We see a future of gathering energy instead of drilling for it

Air travel expected to double by 2050, with success of “SAF 1.0” creating a tipping point due to finite supply of waste fats, oils, and grease

New solutions are needed so low-carbon fuels are **economical and accessible for everyone**

---

**Global aviation energy demand projection** _million tons jet fuel_

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger</td>
<td>153</td>
<td>307</td>
<td>346</td>
<td>383</td>
<td>412</td>
<td>435</td>
<td>451</td>
</tr>
<tr>
<td>Cargo</td>
<td>51</td>
<td>61</td>
<td>67</td>
<td>73</td>
<td>77</td>
<td>80</td>
<td>82</td>
</tr>
</tbody>
</table>

We aim to gather locally and produce locally

- Gather abundant biomass residues and energy crops
- Deploy low-capital, efficient technology to concentrate biomass energy
Our solution for sustainable fuel is a load of rubbish

We see biomass as a relatively untapped global energy solution

Energy potential for over 17 billion gallons of jet fuel from U.S. forest residues & agricultural residues alone

<table>
<thead>
<tr>
<th>Forestry Residues</th>
<th>Agricultural Residues</th>
<th>Regen-Ag Energy Crops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logging residue</td>
<td>Bagasse</td>
<td>Miscanthus</td>
</tr>
<tr>
<td>Forest thinning</td>
<td>Corn stover</td>
<td>Poplar</td>
</tr>
<tr>
<td>Wood processing</td>
<td>Cereal straw</td>
<td>Switchgrass</td>
</tr>
</tbody>
</table>
Provide economies-of-scale savings by feedstock and technology working together

- Hub-and-spoke model to minimize biomass transportation costs
- Capital-efficient technology to produce energy-dense “green crude” oil at hub
- Ship “green crude” oil to existing refineries for processing into finished fuel
Backed by leaders in SAF technology and deployment

- Strategic backing from United Ventures and Honeywell UOP
- Joint development agreement with Alder for process development and engineering package
- United providing largest SAF offtake agreement of 1.5 billion-gallons
Next-generation “green crude” oil

- Alder proprietary technology upgrades fast pyrolysis oil into “green crude” with minimal inputs

- Eliminates need for catalytic cracking to enable distillate fuels production for jet and diesel
Successfully scaling Alder will lead to positive global ESG outcomes

**Sustainable fuels**
Alder’s Biocrude will be produced from feedstocks that are sustainably sourced and consider soil health, carbon stock, and conservation and will provide low-carbon alternatives to petroleum crudes used across industry today.

**Socioeconomic impact**
Alder will activate socioeconomic development through public and private partnerships focused on building new industries for sustainable feedstock supply (e.g., closed-loop regenerative farming in Colombia).

**Environmental justice**
Alder will ensure local residents will be included in creating new industries and their livelihood will be positively impacted through access to new socioeconomic opportunities.
Decarbonize the Skies

Bruno Miller
bmiller@alderfuels.com