the entire lifecycle emissions of fuels designed to be operated in aircraft. Failure to interpret "aircraft emissions" in this way would render FAA's authority meaningless and duplicative of EPA's Section 231 authority to regulate combustion emissions of aircraft and FAA's separate responsibility under Section 232 to ensure compliance with EPA's combustion emission standards. Such an interpretation would violate the Supreme Court's directive that statutes should be read such that "no clause, sentence, or word shall be superfluous, void, or insignificant."[24]

Still, this interpretation of "aircraft emissions" is subject to a potential challenge. While EPA has made the required Endangerment Finding, opponents may argue that lifecycle emissions of aviation fuel are not "aircraft emissions." "Aircraft" means "any contrivance invented, used, or designed to navigate, or fly in, the air."[25] Opponents will likely point to EPA's 2016 Endangerment Finding in which it did not credit lifecycle emissions of crop-based fuels, instead limiting its considerations of "aircraft emissions" to combustion emissions from aircraft operation.[26] Opponents will further point to the fact that when EPA decided to exercise "broad" authority with respect to aircraft GHG emissions and go beyond mere engine performance, it still limited itself to factors that directly relate to the aircraft itself and that impact fuel consumption

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[21] 42 USC 7602(k).

[22] *See, e.g., Holder v. Hall,* 512 US 874 (1994) ("the principle of ejusdem generis suggests that [] general terms should be understood to refer to items belonging to the same class that is defined by the more specific items in the list").

[23] *Nat'l Assn. of Clean Air Agencies v EPA,* 489 F.3d 1221 (DC Cir. 2007).

[24] *TRW Inc. v. Andrews,* 534 US 19 (2001).

[25] 49 USC 40102(a)(6).

[26] *Endangerment Finding, supra* note 2.

in-flight.[27] Finally, opponents may point to FAA's own history of failing to exercise its authority beyond enforcement of existing EPA regulations as an implicit acknowledgement of its limited authority in this area.[28] For the reasons described above, however, these are relatively weak arguments and should not prevent the mandated action by the FAA in response to the Endangerment Finding.

Trend by Courts to Reign in Broad Grants of Power to Agencies

There have been recent cases where the courts have acted to strike down administrative action generally viewed as too broad or sweeping. While there is a strong colorable argument that the FAA has clear congressional authority as set forth in 49 USC 44714, a thoughtful rulemaking process could mitigate some inherent risk in acting on greenhouse gas emissions.

West Virginia v. EPA

In June 2022, the Supreme Court decided the case of West Virginia v. EPA.[29] The case involved the Clean Power Plan, a regulation promulgated by EPA under a broad grant of statutory authority to establish emissions limitations for power plants that would have required the closure of many fossil-fuel power plants and replacement with renewable sources of electricity.[30] The statutory language granted EPA authority to base its limitations on the "best system of emissions reduction."[31] The arguments presented to the court focused heavily on what each party asserted to be the plain language interpretation of the word "system," specifically whether that meant a technological system of pollution control that could be installed at any given power plant or whether it meant the sector-wide generation shifting "system" proposed by EPA.[32]

Rather than ruling on the plain language, the Court held that even if the plain language imbued EPA with broad authority, EPA nonetheless did not have authority to implement such a plan.[33] Instead, the Court turned to what it called the "major questions doctrine" which holds that there are "extraordinary cases in which the history and breadth of the authority that the agency has asserted, and the economic and political significance of that assertion, provide a reason to hesitate before concluding that Congress meant to confer such authority" (internal quotations omitted).[34] In such cases, the agency must point to "clear congressional authorization" to regulate in that manner.[35]

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[27] *Id.*

[28] *See*

[29] 142 S.Ct. 2587.

[30] *Id.*

[31] *Id;* Clean Air Act Section 111(d).

[32] *West Virginia v. EPA,* 142 S.Ct. 2587.

[33] *Id.*

[34] *Id.*

[35] *Id.*

To determine that EPA had exceeded its authority, the Court looked to several factors including:

- That the nation's energy mix is a topic of great political significance that Congress has debated several times and expressly declined to pass programs similar to the Clean Power Plan, such as a cap and trade program;

- That the electric power sector is among the largest in the US economy with links to every other sector;

- That determination of the electric generation mix has historically been a power reserved for the states; and

- That EPA had not previously exercised its authority in this way, instead choosing only to regulate on a technological basis for several decades.[36]

Most of the above factors are not present in the case of an aviation LCFS. The regulation of aviation fuels has historically not been a state issue and several states have expressly declined any attempts to regulate fuels used on interstate flights, or in most cases, any flights.[37] The aviation fuel market is relatively small and niche compared to electric generation and is not as directly linked to other industries throughout the economy.

