

Waste to Wisdom:

Environmental and Economic Analysis of Biomass Conversion Processes

Public Perceptions of Using Woody Biomass for Bioenergy Products in West Coast States: Preliminary Results

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Study Objectives

- Find public's attitudes, perceptions, beliefs, and knowledge on environment and Bio-based products
 - Profound effects on the success of natural resource management projects and their associated industries
- Find out public support of the management of local or regional forest lands and the resources within
- Understand issues and values of key stakeholders
 - Federal, local and municipal governments are sensitive to public opinions and pressures from organizations
- Find out if discrepancies exist in perceptions of respondents
 - Urban versus rural
 - Regional
 - Socio-economic status

Research Initiative

- Ongoing search for end uses of non-merchantable biomass from forest harvests and thinnings
- Residual biomass could be converted to bioenergy and bio-based forest products if the processing infrastructure and markets existed.
- Potential Outcomes:
 - Employment in rural forestry-dependent communities
 - Reduce the risk of intense fire
 - Sequester carbon, and reduce CO2 emissions
 - Reducing the reliance on imported fossil fuels

Biomass Conversion Technologies

Alternatives to the expensive and inefficient transport of high moisture, low energy density forest residues.

Bioenergy: Wood briquettes



- Made of dry, untreated wood chips (e.g. wood shavings) pressed under high pressure
- Substantially higher energy content due to their density
- can be used as a residential (e.g., firewood) and industrial energy source

Soil Amendment : Biochar



- Made from biomass via pyrolysis (i.e., roasting wood)
- Claimed to increase soil fertility of acidic soils and increase agricultural productivity
- Stable form of carbon, and can endure in soil for a very long time

Survey Methodology

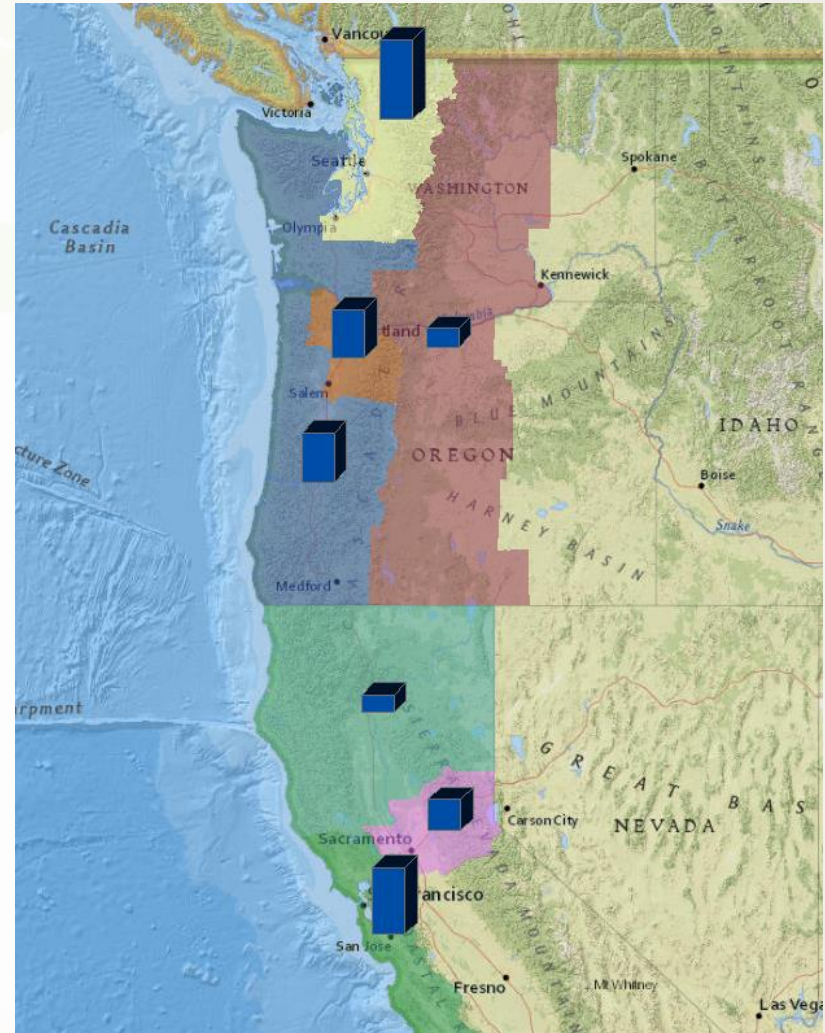
- Data was collected utilizing a stratified method based on zip code.
- The target sample size was N=1200
- At least 150 responses needed from both urban and rural areas in each of the following locations:
 - Northern California
 - Oregon
 - Washington
- Random Sample from all zip codes until responses reached 150 threshold

