

# Communicating with Stakeholders: Addressing Concerns, Worries, and Knowledge Gaps

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## Introduction

Environmental and economic feasibility are significant and important to the success of the emerging biofuels industry, however, it is also critical to examine the perceptions, experiences and potential acceptance or rejection of this emerging industry by local stakeholders and communities. Research indicates that the level of knowledge stakeholders perceive themselves to have influences their level of support for biofuels industries (Moroney 2015; Monroe & Oxarart 2010; Qu et al., 2011). The more knowledgeable stakeholders feel and the fewer questions they have, the more confident they are in making informed decisions relating to biofuels development. One of the greatest frustrations felt by stakeholders is that their questions and concerns are not being addressed, which then results in lack of support for biofuels development. Several studies suggest that open communication and more available information about biofuels can increase support for projects (Monroe & Oxarart, 2010; Peelle, 2001; Qu et al., 2011).

## Methods

A mixed methods survey was developed to explore stakeholder knowledge, concerns, and agreement with topics related to woody biomass feedstock collection, utilization and biofuels production. Questions also asked about the best forms of communication for becoming more informed about the biofuels industry. The survey, consisting of 22 qualitative and quantitative questions, was emailed to stakeholders with vested interest in woody biofuels in Oregon, Washington, Idaho, and Montana. Researchers built the survey specifically to engage a targeted audience of individuals who would be informed on various aspects of the wood to biofuels supply chain, and would potentially understand some industry impacts. With this in mind, the survey was sent to government officials at local, state, and federal levels; individuals working or involved in the wood products industry; tribal communities and individuals with environmental conservation interests.

## References

Moroney, J. "Baking up the right tree: A social assessment of wood to liquid biofuels stakeholders in the Pacific Northwest." Ph.D. Dissertation, University of Idaho, 2015.  
 Monroe, M. C., & Oxarart, A. (2010). Woody biomass outreach in the southern United States: A case study, 5, 0-8. doi:10.1016/j.bio mbi oe.2010.08.064  
 Peelle, E. (2001). Bioenergy stakeholders see parts of the elephant. Oak Ridge National Laboratory, Oak Ridge, TN. Retrieved from <http://web.ornl.gov/~ee/ebw/oksc/pp.nv.20.01/prse/11.406.5.pdf>  
 Qu, M., Ahponen, P., Tahvanainen, L., Getten, D., Mola-Yudego, B., & Pelkonen, P. (2011). Chinese university students' knowledge and attitudes regarding forest bio-energy. Renewable and Sustainable Energy Reviews, 15(8), 3649-3657. doi:10.1016/j.rsre.2011.07.022

## Knowledge and Agreement

The survey results show that stakeholders who feel they know more about using woody biomass to produce liquid biofuels are more supportive of various aspects of the wood to biofuels industry (Figures 1-3). Survey participants from all four states and stakeholder groups had the following concerns/questions: 1) environmental impacts, 2) the rural economy of their region, and 3) the economic feasibility of biomass to biofuels production (see Figure 4). This information can be used to create and tailor outreach efforts to better target stakeholders that have concerns, worries, and knowledge gaps through communication methods that are most meaningful and effective to them (Figure 5).

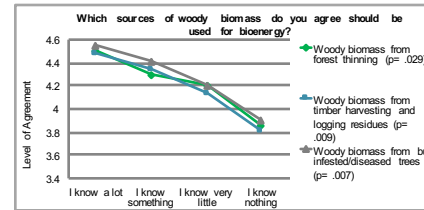


Figure 1: Knowledge & Woody Biomass Sources

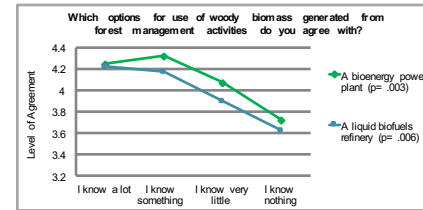


Figure 2: Knowledge & Woody Biomass Utilization

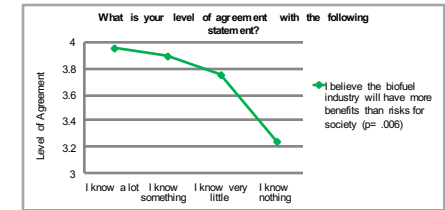


Figure 3: Knowledge & Biofuels Industry Benefits vs. Risks

## State Knowledge Level and Concerns

Even though knowledge levels differed by state, it was apparent that a noteworthy percentage of stakeholders in every state felt that they knew very little to nothing about liquid biofuels and using woody biomass to produce them. The level of perceived knowledge varied by stakeholder group in each state. Stakeholders from all four states shared concerns related to economic feasibility as well as environmental impacts, but also had concerns that were particular to their state, as noted below in Figure 4.

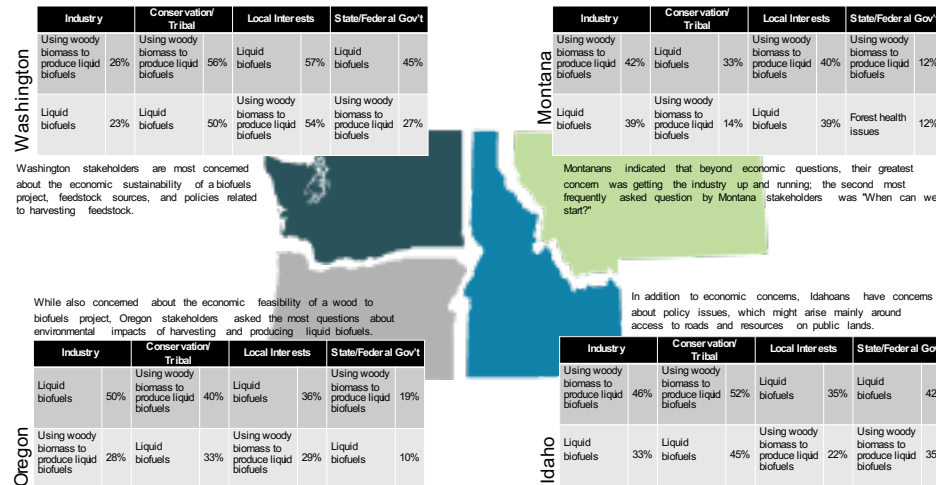


Figure 4: Stakeholders' main concerns in each state (text) and the percentage of stakeholder, broken down by category and state, who answered that they knew "very little" or "nothing" about the topics shown (tables).

## Outreach Topics and Methods

Data about knowledge levels, combined with the needs for education on the following topics: what liquid biofuels are, how they are made, appropriate feedstock, and the environmental and economic feasibility of production. This information can be used to create and tailor outreach efforts to better target stakeholders that have concerns, worries, and knowledge gaps through the communication methods that are most meaningful and effective to them. Over 90% of all stakeholders felt that a project website was the best form of communication followed by fieldtrips, newspaper, email newsletter, community meetings, and workshops, which at least three out of four stakeholders felt were effective forms of distributing information (Figure 5).

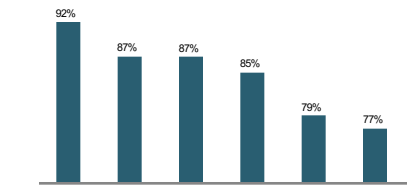


Figure 5: Preferred Communication Methods