



Converting MSW Into Low-Cost, Renewable Jet Fuel

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Bringing Aviation Alternative Fuels to Market

- Critical Elements for Commercializing Aviation Alternative Fuels
 - Feedstock, Feedstock, Feedstock
 - Inexpensive, Available at Scale, Sustainable
- Appropriate Technology
 - Proven, Commercially-Available
- Business Model
 - Financeable Projects, Cost-Competitive Products

Fulcrum's Approach



Fixed Feedstock Cost; no Availability Issues

Attractive Environmental and Sustainability Profile

Proven Technology

Large Development Program With First Project Under Construction

Low-Cost Production

MSW – A Strategic Feedstock

Changing the way Garbage is Handled and Disposed



- Large Volumes, Ideal Locations
- Established Infrastructure
- Carbon-Rich Feedstock Ideal for Biofuel Production
- Predictable Cost
- No Competing Uses
- Resolves Waste Disposal Problems

Proprietary, Proven & Efficient Fuels Process



**Material Processing
Facility Prepares MSW for
Fuels Process**



**Steam Reforming
Gasification System
Converts MSW to
Synthesis Gas**



**Fischer-Tropsch Process
Converts Synthesis Gas
to Syncrude, Jet Fuel &
Diesel**



Fulcrum's Valuable Fuel Products

- Passed Numerous Market Fuel Certifications
 - Ultra Low Sulfur Diesel
 - Commercial Jet
 - Navy Distillate
- Lowers Carbon Emissions by More Than 80%
- Qualifies for Numerous Renewable and Sustainability Standards
 - U.S. Renewable Fuel Standard
 - CA Low Carbon Fuel Standard
 - Roundtable for Sustainable Biomaterials



Sierra BioFuels Plant

Feedstock Processing Facility



- In Start-up Operations
- Construction Completed on Schedule and on Budget

Biorefinery



- EPC Activities Underway
- Prepared to Begin Construction Upon Financial Close
- In Operations in 2019 – Producing More Than 11 Million Gallons of Renewable Fuel Annually

Feedstock Processing Facility



Fulcrum's Development Program

Produce More Than 300 Million Gallons of Biofuel Annually

Offtake and Feedstock Agreements are in Place



- Projects Under Construction
- Projects in Development

Fulcrum's Strategic Partner Model



Aviation Alternative Fuels – Looking Forward

- Suggestions for Supporting Development of Aviation Alternative Fuels
 - Create Consistent Policy Frameworks Across the World
 - Difficult to Comply with Different Requirements in Different Regions or Countries
 - Incentives Critical for Encouraging Production of Aviation Alternative Fuels
 - Need Stability, Level Playing-Field Compared to Alternative Fuels for Surface Use
 - Incorporate Input from Alternative Fuel Producers



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