

# StART

## MEETING SUMMARY

AUGUST 24, 2022; 5:00 PM – 7:00 PM

VIA ZOOM VIDEOCONFERENCE

### Meeting Objectives:

- Update from the Commercial Aviation Coordinating Commission.
- Overview on Sustainable Aviation Fuel and the supporting regulations and policies.
- Federal Policy Working Group Activities.
- SAMP Update.

### Meeting Summary:

- I. Facilitator welcome, introduction and meeting agenda, *Brian Scott, BDS Planning & Urban Design*
  - Opening Remarks, *Lance Lyttle, StART Chair/SEA Managing Director*
    - Lance welcomed Bryan Tomich, the new community representative for Normandy Park to StART.
    - There have been many questions regarding the next location for a commercial airport in the Puget Sound. Since the process is not managed by POS or FAA, Lance welcomed David Fleckenstein, Director, Aviation Division, WA State Department of Transportation to present and answer questions.
    - Lance also welcomed Carol Sim, (ASCENT) Assistant Director, WA State University and Stephanie Meyn, Climate Program Manager, Port of Seattle to share their expertise on sustainable aviation fuel at the meeting.
- II. Commercial Aviation Coordinating, *David Fleckenstein, Director, Aviation Division, WA State Dept. of Transportation*
  - The Commercial Aviation Coordinating Commission (CACC) was charged with identifying a single preferred location for a new primary aviation facility by June 15, 2023.
  - WSDOT was charged with administering the work but there is no WSDOT or state project. The Commission will make a recommendation by June 15 to the State Legislature at which point legislators will decide whether or not to act on the recommendations. If they do, the process then moves to the FAA. Community level engagement is now focused on the greenfield site options. Previous community outreach was focused on the existing airports under consideration.
  - Phase one of the Commission's work is complete, which included the identification of existing facilities. Six airports rose to the top that could add capacity. Of the six, two were deemed to have the capability to provide commercial service.
  - Phase two is currently underway. If the demand model remains the same, the capacity need for the Puget Sound area will double by 2050 to approximately 107 million annual passengers. The strategy adopted is looking at existing airports first because we know the capacity issue will come sooner than 2050. In 2027, we could reach capacity at SEA.

Building a new airport could take 20 years or longer so, we need to look at existing airports to meet the demand. Part of the discussion has been our obligation to meet that demand.

- There are four guiding principles that the Commission adopted. They need to consider them when making recommendations.
- Public benefit - looking at the greater good.
- Economic feasibility - can we fund what we recommend.
- Environmental responsibility – recognizing the potential environmental impacts to the environment. The Commission has made recommendations to pursue sustainable aviation fuel and emerging aeronautics technologies as part of the mitigations.
- Social Equity – ensuring any recommendation does not benefit one group over another
- The Commission already identified Paine Field & Bremerton National as possible existing sites for additional air passenger service and air cargo operations, and are currently studying greenfield sites in Skagit, Snohomish, East King, Pierce, Thurston, and Lewis Counties. On September 23<sup>rd</sup>, the Commission narrowed the greenfield options to two sites in Pierce County and one in Thurston County.
- The Commission is supposed to narrow down its recommendation to a single preferred site by 15 June 2023.
- The Commission also had discussions about high-speed rail and its potential connections to an airport.

III. Sustainable Aviation Fuel 101, Carol Sim, Aviation Sustainability Center (ASCENT) Assistant Director, WA State University <https:ascen.aero/projects/>

- There are several FAA Centers of Excellence (COE) around the country focused on various aviation research topics. WSU co-directs the Alternative Jet Fuel and the Environment COE which is commonly known as ASCENT. ASCENT has six primary research areas focusing on alternate jet fuels, emissions, noise, operations, aircraft technology innovation, and tools. ASCENT has engagement with over 60 companies.
- Alternate jet fuels are widely accepted as the best way to reduce CO2 emissions to at least mid-century. The military research labs are also involved and engaged in using SAF.
- SAFs are liquid hydrocarbon fuels derived from biomass and waste products.
- All of these fuels have to meet international standards, which include safety and performance criteria.
- The environmental benefits of SAF is it has no or lower sulfur compared to traditional fuel, which improves air quality, and it has an up to 80% reduced lifecycle CO<sub>2</sub> emissions compared to petroleum.
- Approved SAF can be used, at up to 50% blend with petroleum. The Port of Seattle, along with the Boeing Company and Alaska Air Group, did an infrastructure feasibility study in 2020.
- ASCENT is currently working on the following projects:
  - Supply chain analysis
    - Looks at decision tools like bio-refinery, where are they located, cost analysis, and lifecycle assessment. ICAO Sustainable Aviation Fuel and lifecycle analysis - [https://www.icao.int/environmental-protection/pages/SAF\\_LifeCycle.aspx](https://www.icao.int/environmental-protection/pages/SAF_LifeCycle.aspx)
  - Environmental services benefits
  - Jet fuel combustion