Results: Demographics

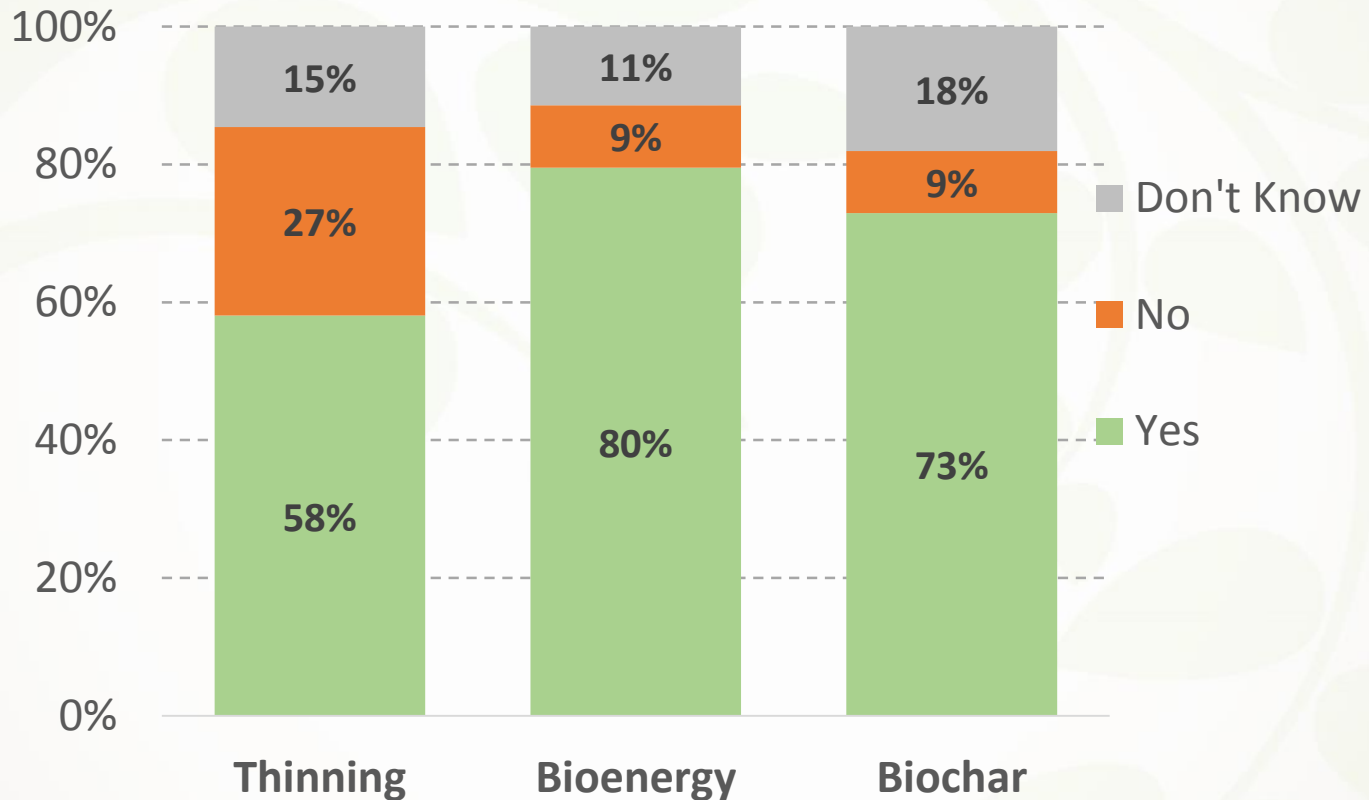
Total 1202 Respondents

	High Density Zip Codes	Low Density Zip Codes	Total
CA	296	150	446
OR	158	162	320
WA	271	165	436
Total	725	477	1202

