



Airlines for America®  
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February 26, 2024

Secretary Janet Yellen  
1500 Pennsylvania Avenue NW  
Washington, DC 20220

**Comments on**

**“Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election to Treat Clean Hydrogen Production Facilities as Energy Property”**

Docket IRS-REG-117631-23  
IRS-2023-0066

Submitted electronically at: <https://www.regulations.gov/commenton/IRS-2023-0066-0001>

Dear Secretary Yellen and 45V guidance team,

Airlines for America® (A4A), the principal trade and service organization of the U.S. airline industry<sup>1</sup>, appreciates the opportunity to provide comments on the IRS’s proposed regulations to implement the Inflation Reduction Act’s section 45V credit for producing clean hydrogen and the section 48(a)(15) election to treat clean hydrogen production facilities as energy property.

The U.S. airline industry is committed to reducing its climate impact and achieving net zero carbon emissions by 2050. Transitioning to Sustainable Aviation Fuels (SAF) is core to this commitment, and we have pledged to work with governments and other stakeholders to make three billion gallons of SAF available in the United States by 2030. Achieving these goals requires new and additional policy incentives, streamlined permitting processes, and close collaboration among airlines, the fuels industry, manufacturers, environmental organizations and governments, among others.

SAF is a drop-in hydrocarbon fuel, meaning that it works with existing aircraft engines, pipelines, and storage infrastructure, as long as it is blended up to 50% with conventional jet fuel and qualified to the relevant ASTM standards for alternative jet fuel. Work is underway to approve uses up to 100% SAF. SAF can bring meaningful reductions in aviation carbon emissions, reducing lifecycle emissions intensity of fuel up to 80% compared to conventional jet fuel today, with future pathways having potential for 100% reductions.

Tremendous progress has been made in commercializing SAF, with 25 million gallons of SAF produced and imported into the US in 2023, nearly double that in 2022, but to achieve the ambitions of the SAF Grand Challenge, we need continued exponential supply growth. The primary impediment to greater growth is the cost of producing and buying SAF, which the Inflation Reduction Act aims to support through the Section 40B Blenders Tax Credit and the

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<sup>1</sup> A4A’s members are: Alaska Airlines, Inc.; American Airlines Group Inc.; Atlas Air, Inc.; Delta Air Lines, Inc.; Federal Express Corporation; Hawaiian Airlines, Inc.; JetBlue Airways Corp.; Southwest Airlines Co.; United Airlines Holdings, Inc.; and United Parcel Service Co. Air Canada, Inc. is an associate member.

Section 45Z Clean Fuels Production Credit. The Section 45V Clean Hydrogen Credit can also contribute to the needed supply growth of SAF.

Hydrogen is an essential ingredient in the production and refining of current and future production pathways for SAF, and future pathways known as e-fuels or Power to Liquid (PtL) fuels rely on hydrogen for providing the preponderance of energy in the finished hydrocarbon jet fuel product. The production and use of clean hydrogen results in a very low carbon intensity PtL SAF and reduces the overall carbon intensity of other SAF pathways.

With this context, we express our concern with the proposals included in the subject notice of proposed rulemaking (NPRM). The NPRM featured three restrictive elements regarding electricity used in the production of clean hydrogen: (1) requiring hourly time matching for electricity generation used by clean hydrogen production, (2) requiring deliverability to an electrolyzer in the same grid region, and (3) requiring incrementality to existing electricity generation. Each of these raises concerns for us and our stakeholder partners whom we are working with to scale up SAF.

Premature transition to hourly “time-matching” will significantly increase production costs and diminish the benefits of the Production Tax Credit. Hourly matching is not currently available or possible within many of America’s electricity grids. Although the hourly matching requirement will not become effective until 2028, whether it will be available is outside of the hydrogen industry’s control.

The “deliverability” requirement will limit availability of clean sources of electricity to regions where the clean hydrogen is intended to be produced. Not all parts of the U.S. have regional access to wind and solar potential and transmission constraints limit direct access to other regions which under the best of circumstances will take many years to resolve. At the same time, other regions with more renewable-generated electricity than can be accommodated by the grid and electricity demand are forced to curtail renewable electricity production. SAF producers in regions without direct access to qualified renewable energy and clean hydrogen that meet the “deliverability” requirement would be disadvantaged. Some SAF producers would be forced to unnecessarily and sub-optimally choose between proximity to sustainable feedstocks and access to “deliverable” clean hydrogen.