- Emission research – Emission research – <https://www.trb.org/ACRP/Blurbs/177509.aspx>
  - Non-volatile PM Emissions Measurements
    - If we can measure the emissions on the ground what are these emissions at altitude? How can we compare and come up with regulatory standards?
  - Community measurement of Aviation Emissions Contribution to Ambient Air Quality
    - This project just got restarted. Measurements are being done in Boston airport via Boston University.
  - Removal of naphthalene
    - Can reduce emissions by 15-40%: however, at the refinery level you are adding it in – therefore climate benefit is not realized.
  - Forming a standard

IV. Regulations & Policies Supporting Sustainable Aviation Fuel, *Stephanie Meyn, Climate Program Manager, Port of Seattle*

- The presentation focused on emerging regulations and policies. For SAF to be used, policies are needed to bring the price down to parity.
- State incentives:
  - Clean Fuel Standard was passed last year in WA. It will begin in January 2023. This is for all clean fuel not just SAF. The standard will set carbon intensity limits and a threshold and will obligate producers to reduce carbon or buy credits.
- Federal incentives:
  - The Inflation Reduction Act has three important components: 1) Blenders Tax Credit for producers and blenders, 2) Production Tax Credit gives incentive in correlation to how much greenhouse gasses have been reduced, 3) Low Emission Aviation Program gives grants in the amount of \$300 million to support making, transporting, blending or sorting SAF.
- Other federal opportunities:
  - SAF Grand Challenge to increase the production of sustainable aviation fuels to at least three billion gallons per year by 2030.
    - The caveat of the grand challenge is that all fuels must have a 50% carbon intensity reduction. A roadmap is being developed by the federal government with a targeted release date of the 3rd week of September.
  - 2023 FAA Authorization expected to institute longer, more permanent SAF policies into legislation.
- Other project at SEA to reduce emissions:
  - Electrifying ground transportation, fleet vehicles, heating/buildings and zero emission backup power systems to eliminate diesel generators.

V. Federal Policy Working Group Activities, *Marco Milanese, Senior Community Engagement Manager, Port of Seattle*

- The group met on July 11<sup>th</sup>.
- Thomas Mayo from the Office of US Representative Adam Smith's office gave an update on the Aviation Impacted Communities Act's goals to prompt actions and solutions from the FAA.
- The working group reviewed and shared their suggestions on the draft 2023 FAA Reauthorization Priorities letter. The letter is expected to be finalized by the next working group meeting on September 19.
- The joint Comment Letter on FAA Fuel Efficiency Rulemaking was sent on August 15.

- On September 19, the working group will get a briefing from Vince Mestre, Consultant, on the FAA's current noise contour policy, which will aid in finalizing the 2023 FAA Reauthorization Priorities letter.

VI. SAMP Update, *Clare Gallagher, Capital Project Delivery Director, POS*

- There is no change in status since the update provided at the last StART meeting. The schedule has been extended. We will not publish this year because we would not be able to offer a meaningful public comment period so close to the end of the year and holiday break. We will notify people about the revised schedule when it is confirmed with the FAA.
- POS received Burien's letter from the Mayor requesting a 90-120 day comment period.

VII. Public Comments

- Bernadine Lund - Use of alternative aviation fuel is not sufficient as scientists say. A 350 Seattle position paper outline this. They are still planning for growth. In order to meet the 2030 goals, we need to fly less. It would provide time to eliminate noise and pollution affecting those living around the airport. - See attached 350 Seattle 2-page brochure on AAFs.
- Anne Kroeker - Underscoring what Bernadine said. Look at the 350 Seattle research. Alternative jet fuel isn't the only option; it's not a magic pill. We need to change our lifestyle. This does not fulfill that. Aviation emissions have been undercounted and its closer to 4% and its growing as more are flying.
- Ursula Euler - 1. The CACC's COVID extended deadline has already been missed. The work was supposed to be done in February. None were recommended. This is not friendly to the community. 2. Research on SAF around LAX and Boston has existed and published since 2016 by Tufts University. SAF should be implemented first. Existing airport operations should not be justification for expansion. Look at the "Can biofuel really fly" - article by the American Association of Advancement Science published in June 2022 article. This article contradicts what Carol presented on today. Greenhouse gas and emissions have been reduced by nothing - its detailed in the article. I find this more reliable than data funded by WSDOT and the POS.

