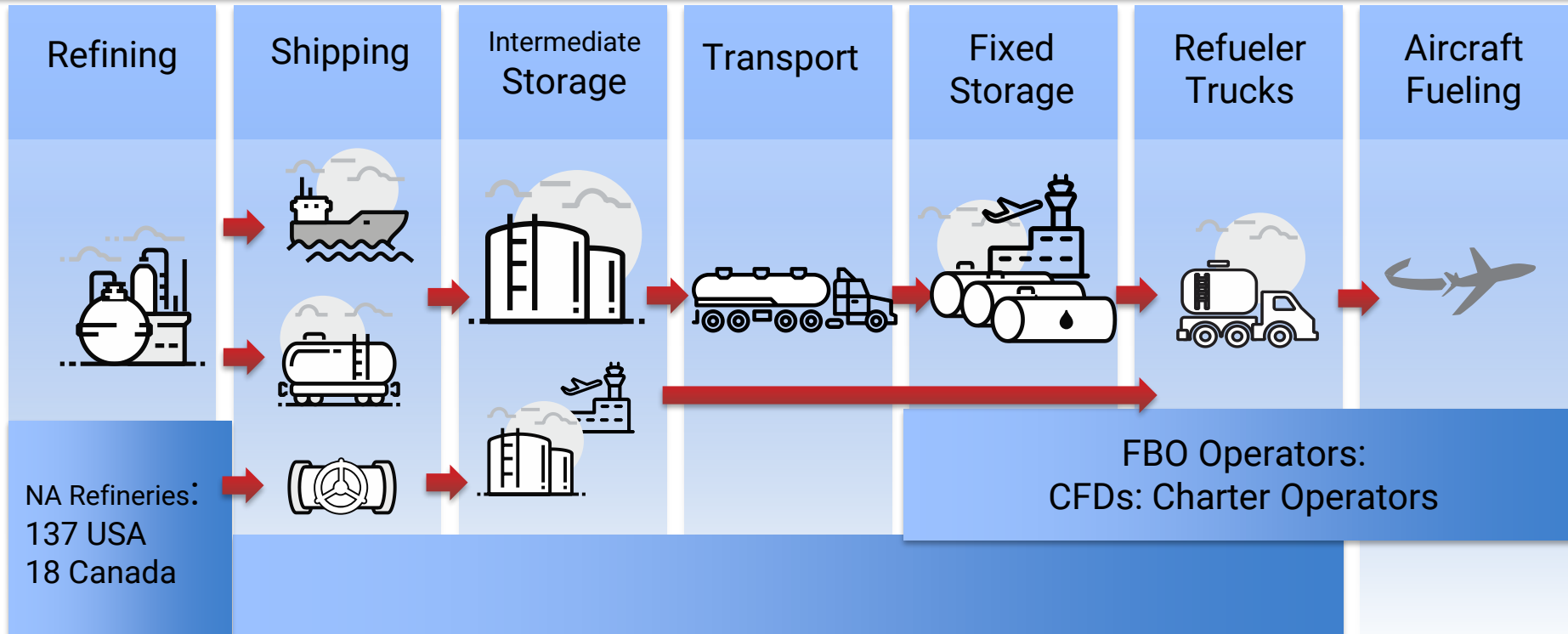




Green Flying: The Rise of Alternative Fuels

Tim Obitts, National Air Transportation Association

How the jet fuel supply chain works today



Potential Challenges

- Supply chain challenges
- SAJF Supply, Blending and associated Logistics Quality Assurance
- Customer(s) knowledge and acceptance
- Reconciliation of Contractual obligations
- Stable Regulatory Environment (tax, credits)

Specifications for Aviation Turbine Fuel Containing Synthesized Hydrocarbons

From ASTM D7566	Description	Date	Blend Limitation (%)
Annex 1: FT-SPK	Fischer-Tropsch conversion of syngas to synthetic paraffinic kerosene	September 2009	50
Annex 2: HEFA-SPK	Hydroscoped esters and fatty acids (lipids from plant and animal sources) to synthetic paraffinic kerosene	July 2011	50
Annex 3: HFS-SIP	Hydroprocessed fermented sugars to synthesized isoparaffins	June 2014	10
Annex 4: FT-SPK/A	Fischer-Tropsch conversion of syngas to synthetic paraffinic kerosene and aromatics	November 2015	50
Annex 5: ATJ-SPK	Thermochemical conversion of alcohols (isobutanol only initially) to paraffinic kerosene	April 2016	30

Current Producers...To Name A Few

- World Energy – Altair
- Neste
- Gevo
- Fulcrum
- Red Rock