Regional Stakeholder Perceptions of Biofuels: Preliminary Results

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Abstract

Volatile crude oil prices, political and public pressure on carbon emissions, more stringent environmental targets and growing global demand for air travel have collectively driven research toward sustainable fuel alternatives (Gegg 2014). The aviation industry has also developed a set of goals, for instance, the International Air Transport Association (IATA) announced in 2009 that it aimed to reduce aviation Greenhouse Gas (GHG) emissions in 2050 by 50% relative to 2005 (IATA 2009) and the Federal Aviation Administration (FAA) aims for 1 million gallons of jet fuel to come from alternative renewable sources by 2018 (FAA 2011). Biofuels have the potential to meet aviation industry needs, possibly including managing risks of upward fuel price trends, fuel price volatility and risks associated with GHG emissions.

The ongoing study has combined semi-structured interviews and an online survey of key aviation fuel supply chain stakeholders in the NARA region to assess their perceptions on barriers and drivers to adding blended biojet fuel into the aviation fuel supply chain. Other issues including biojet molecules tracking, biojet mechanism for crediting, and biojet market share projections in 2030 were also examined to provide a thorough understanding of the potential for a biojet fuel production industry in the NARA region. Preliminary results from a total of 20 responses from airport management, fuel management (FBOs), and airlines are provided.