VIII. Next Steps

- Edit the Summary Notes for the June 22 meeting, to the effect of the City of Burien's request for a more than 60-day SAMP review instead of the anticipated 45 days. The City of Burien have said they will want more than 60 days because it would be hard to go through the process in 60 days and more time is necessary to bring it forward to the council.
- Stephanie Meyn of POS to come back in the future and talk more about the Port's air emission reduction programs.

| MEMBER              | INTEREST REPRESENTED                   | PRESENT |
|---------------------|--|---------|
| AMY ARRINGTON       | NORMANDY PARK - CITY                   | ✓       |
| LAUREL DUNPHY (ALT) | PORT OF SEATTLE                        | ✓       |
| BILL VADINO         | FEDERAL WAY - CITY                     | ✓       |
| BOB LEONARD         | DES MOINES - COMMUNITY REPRESENTATIVE  | ✓       |
| BRANDON MILES       | TUKWILA - CITY                         | ✓       |
| CARL COLE           | SEATAC - CITY                          | ✓       |
| CHRIS HALL          | FEDERAL WAY - COMMUNITY REPRESENTATIVE | ✓       |

|                              |  |   |
|------------------------------|--|---|
| DAVE BERGER                  | FEDERAL WAY – COMMUNITY REPRESENTATIVE   | ✓ |
| DIANA SMITH                  | BURIEN – COMMUNITY REPRESENTATIVE        | - |
| ERIC SCHINFELD               | PORT OF SEATTLE                          | - |
| GARMON NEWSOM II (ALT)       | BURIEN - CITY                            | ✓ |
| GRADY STONE                  | FAA (EX-OFFICIO)                         | - |
| JEFF HARBAUGH                | BURIEN – COMMUNITY REPRESENTATIVE        | ✓ |
| JUSTIN BIASSOU               | FAA (EX-OFFICIO)                         | - |
| LANCE LYTTLE (CHAIR)         | PORT OF SEATTLE - CHAIR                  | ✓ |
| MARCO MILANESE               | PORT OF SEATTLE                          | ✓ |
| MICHAEL MATTHIAS             | DES MOINES – CITY                        | ✓ |
| MOIRA BRADSHAW               | NORMANDY PARK – COMMUNITY REPRESENTATIVE | ✓ |
| PETER PHILIPS                | DES MOINES – COMMUNITY REPRESENTATIVE    | ✓ |
| PETER SCHILLING              | TUKWILA – COMMUNITY REPRESENTATIVE       | ✓ |
| ROBERT AKHTAR                | SEATAC – COMMUNITY REPRESENTATIVE        | - |
| SCOTT INGHAM (ALT)           | DELTA AIR LINES                          | ✓ |
| SCOTT KENNEDY                | ALASKA AIRLINES                          | - |
| STAN SHEPHERD                | PORT OF SEATTLE                          | ✓ |
| TEJ BASRA                    | SEATAC – COMMUNITY REPRESENTATIVE        | - |
| TOM FAGERSTROM               | PORT OF SEATTLE                          | ✓ |
| VIKAS UBEROI                 | FAA (EX-OFFICIO)                         | ✓ |
| NON-MEMBERS                  | TITLE                                    |   |
| ADOLFO BAILON                | BURIEN - CITY                            | ✓ |
| CLARE GALLAGHER              | PORT OF SEATTLE                          | ✓ |
| JEFFREY BROWN                | PORT OF SEATTLE                          | ✓ |
| KELLY SCHIMELFENIG           | PORT OF SEATTLE                          | ✓ |
| LESLIE STANTON               | PORT OF SEATTLE                          | ✓ |
| SARAH COX                    | PORT OF SEATTLE                          | ✓ |
| PRESENTERS                   |  |   |
| CAROL SIM                    | WA STATE UNIVERSITY                      | ✓ |
| DAVID FLECKENSTEIN           | WA STATE DEPT. OF TRANSPORTATION         | ✓ |
| STEPHANIE MEYN               | PORT OF SEATTLE                          | ✓ |
| CONSULTANTS                  |  |   |
| BRIAN SCOTT                  | BDS PLANNING & URBAN DESIGN              | ✓ |
| DORI KRUPANICS               | BDS PLANNING & URBAN DESIGN              | ✓ |
| VINCE MESTRE                 | CONSULTANT                               | ✓ |
| PUBLIC COMMENTS & ATTENDANCE |  |   |
| ANNE KROEKER                 | PUBLIC                                   | ✓ |
| BERNADINE LUND               | PUBLIC                                   | ✓ |
| DAVID GOEBEL                 | PUBLIC                                   | ✓ |
| OMO ESEMUEDE                 | PUBLIC                                   | ✓ |
| TINA ORWALL                  | STATE REPRESENTATIVE                     | ✓ |
| URSULA EULER                 | PUBLIC                                   | ✓ |