- Metro (4)
 - Bellingham/Olympia I-5 Corridor
 - Portland/Salem Region
 - Bay Area
 - Sacramento Area
- Rural (3)
 - Coastal Washington and Oregon
 - Cascades Washington and Oregon
 - Northern California

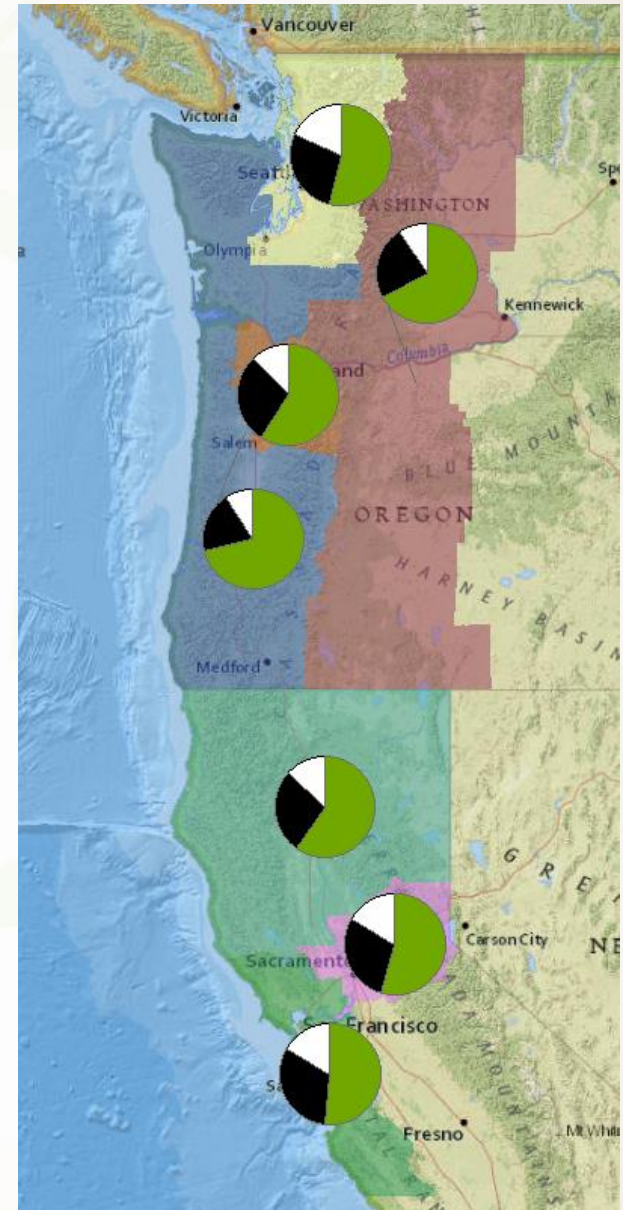


Results: Overall Response Supporting



Results: Support of Thinning

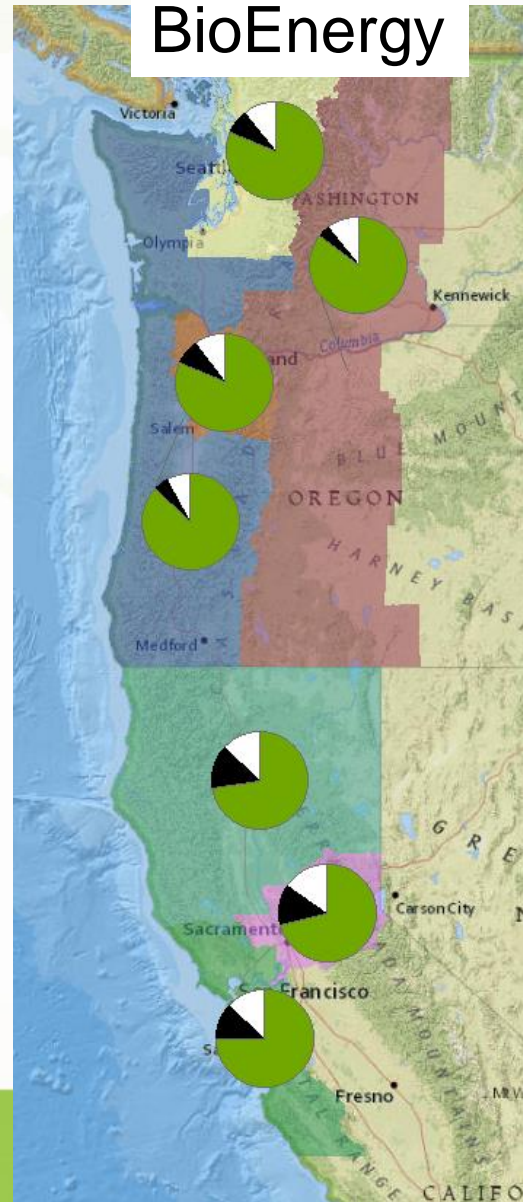
