



Commercialization Of A Renewable Aviation Fuel Industry In Brasil

June 28 2013



Why are Advanced Biofuels Critical to the Aviation Industry

Airline and Military demand for biofuel is grounded in their bottom lines.

Air Travel Predicted to Double by 2031

Aviation is 100% Dependent On Oil

Current Fuel Costs are Greater than 30% of Airline Operations

Environmental Regulations and Carbon Taxes Add Cost to Oil

Aviation Industry's Goal of Achieving Carbon-Neutral Growth by 2020



BYOG

Why is Brazilian Ethanol Critical to the Aviation Industry



BYOGY

Byogy Pure Catalytic Technology (Not Based On Synthetic Biology)

BYOGY



Brazil - The Global Leader of Renewable Aviation Fuel

BYOGY

The Secret – SCALE & COST

The COMPLETE VALUE CHAIN be developed TODAY in Brazil



- Existing Mature Industry
- Technical Know-How
- Land Already Zoned
- Sugar Yields Improving

- Proven Catalytic
- No Biology- No Bugs
- Lowest CAPX & OPX
- Infrastructure Exists
- No Blending Issues

Feedstock Advantage: Why Ethanol?





Trends that support economic value



Byogy Is On Path to be the First Scalable Fuel to Achieve Price Parity With Petroleum Based Fuels



The Production Cost Of Ethanol Trending Down:

- Cellulosic
- Synthetic Biology

The Cost Of Oil Trending Up:

- Growing global demand
- Geopolitical instability
- Harder to get oil



The New Brazil Ethanol Bio-Refinery



Brazil Production Metrics



2 Billion Gallons per Year

3.2 MM hectares (5% Of Available Land)

65 MM hectares

9 MM hectares



Conclusion:

Approximately **5%** of the <u>available land</u> that is already identified for the future production of sugar cane ethanol in Brazil can produce 100% of Brazils 2011 aviation fuel demand.