Research Design

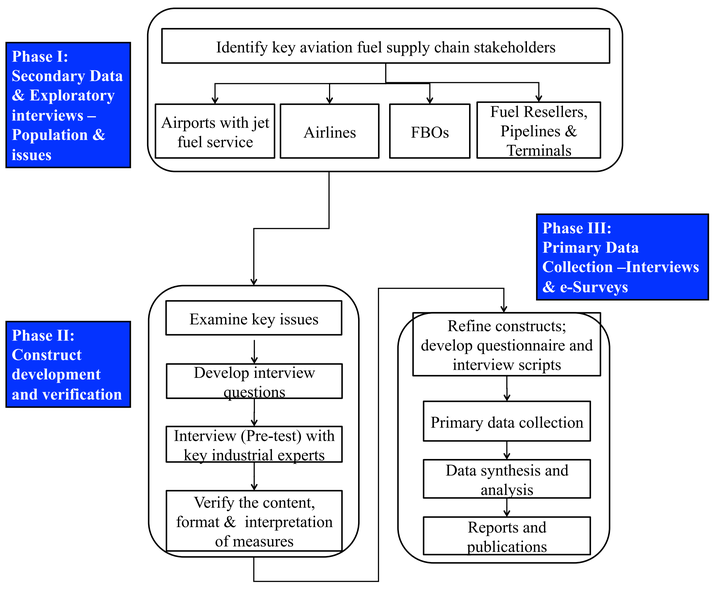


FIGURE 1 – Research Design for This Study

Responding Airport Locations

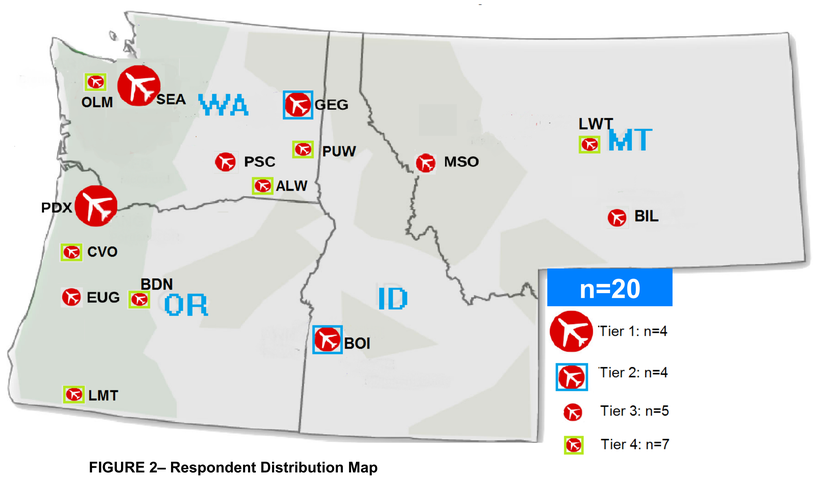


FIGURE 2– Respondent Distribution Map

Preliminary Findings – Barriers & Drivers

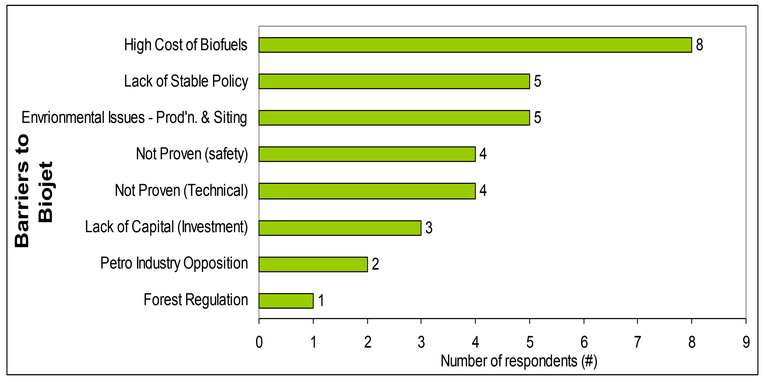


FIGURE 3 – Respondents Perceptions on Barriers to Biojet Fuel in the NARA Region

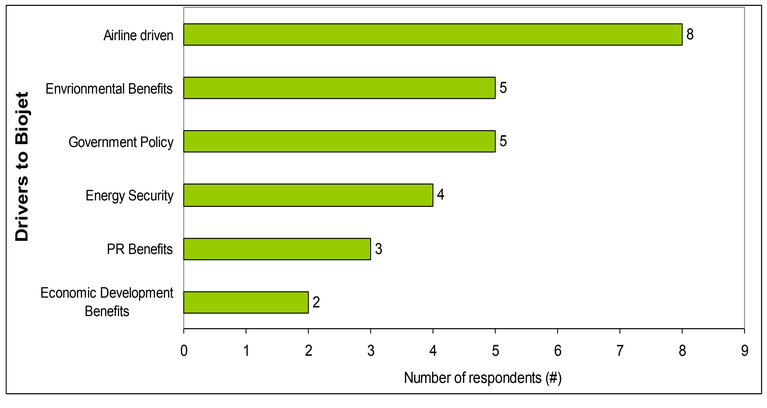
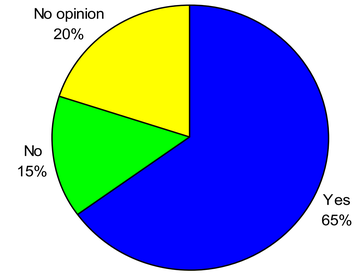


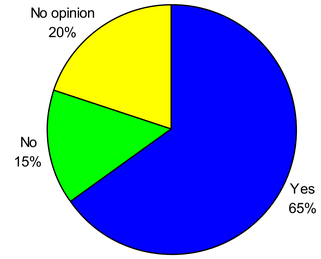
FIGURE 4 – Respondents Perceptions on Drivers to Biojet Fuel in the NARA Region

Preliminary Findings – Biojet Tracking/Crediting/

Q: Should biojet molecules be tracked?



Q: Should biojet have a mechanism for crediting?



Preliminary Findings – Biojet Projections in 2030

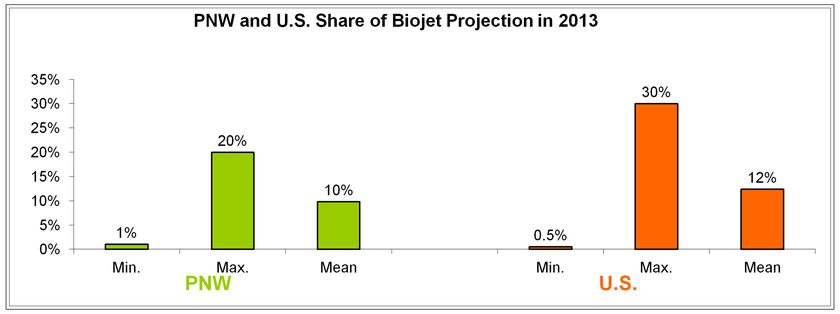


FIGURE 5– Respondents Perception on Biojet Share Projection 2030

Discussion

The preliminary analysis identified eight barriers to adding blended biojet fuel into the aviation fuel supply chain in the NARA region, among which, high cost of biofuels ranked as #1, followed by lack of stable policy and environmental issues in terms of production and siting. Six drivers to biojet were mentioned , including the perception that the biojet development would be airline driven which was mentioned most, followed by environmental benefits, government policy, and energy security. In terms of issues related to a scaled-up biojet industry, two-thirds thought that biofuel molecules should be tracked and credited. Finally, over the next 15 years, stakeholders estimated the market share of biofuels in the U.S. and NARA region as 12% and 10%, respectively, ranging from less than 0.5% to 30%. Primary data collection efforts are on-going and further analysis is in progress.

Acknowledgements

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References

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NARA
Northwest Advanced Renewables Alliance

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