

# Sustainable Aviation Fuels & Impacts of COVID19

To: IAEE SAFI Webinar

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# Outline

- **Outlook for U.S. Airlines and SAF Producers**
- **Outlook for SAF and ICAO CORSIA**



# Outline

- **Outlook for U.S. Operators and SAF Producers**
- Outlook for SAF and ICAO CORSIA



# U.S Operators

- **COVID19 severe impact on industry**

- Airlines focused on immediate Concerns



- **Committed to SAF in the long term**

- Business aviation increasing activity
- Support for domestic policy changes
- Announcements continue to mount
- Advocating for supporting policies



# SAF offtakes from a single U.S producer

## Demand continues to expand



\* Initial 40M gpy nameplate facility



neat quantities

Up to 5 M gpy from 2016 (LAX)  
 Second multi-year agreement from 2020, 30/70 blend  
 1.8M g over 12 months  
 Misc Flights, e.g. SFO  
 Bioports on demand, et al.  
 Halmstad  
 Arlanda  
 Bromma  
 Goteborg  
 Leeuwarden

\* 24Oct'18: Moving forward with \$350M Paramount expansion to enable 306M gpy total capacity & jet capacity of 150M gpy; Fuel production expected by YE'22

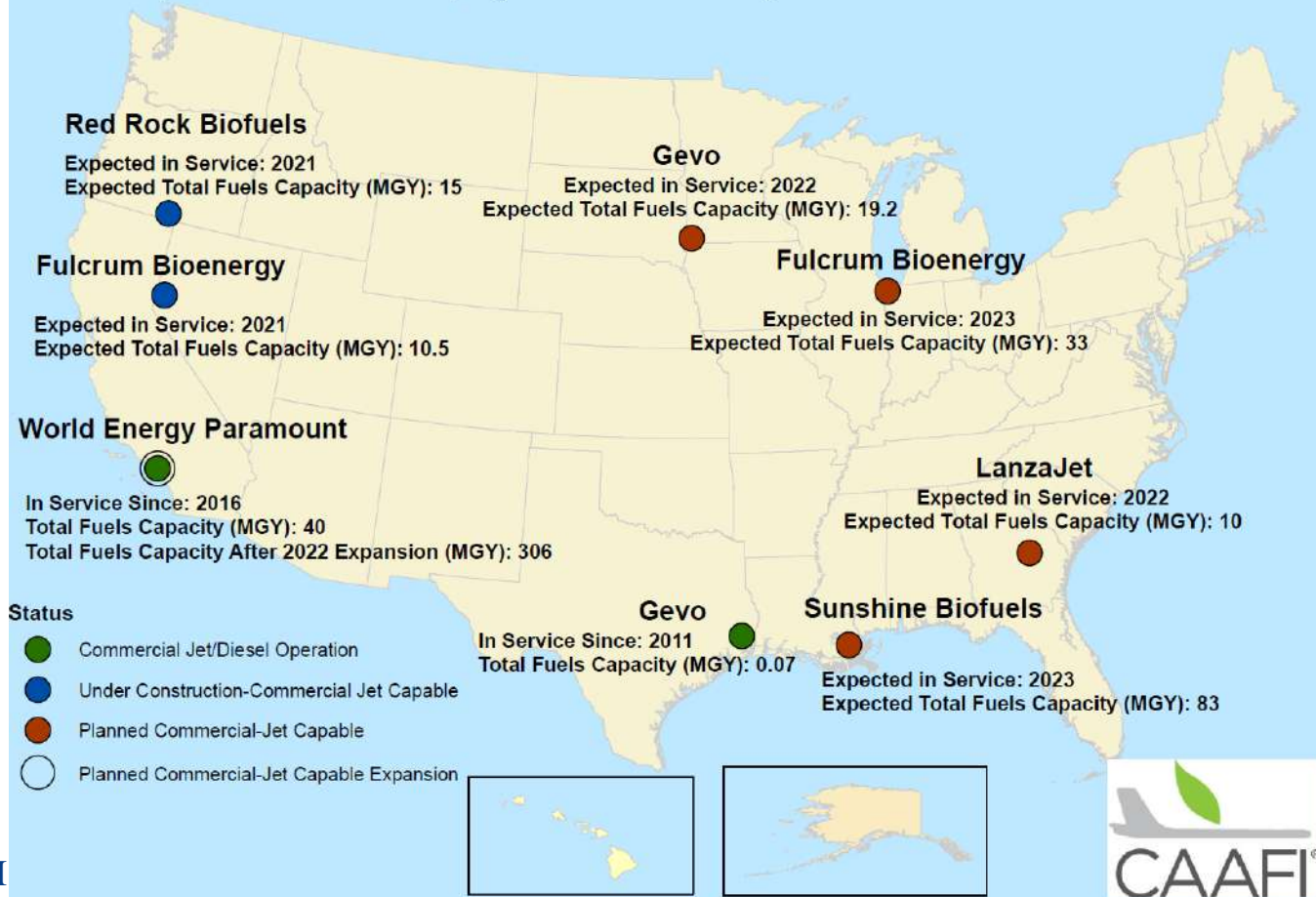


# U.S SAF Producers

## Sustainable Aviation Fuel Production Facilities

\* as of July 2020

Note: The specific fraction of the total capacity dedicated to SAF will likely be based on market conditions.



Credit: CAAFI

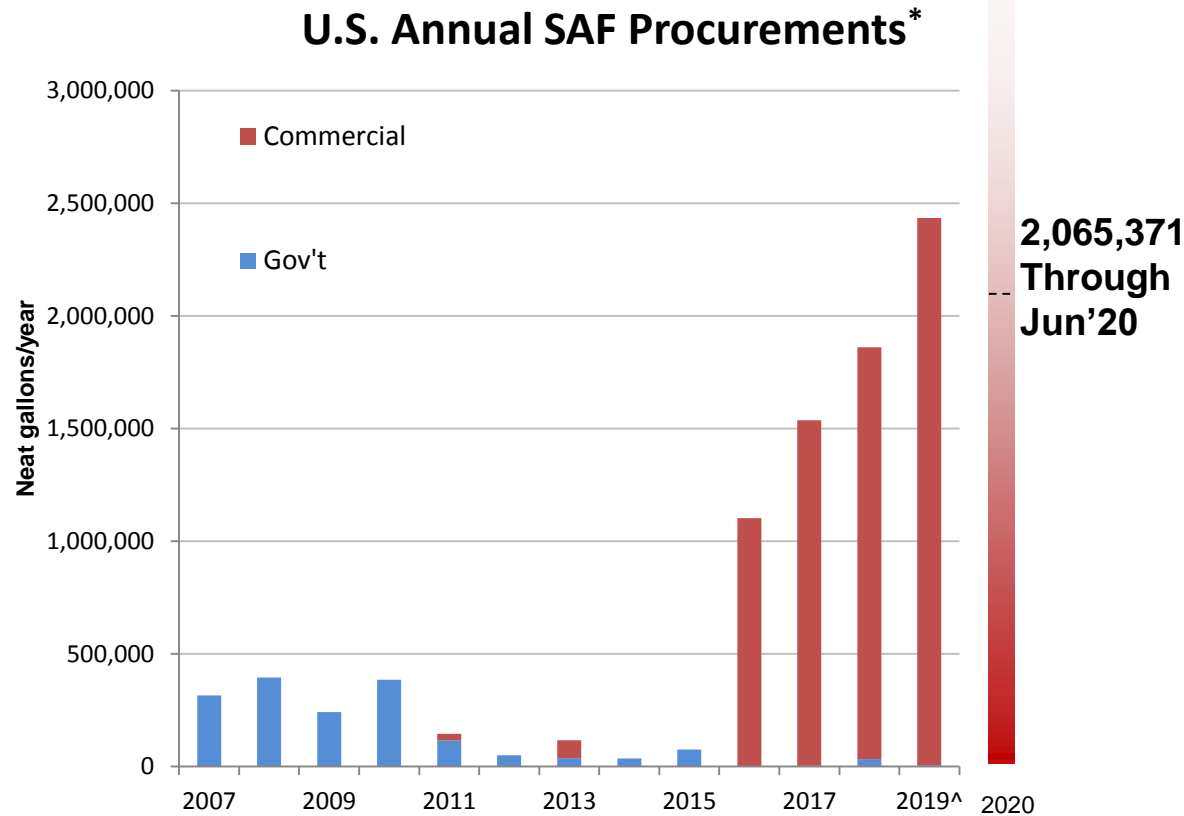


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# Where we stand on U.S. SAF use