While FAA has not routinely exercised its authority under this statute and never in the manner contemplated, use of its authority to create an aviation LCFS would not be analogous to the Clean Power Plan. The Clean Air Act is the only authority by which EPA can regulate GHG emissions from power plants. Absent other indications from Congress, it is fair to question the extent of EPA's authority. With regard to the FAA's authority to require the lowering of certain emissions, 49 USC 44714 is not the agency's only authority to regulate aircraft emissions (although the plain language of the provision is clear and should suffice). Congress promulgated the provision that eventually became 49 USC 44714 in conjunction with the Clean Air Act Amendments of 1970 which also included updates to Clean Air Act sections 231 and 232. Congress delegated narrower authorities over *aircraft emissions* to both EPA and FAA at the same time that it delegated the much broader authority to FAA over *aircraft fuels*. This is an unambiguous indication that Congress intended for FAA's authority to be broader when applied to fuels. The Supreme Court has stated that "where Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion."[38] Thus, unlike the Clean Power Plan where EPA purportedly "discovered" new authority in a statute that it had already been using in a different manner, Congress directed the FAA to regulate aircraft fuels upon an endangerment finding—and an aviation LCFS would satisfy that directive..

Ultimately, even if the Court is suspicious of FAA's novel use of its authority, the political and social significance of the aviation fuel market should not rise to the level to trigger the major

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[36] *Id.*

[37] *See, e.g.*, California Low Carbon Fuel Standard, 17 CCR sections 95480-95503.

[38] *Russello v. United States,* 464 US 16 (1983).

questions doctrine as it was laid out in *West Virginia v. EPA.*

Additional considerations when designing an aviation LCFS can help avoid any potential major questions doctrine issues. Any requirements under the aviation LCFS should be directly related the goal of emissions reductions. For example, environmental justice, while a laudable goal, is not a clearly allowed consideration under 49 USC 44714. If the aviation LCFS were to include an environmental justice requirement, the regulation may be viewed by a court as wading into impermissible major policy decisions. Other issues, such as land use considerations, should also be clearly tied to the lifecycle analysis and not to policy goals other than emissions reductions.

To the extent possible, development of evidence in the administrative record linking renewable fuel production to demand in the aviation sector can provide critical support. If new sustainable fuel production can be definitively linked to demand signals by the aviation LCFS and it can be shown that the aviation LCFS does not cut into existing programs like the RFS, then the emissions reductions can more credibly be considered "aircraft emissions" reductions under both the plain language argument and the major questions argument. If, absent the aviation LCFS, renewable feedstocks would still be used for other transportation fuel production or otherwise utilized to reduce emissions elsewhere in the economy, then opponents would have a slightly stronger argument that not only is this a major policy question that is linked to other areas of the economy but also that the emissions reductions are not truly "aircraft emissions" reductions.

Jarkesy v. SEC

In May 2022, the Fifth Circuit Court of Appeals decided *Jarkesy v. SEC*.[39] The US government has since petitioned for certiorari by the Supreme Court. Briefing on the cert petition is scheduled to conclude by May 10, 2023 and the Court will likely decide whether or not to hear the case shortly thereafter. The Fifth Circuit decision revives a long dormant doctrine known as the non-delegation doctrine, as well as deciding the issue at hand on alternate grounds. The nondelegation doctrine was previously nearly revived by the 2019 case, *Gundy v. United States,* which was decided by a split eight member court.[40] As described in the *Gundy* dissent, a revived nondelegation doctrine would severely limit Congress' ability to grant broad discretion to agencies. Congress would be required to make all policy choices associated with a given statute and leave the executive only the responsibilities of gathering information to fill in minor details and executing the law.

A full analysis of the nondelegation doctrine as applied to an aviation LCFS is not warranted at this time because it is not yet clear if the Court will grant cert in *Jarkesy* and, if it does grant cert, if it will decide the case on the nondelegation issue. Still, this is an important case to watch as the aviation LCFS is developed.

CHECC v. EPA

On April 14, 2023, the DC Circuit Court of Appeals heard oral argument in the case of

[39] 34 F.4th 466 (5th Cir. 2022).

[40] 139 S.Ct. 2116 (2019).

Concerned Household Electricity Consumer's Council v. EPA.[41] That case challenges EPA's Endangerment Finding with respect to GHGs from motor vehicles. If successful, it would also call into question EPA's later Endangerment Finding for GHGs from aircraft. This challenge to EPA's decision is highly unlikely to succeed but this case is nonetheless worth monitoring.

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[41] Docket No. 22-1139.