The “Incrementality,” or “additionality” requirement would penalize the clean hydrogen industry for deficiencies in the electricity sector and permitting process and effectively limits clean hydrogen to only new renewables, largely wind and solar. Hydropower and nuclear energy together supply nearly a quarter of all US zero-emitting electricity; severely restricting the eligibility of the existing zero-emitting sources for the purposes of the 45V tax credit will limit electricity sourcing options for green hydrogen projects and drive the cost premium for wind and solar electricity due to high demand for those resources for which growth is impeded by permitting process inefficiencies.

In addition, as part of the Proposed Rule, Treasury also announced the creation of the 45VH2-GREET model for use in determining emissions. Many of our industry partners have concerns with the rigidity of the model as well as what the 45V model portends for the unreleased 40B GREET model and the potential of a new GREET model for 45Z. Traditionally, one feature of GREET is its ability to adapt as industry develops new cleaner ways to produce energy. Unfortunately, under the Proposed Rules many parameters are locked in and this will disincentive innovation that lowers emissions. Locking parameters will disincentive or prevent

the production of hydrogen using pathways or systems that are significantly less carbon intensive than the defaults. Based on the text in the preamble to the proposed regulations, we understand that the desire for a fixed / less adaptable application of the GREET model revolves around the need for verification of modelling inputs that may be involved with more pathway specific applications. We agree that the integrity of the carbon accounting and verification process is critical to the success of the program, however we also expect that recent growth and rapid maturation of technology platforms for performing the verification sought can obviate this concern. Accordingly, we recommend staff design the regulations, and proactively dedicate the resources necessary to work with stakeholders involved in this market and the verification process, to recognize and stimulate improvements in the production process.

Collectively these provisions are intended to ensure that new clean hydrogen production does not increase grid emissions. While we understand and concur with the intent, we are concerned that collectively the requirements as prescribed are infeasible and unworkable and will have the unintended consequence of delaying and increasing the cost of the nascent clean hydrogen supply base and investment environment that the Clean Hydrogen Production Tax Credit is intended to stimulate. Sectors, such as aviation, that stand to benefit from clean hydrogen availability will be similarly affected.

Furthermore, the proposal serves to weaken the potential success of the Department of Energy's Regional Clean Hydrogen Hubs Program (H2Hubs), established through the Bipartisan Infrastructure Law with the objective of forming the foundation of a national clean hydrogen network to help enable decarbonization of multiple hard to decarbonize sectors of our economy. The H2 Hub program was designed with an expectation that 45V would be much more broad than the current proposal, which will stifle investment and prevent the industry from reaping the full benefits of the combined federal tax incentive and hydrogen hub funding.

Innovation in propulsion technology is a key goal of the US government as documented through the DOE Hydrogen Roadmap Strategy and programs such as the FAA/NASA/DOD ASCENT program. The future of hydrogen aircraft could come in the form of hydrogen propulsion (e.g., hydrogen powered fuel cells, hydrogen-based jet engines, or a hybrid of hydrogen turbines and fuel cells), which would require extensively redesigning aircraft. It would also require an update to the nation's infrastructure delivery system. Manufacturers are exploring feasibility and making strategic investments in this area now. While widespread use of hydrogen for propulsion may be years away, delays in clean hydrogen investment driven by the infeasibility of the proposed rules could stymie the potential for this long-term innovation lever in aviation's decarbonization strategy.

From an aviation perspective, our concern is that increased costs and delays in the widespread availability of clean hydrogen will increase costs of production for lower carbon intensity SAF and delay the availability of new very low carbon intensity PtL-SAF pathways that have long term promise of affordability. As previously noted, the development of SAF is already economically challenged which delays the scale-up of the needed production capacity for SAF to meet the very ambitious timeline of aviation net zero carbon emissions by 2050.

We urge Treasury to take under consideration means to provide flexibility in meeting the underlying intent of its proposal so as to not unduly impede the development of the still nascent clean hydrogen industry, and the subsequent industrial sectors, including SAF producers and the aviation sector, that stand to benefit from widespread availability of clean hydrogen. Our view is that the risks of providing flexibility are small compared to the potential benefits of advancing the clean hydrogen industry as intended by the Inflation Reduction Act.

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Thank you for your consideration of our comments. Please do not hesitate to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin Welsh", with a long, sweeping underline that extends to the right.

Kevin Welsh  
Vice President, Environmental Affairs and Chief Sustainability Officer  
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