## Initiation under way, still early

- Four years of sustained & increasing use
- >2M gallons already in 2020
- Commercial & General Aviation engaged
- One+ facilities in operation
- Two facilities under construction, others in development
- Cost delta still a challenge, but offtakes continue to be signed
- R&D support from federal agencies



\*Reflects voluntarily reported data on use by U.S. airlines, U.S. government, manufacturers, other fuel users, and foreign carriers uplifting at U.S. airports.  
^2018 & 2019 calculation includes reported RFS2 RINs for jet fuel.



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# Outline

- Outlook for U.S. Industry and SAF
- **Outlook for SAF and ICAO CORSIA**





# ICAO “Carbon Offsetting & Reduction Scheme for International Aviation” (CORSIA)



- CORSIA is a Global Carbon Offsetting Scheme
  - Offsetting to help international aviation meet Carbon Neutral Growth goal (relative to 2020 baseline)
  - Not a carbon tax or emissions trading scheme
  - Applies to Aircraft Operators, International Operations Only
  - Offsets required from 2021-2035
  - Have an initial pilot phase from 2021-2023 with 88 volunteer States
  - Council will conduct a review of CORSIA in 2022, ahead of 41<sup>st</sup> Assembly
- CORSIA Eligible Fuels (CEF) can be used by an airline to reduce their offsetting requirements
  - The ICAO Committee on Aviation Environmental Protection (CAEP) Fuels Task Group (FTG) is developing the rules for inclusion

# CORSIA Eligible Fuels – Key Documents



There are a number of ICAO documents that contain information related to CORSIA Implementation

## Annex 16 Volume IV

See: <https://www.icao.int/environmental-protection/CORSIA/Pages/SARPs-Annex-16-Volume-IV.aspx>

## CORSIA Implementation Elements

See: <https://www.icao.int/environmental-protection/CORSIA/Pages/implementation-elements.aspx>

## Five ICAO documents relate to CORSIA Eligible Fuels

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

ICAO / Environmental Protection / CORSIA / CORSIA Eligible Fuels

ENV Homepage  
CORSIA Homepage  
CORSIA IMPLEMENTATION  
ACT CORSIA

### CORSIA Eligible Fuels

This ICAO CORSIA Implementation Element is reflected in five ICAO documents referenced in Annex 16, Volume IV. They are available for download below.

	<p>This ICAO document will become available following approval by the ICAO Council.*</p>				
CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes	CORSIA Approved Sustainability Certification Schemes*	CORSIA Sustainability Criteria for CORSIA Eligible Fuels	CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels**	CORSIA Methodology for Calculating Actual Life Cycle Emissions Values	

\*Sustainability Certification Schemes interested in being evaluated should follow the application process described here.

\*\*The CORSIA Supporting Document \*CORSIA Eligible Fuels - Life Cycle Assessment Methodology\* provides technical information and describes ICAO processes to manage and maintain the ICAO document \*CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels\*.



# Ongoing Efforts in CAEP relating to SAF

## CAEP Fuels Task Group (FTG)

- Maintenance of the fuels-related sections of Annex 16 Vol IV (CORSA), including:
  - Determination of how to calculate life cycle emissions values for Lower Carbon Aviation Fuels (LCAF)
  - Calculation of default life cycle emission values for Sustainable Aviation Fuels (SAF) (including both core LCA values and ILUC values).
  - Development of proposals on strengthened sustainability criteria
- Development of guidance on potential policies for deployment of SAF

## Long Term Aspirational Goal

- Exploring feasibility of a long-term global aspirational goal for international civil aviation CO<sub>2</sub> emissions reductions (LTAG)
- Examining future developments in fuels, technology and operations
- Working to inform 41<sup>st</sup> ICAO Assembly in October 2022



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