Fueling Aviation's Sustainable Transition (FAST) Grant Program
Frequently Asked Questions

Q: Does the "increase utilization of sustainable aviation fuel" element of the definition of "low-emission aviation technologies" allow for evaluation of new/novel candidate fuel pathways (e.g., non-hydrocarbon fuels) under FAST-Tech? Is FAST-SAF limited to only the IRA definition of SAF and FAST-Tech open to other pathways?

A: The definition of sustainable aviation fuel (SAF) from the Inflation Reduction Act Section 40007 (and included in Section A.6 of the NOFO) applies to both the FAST-SAF and FAST-Tech elements of the program. If the project proposal involves SAF, it must conform to this definition.

The IRA defines "low-emission aviation technologies" as technologies that significantly: (A) improve aircraft fuel efficiency; (B) increase utilization of sustainable aviation fuel; or (C) reduce greenhouse gas emissions produced during operation of civil aircraft. Per this definition, FAST-Tech is open to low-emission aviation *technologies* that leverage or enable alternative energy sources in support of these program objectives. However, project proposals to advance or produce an alternative energy source itself would not be eligible for FAST-Tech (e.g., qualifying or producing a new type of fuel, developing an alternative energy source technology that is not specific to an aviation application). Per Section 5.2 of the NOFO, note that for a technology to meet part (B) of this definition, it should not otherwise fall under the production, transportation, blending, or storage definitions of FAST-SAF or existing FAA efforts to support fuel testing and ASTM standard development of 100% SAF.

Q: For a fuel production project proposal, does the fuel need to meet the IRA definition of SAF? Or can it be a lower-carbon fuel which meets spec, is not statutorily defined as SAF?

A: The fuel must meet the IRA Section 40007 definition of SAF, also included in Section A.6 of the NOFO.

Q: The NOFO definition of SAF allows emissions reductions to be calculated under ICAO methodology (or a similar methodology), or a methodology determined by the Secretary to meet specific criteria. What are these other methodologies? Is this similar to the IRA tax credit definition we're waiting on from the Treasury?

How should proposals document SAF lifecycle values? Is the methodology similar to the IRA SAF Blender's Tax Credit guidance that Treasury is yet to release?

A: Section 40007 of the Inflation Reduction Act allows emissions reductions to be calculated under a lifecycle methodology similar to that adopted by ICAO or a methodology that the Secretary of Transportation determines is reflective of the latest scientific understanding and as stringent as the ICAO methodology. Section E.1.1 of the NOFO Technical Criterion 3 clarifies that, for SAF production projects, the greenhouse gas lifecycle analysis of the SAF to be produced is to be quantitatively documented to include emissions from feedstock and fuel production and potential direct and indirect greenhouse gas emissions. In the case of a project

supporting multiple SAF pathways, documented, quantitative greenhouse gas lifecycle analysis for each individual pathway is to be provided. For the purposes of application preparation, applicants are not required to use a specific methodology. The Council on Environmental Quality (CEQ) provides a non-exhaustive compilation of greenhouse gas (GHG) estimating tools and related resources available on government and university or college websites solely for information and convenience. This resource list is available here: https://ceq.doe.gov/guidance/ghg-tools-and-resources.html. Further information on ICAO methodologies is available here: https://www.icao.int/environmental-protection/pages/SAF_LifeCycle.aspx. The FAST grant program is separate from other sections of the Inflation Reduction Act, including Section 13203, and decisions made for the SAF Blender's Tax Credit do not make a determination for the FAST program.

Q: For Tier 2 non-production SAF projects (Categories 2, 3 and 4 – Transportation, Blending and Storage), how are applicants to respond to Technical Criterion 2, "the projected greenhouse gas emissions from the proposed project, including emissions resulting from the development of the project, and the project potential to reduce or displace, on a lifecycle basis, US greenhouse gas emissions associated with air travel."

A: Applicants are to provide documented, quantitative analysis of the projected greenhouse gas emissions directly resulting from the proposed project, including development. Additionally, for projects that enable the transportation, blending and storage of SAF, the lifecycle greenhouse gas emissions benefits from transporting, blending and storing the projected volumes of SAF may be quantitatively documented as an indirect project benefit.

Q: What is the maximum award size? What is the anticipated average award size?

A: Section B.2 of the NOFO provides rough guidelines for award sizes. However, these award values are presented as examples and should not be considered firm limits as to what award size will be considered. The number and size of awards will depend upon the quality of the individual proposals received and recommended for award, based on the evaluation process and criteria defined in Section E, as well as the funding limits of the program.