NEXT MEETING: OCTOBER 26, 2022 - TENTATIVELY 5:00 PM - 7:00 PM  
LOCATION: ZOOM VIDEOCONFERENCE

StART Meeting, Aug. 23, 2022, Public Comment by Bernedine Lund, resident of Federal Way and volunteer for 350 Seattle aviation group.

Attached is a 2-page position paper on SAFs (which are more correctly called AAFs or Alternative Aviation Fuels), which was researched and written by the 350 Seattle aviation team earlier this year. The second page has the link to the references mentioned.

See also <https://350seattle.org/solutions-port-aviation/>.

# Alternative Aviation Fuels: A solution to aviation's climate problems or greenwashing?

Airplane flights contribute 42% of GHG pollution in Seattle<sup>1</sup>. Alternative aviation fuels cannot adequately reduce the growing impact of flights on the global climate crisis and human health.



Credit: Stay-Grounded.org

## What are alternative and “sustainable” aviation fuels (AAFs and SAFs)?

We use the term AAFs for a class of replacement jet fuels that are derived from non-petroleum sources. AAFs can be made from plant-based feedstocks (such as purpose-grown crops like oil seeds and corn), forest and agricultural crop residues, used cooking oil, biomass, and municipal solid waste<sup>2</sup>. Most are mixed with conventional aviation fuels in blends that can range from 10% to 50% AAF. Currently, AAFs make up far less than 1% of the aviation fuel used to move people and cargo<sup>3</sup>.

## Why is the aviation industry pushing hard for AAFs?

Industries and governments around the world are committing to dramatic reductions in their greenhouse gas emissions. However, the aviation industry has not followed suit. Under pressure to meet climate targets, the aviation industry hopes that promoting AAFs will make us think they are doing what they need to do, when in fact they are planning for rapid growth<sup>4</sup>. Changing the fuels while increasing the volume of flights will not decrease the amount of greenhouse gas emissions. The aviation industry promotes AAF as “sustainable” aviation fuels or **SAF**. This is an advertising tactic called “Greenwashing” that diverts attention from more effective and equitable solutions like electrification and green hydrogen.

## Do AAFs help reduce GHG and prevent global warming?

AAFs can have lower lifecycle emissions, but AAFs do NOT reduce the greenhouse gas (GHG) or carbon emissions from airplanes' use at all<sup>5</sup>. The lower lifecycle emissions come during production of AAFs in ways that use carbon from the biosphere, rather than from geological sources. Despite that, the fact is that planes burning AAFs emit carbon and other greenhouse gases just like planes using jet fuel<sup>4</sup>. Furthermore, aviation operations have a strong climate warming impact, double that of their CO<sub>2</sub> emissions<sup>7</sup>, due to contrails and contribution to cirrus cloud formation, and these effects will not be eliminated by using AAFs.

Blending AAFs with fossil-based jet fuel also limits any GHG benefits. For example, here in Washington state, the Port of Seattle has a goal of using 10% AAF by 2028 to fuel outgoing flights<sup>8</sup>. ***Even if the industry claims that “SAF can reduce emissions by up to 80% during its full life cycle”<sup>9</sup> prove true, a 10% mix means there is only an 8% reduction in emissions (80% of 10% is 8%).*** In this best-case scenario, each gallon of fuel burned would still emit 92% as much GHG as compared with emissions from regular jet fuel. This Port of Seattle strategy does not reduce GHG and in fact, with their anticipated steady increases in aviation every year<sup>10</sup>, contributes to accelerating harmful climate change. In short, increases in flights would overshadow any reductions from using AAFs. In summary, AAFs can slightly reduce aviation's overall contribution to global warming, but only if there is no increase in flying.

