Enabling the decarbonization of aviation

CAAFI 2022
• Sustainable fuels technology company with an IP protected route to economic production of synthetic aviation fuel: ASTM D-7566

• Commercially demonstrated patented technology applicable to a variety of non-fossil feedstocks

• Synthetic fuel enabled by the Velocys technology provides air-quality benefits as well as ultra-negative carbon intensity

• Reference projects designed to accelerate the adoption of the technology and standardize at scale in advanced engineering phase

• Technology partners and clients such as TOPSOE, Air Liquide, Arvos, Linde, Worley, Koch, TOYO, SWA and BA
Velocys proprietary technology

- Compact reactor and super-active catalyst for Fischer - Tropsch (FT) Synthesis

- Velocys patented FT has micro-channel reactor cores which generate 10x higher production per reactor volume unit vs conventional FT

- Expert team with deep experience of designing, commissioning and operating synthetic fuel facilities

- Velocys offers an integrated solution for project developers, owners/operators by supplying reactors, catalyst, site license, catalyst replacement and integration services
First commercial project: Bayou Fuels, USA
Bayou Fuels offtake agreements

Southwest Airlines:
- Fixed price offtake for SAF and greenhouse gas credits for two thirds of expected output from biorefinery
- Term 15 years
- Secures revenues to the project worth more than $2bn over the term of the contract
- Agreement covers 219 million gallons of SAF corresponding to 575 million gallons of net zero SAF
- Total CO₂ emissions avoided 6.5m tonnes

IAG/British Airways:
- Non-binding MOU for fixed price SAF offtake for one third of the biorefinery’s expected output
- Price support mechanism for greenhouse gas credits
- Term 10 years
- Secures revenues to the project worth more than $800m over the term
- Agreement covers 73 million gallons of SAF corresponding to 192 million gallon of net zero SAF
- Total CO₂ emissions avoided 2.2m tonnes
IP protected 5 step conversion process

- **Feedstock conditioning**
- **Syngas generation**
- **Syngas clean-up / conditioning**
- **Fischer Tropsch (FT) Synthetics**
- **Product upgrading**

**Waste Feedstock**
- Forestry residue
- Residual waste
- Biomethane

**Engineering and co-ordination**
- VELOCYS
- Worley
- ARVOS Group
- TRI
- HALDOR TOPSOE

**CO₂ drying and compression**

**FT liquids**

**Fuels (SPK and naphtha)**

**CO₂ to sequestration**

**Conditioned feedstock**

**Syngas**

**Conditioned syngas**
Bayou Fuels project has deeply negative Carbon Intensity

Carbon Intensity Scores of transportation fuel options

- Biogenic carbon feedstock + Renewable Power + Carbon Capture & Sequestration = Negative CI Jet Fuel

Note: Uses average CI Score for CA LCFS Fuels sold in Q2 2021
New integrated technology and reactor core manufacturing facility