Q: NOFO Section A.5.2 states that "fundamental research (i.e., TRL 1-2)" is out of scope for Category 1 FAST-Tech projects. Is this the starting TRL or ending TRL of the research?

A: An applicant's proposed work scope for a FAST-Tech Category 1 project should ensure that the technology is TRL 3 or higher at the completion of the project. An applicant's proposed work scope can start at TRL 1 or 2 if the work scope within the project advances the TRL to 3 or higher. Please see https://www.nasa.gov/general/technology-readiness-level/ for TRL definitions. Note that NOFO Section E.1.2, Technical Criteria for FAST-Tech, Criteria 1, asks that applicants identify the current and projected TRL and manufacturing readiness level (MRL) of a proposed technology. This information is part of the assessment of the capacity for the eligible entity to increase the use of low-emission aviation technologies among the United States commercial aviation and aerospace industry. A lower TRL or MRL technology has a larger technical maturity gap to close before application/end use.

Q: NOFO Section A.5.2 refers to Category 1 FAST-Tech projects as having "relatively near-term impact on emissions from future engine and aircraft designs." What does this mean? Is there a target year for entry into service of technologies developed under FAST-Tech?

A: In this NOFO section, the term "near-term" is used in a relative sense to convey that a Category 1 project developing an individual technology has a more direct pathway to application and realized benefits than a Category 2 project enhancing testing capability. In the case of a Category 2 project, that enhanced test capability must then be utilized in the development of low-emission technologies before those benefits are realized in civil aircraft operations. The NOFO uses the phrase "longer term impact" in its description of Category 2 projects simply to make that comparison between the impact of the two project categories.

There is no entry into service date target for technologies developed under FAST-Tech. Note, however, that NOFO Section E.1.2, Technical Criteria for FAST-Tech, Criteria 1, asks that applicants identify the portion of operations through 2050 that could benefit from the application of the technology or enhancement of test/demonstration capability. This is to ensure relevance to the U.S. Climate Action Plan 2050 goal of net-zero greenhouse gas emissions from the aviation sector.

Q: Can applicants applying for FAST grants also have received other Federal grants for their work?

A: An applicant for the FAST Program is allowed to have also received another Federal award, for example for another portion of a larger initiative, but the work scope within their application for FAST must be distinct from their work scope for that other award. It could be complementary but should not overlap in terms of what work scope they are performing for the funding received under the FAST Grant Program and other Federal grant awards.

The intent of NOFO Section D.2.1 is for the grant applicant to identify any other Federal awards they have received that are relevant to efforts related to this work (but that should not overlap in work scope). In addition, note that an applicant cannot apply funds from another Federal award as cost share for a FAST grant, per 2 CFR 200.306 (b)(5).

Q: What is the anticipated selection date and start date for grant awards?

A: Per Section C.3 of the NOFO, projects should be ready to begin by August 1, 2024, and be able to be completed within a five-year maximum period of performance. Project selection is anticipated to occur in advance of that date.

Being ready to begin by August 1, 2024 means that the applicant's proposed work scope would be ready to start on that date, should award take place prior to that date.

Q: How can I be informed of future FAST Grant Program updates?

A: Please subscribe to the FAST mailing list here.

Fueling Aviation's Sustainable Transition (FAST) Grant Program
Frequently Asked Questions / Clarification #2

Question: Does the requirement that projects must be "located in the United States (U.S.)" and that sustainable aviation fuel and low-emission aviation technologies must be "produced in the United States" preclude secondary support from global team members of U.S.-based applicants? How do the Build America, Buy America Act requirements apply?

Answer/Clarification: Per Section C.1 of the Notice of Funding Opportunity (NOFO), foreign entities are eligible for the FAST Grant Program, if the project otherwise meets eligibility requirements. This includes global team members of U.S.-based applicants.

Build America, Buy America Act requirements apply directly to all projects constructing infrastructure, such as may occur in FAST-SAF Tier 2 fuel infrastructure projects, or building a test facility as may occur under FAST-Tech Category 2 projects.

Additionally, the FAST Program applies BABA definitions to clarify the meaning of "produced in the United States," as explained in NOFO Section C.3. This section explains that:

> For the purposes of the FAST program this means that the aviation technology and aviation fuel will be manufactured in the United States and that the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product.