## What are the technical and equity issues with AAF production and use?

To scale up AAF production would require the creation of a massive new industry<sup>11</sup>, the creation of new feedstock supply chains, and implementation of technologies that have not yet been demonstrated at scale. The aviation industry would be competing with other interests that need the crops, land, and water<sup>12</sup>. The expansion of agriculture for AAF feedstock would lead to deforestation and humanitarian impacts such as land conflicts, labor abuses, rising food prices, and water scarcity<sup>13</sup>. When monocrop farming for industry replaces subsistence farming for diverse food crops, farmers are likely to be pushed off their lands and communities can experience food scarcity<sup>14</sup>.

From an equity perspective, as elsewhere, people living near Seattle area airports and under flight paths are more likely to be people of color and have lower income<sup>15</sup>. AAFs do not prevent the adverse health effects of exposure to particulate matter from airplane exhaust or the noise experienced by airport impacted communities. These exposures have been linked to cancer, heart disease, lung conditions and even lower school performance among children. While some AAFs may reduce harmful particulate matter, AAFs don't eliminate the health impacts, and the overall increase in air traffic is causing more asthma and mortality<sup>16,17</sup>.

## 350 SEATTLE'S POSITION

### AAF's do not represent a credible or acceptable aviation industry climate policy solution to reducing GHG.

The use of AAFs to reduce aviation emissions comes nowhere near the GHG reduction goals by 2030 and 2040 that climate science indicates is necessary.



Source: <https://twitter.com/gcgatwick>

350 Seattle advocates for: (1) a policy that includes the aviation industry in a declining emissions cap that brings its emissions to zero by 2040, (2) research and investments in true net GHG reduction solutions, (3) redesign of how we move people and goods, and (4) all with a focus on equity and climate justice.

We call for an end to any airport expansion and increase in flights along with a just transition for workers in the aviation industry. Instead of AAFs, we need aviation solutions that truly address the health and well-being of the people who live near airports and under flight paths.

<sup>1</sup> [http://www.seattle.gov/Documents/Departments/OSE/ClimateDocs/2018\\_GHG\\_Inventory\\_Dec2020.pdf](http://www.seattle.gov/Documents/Departments/OSE/ClimateDocs/2018_GHG_Inventory_Dec2020.pdf)

Seattle's GHG inventory reports 24% because it does not reflect the fact that aviation emissions have three times the warming impact as on-the-ground emissions (often referred to as "radiative forcing" or "non-CO2 impacts"). Counting those effects, aviation is 42% of Seattle GHG in 2018.

<sup>2</sup> <https://www.energy.gov/eere/bioenergy/sustainable-aviation-fuels>

<sup>3</sup> <https://www.weforum.org/reports/a356c865-311e-45ca-845d-efe5f762a820> p. 6

<sup>4</sup> <https://www.icao.int/Meetings/FutureOfAviation/Pages/default.aspx>

<sup>5</sup> [https://www.icao.int/environmental-protection/knowledge-sharing/Docs/Sustainable%20Aviation%20Fuels%20Guide\\_vf.pdf](https://www.icao.int/environmental-protection/knowledge-sharing/Docs/Sustainable%20Aviation%20Fuels%20Guide_vf.pdf) p. 16

<sup>6</sup> <https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Eligible-Fuels.aspx>

<https://www.transportenvironment.org/discover/biodiesels-impact-emissions-extra-12m-cars-our-roads-latest-figures-show/>  
<https://theicct.org/publication/assessing-the-sustainability-implications-of-alternative-aviation-fuels/>

<sup>7</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7468346/>

<sup>8</sup> <https://www.portseattle.org/page/sustainable-aviation-fuels>

<sup>9</sup> <https://www.iata.org/en/programs/environment/sustainable-aviation-fuels/>

<sup>10</sup> <https://www.portseattle.org/plans/sustainable-airport-master-plan-samp>

<sup>11</sup> <https://digitallibrary.un.org/record/3837917?ln=en> p. 20

<sup>12</sup> <https://op.europa.eu/en/publication-detail/-/publication/55fe3eb1-cc8a-11ea-adf7-01aa75ed71a1/language-en> p. 18

<sup>13</sup> <https://en.milieudefensie.nl/news/02097-opm-rapport-neste-21.pdf>

<sup>14</sup> <http://www.carbontradewatch.org/issues/monoculture.html>

<sup>15</sup> <https://deptofcommerce.app.box.com/s/rmi8sie7ivpy4wqirfgwdiosj2iebco>

<sup>16</sup> <https://ie.unc.edu/2021/10/28/new-study-finds-alternative-jet-fuels-decrease-health-impacts-near-airports-and-downwind/>

<sup>17</sup> <https://www.sciencedaily.com/releases/2019/05/190516114627.htm>