This means that production of fuel and aviation technologies, construction of infrastructure, and fabrication of any hardware (including technology prototypes, test hardware, etc.) under a FAST grant must occur in the U.S. and, in the case of manufactured products, that at least 55 percent of the cost of the components of this manufacturing must consist of components manufactured in the United States and, in the case of construction materials, all manufacturing processes for the construction material must occur in the United States.

Note that the hardware developed under a grant for research and development purposes is considered a "manufactured product" under the NOFO if it meets the following definition, as stated in 2 CFR 184.3, "Manufactured products means: (1) Articles, materials, or supplies that have been: (i) Processed into a specific form and shape; or (ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies." Therefore, the 55 percent requirement applies to any hardware (including technology prototypes, test hardware, etc.) developed under the grant.

Additionally, this requirement applies only within the applicant's project scope proposed for FAST. For example, in the case of a project constructing a fuel production facility, this requirement would apply to the construction of the facility itself but not to feedstock if used in eventual fuel production operations beyond the conclusion of the grant's awarded work scope. However, any feedstock included in the grant's awarded work scope must satisfy the greater than 55 percent requirement.

Finally, to clarify the meaning of “located in the United States” as it applies to the FAST program:

Per Section C.3 of the Notice of Funding Opportunity (NOFO), FAST projects must be located in the U.S. For FAST-SAF projects, the physical site of Tier 2 projects or the study area of Tier 1 projects must be located in the U.S.

Additionally, the FAST Program applies the BABA “greater than 55 percent” standard to clarify that in order to be “located in the United States” greater than 55 percent of the total project cost for a FAST grant (both Federal funds and applicant cost share) must occur in the U.S. This includes, but is not limited to, tasks such as analysis, studies, design, and testing activities conducted under the grant scope. This applies to all projects in the FAST program regardless of category or tier.

Fueling Aviation's Sustainable Transition (FAST) Grant Program
Frequently Asked Questions / Clarification #3

Miscellaneous Application Questions

Question: Is the page limit for Volume 1 of the application 20 pages in total, or 40 pages (20 pages for each of the 2 sections)?

Answer: Volume 1, Technical and Management Proposal consists of two major sections, represented by the two rows in the table within the Volume 1 section of the table in Section E.2 of the NOFO. Each of these two sections are individually limited to 20 pages, or 40 pages for the Technical Volume in total. Note that if there are multiple projects in the proposal, an additional 10 pages is allowed per project beyond the first for each of these sections.

Question: How should I attach documents for the application that are not standard forms listed in the "Package" tab of the grants.gov opportunity listing?

Answer: The Other Attachments Form [V1.2] form should be used to attach these documents, including the documents to address the cover page, table of contents, Volume 1, and Volume 2 elements that are not standard forms (i.e. the budget narrative and indirect cost agreement), and addendum.

Question: If my organization is submitting an application for a project that involves construction, do we need to submit an SF-424 and SF-424A in addition to an SF-424C (Budget Information for Construction Programs)?

Answer: Yes. Per the NOFO table in section D.2, the SF-424 and SF-424A are required forms for all projects and the SF-424C is required if the project is a construction project.

Questions Regarding Submission of Multiple Projects in a Single Application

Question: If I am applying with multiple projects, how should I structure Volume 1?

Answer: Per the NOFO section D.2, Volume 1 should address the elements described in the table as they apply to each project in order to support individual evaluation of each project for potential award using the application review process outlined in section E. The structuring of this us up to the applicant.

Question: If I am submitting an application with multiple projects, should I submit one of the required standard forms in Volume 2 (i.e. SF-424, Key Contacts, SF-424A, SF-424C, SF-

424B/D, Project/Performance Site Locations) for each project or roll up all of the projects in an application into a single copy of each required form for all projects in the application?

Answer: The NOFO does not prescribe this and the FAA will accept and review applications with either approach. Note that the table in NOFO section E.2 is explicit as to how the Budget Narrative element of Volume 2 should address multiple projects. It states: "The budget narrative must provide a description of costs associated with each line item in the budget forms. *For proposals that include multiple projects, this form must describe budget costs at the project level, indicating budget allocations across each individual project.* For applicable projects, this form must also indicate how the overall budget will be divided into budget periods, as described in Section B.4."

Following these instructions, an applicant should provide enough information that the cost breakout per proposed project can be fully understood, justified, and evaluated.

Question: Is the 20 page limit of the Budget Narrative element of Volume 2 of the application on a per project basis, or per application?

Answer: The 20 page limit is for a single Budget Narrative to address all projects within an application.