- Overall, there is support for thinning in every region
- Rural residents are more supportive than urban residents



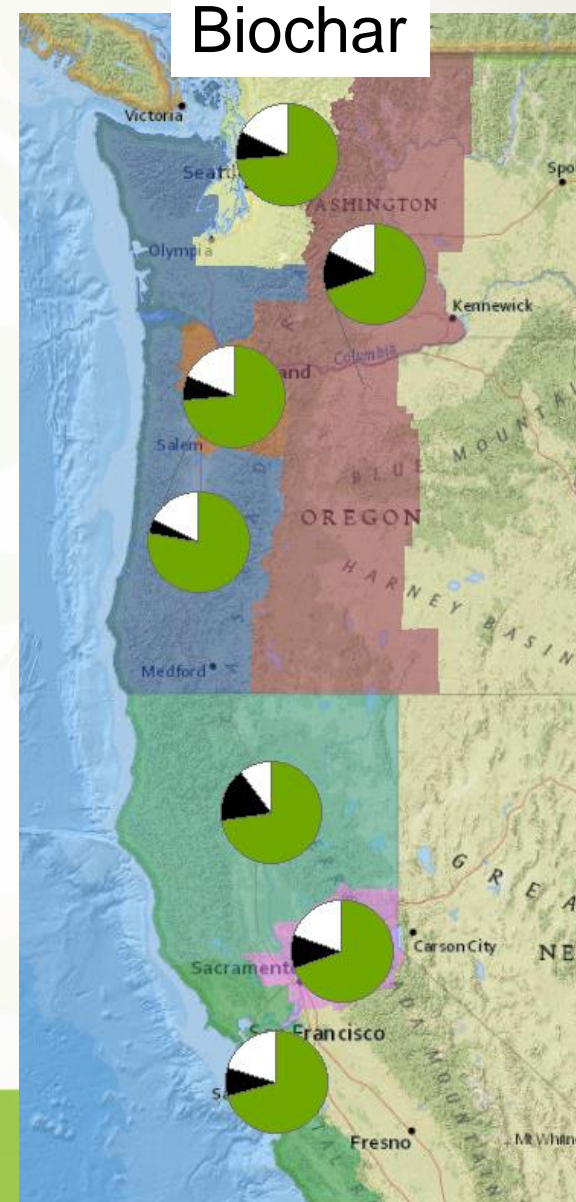
Results: Support of Bioenergy and Biochar products

- Majority of respondents support bioenergy and biochar products
- PNW respondents are more supportive than Californians
- Rural respondents are preferential to bioenergy than biochar

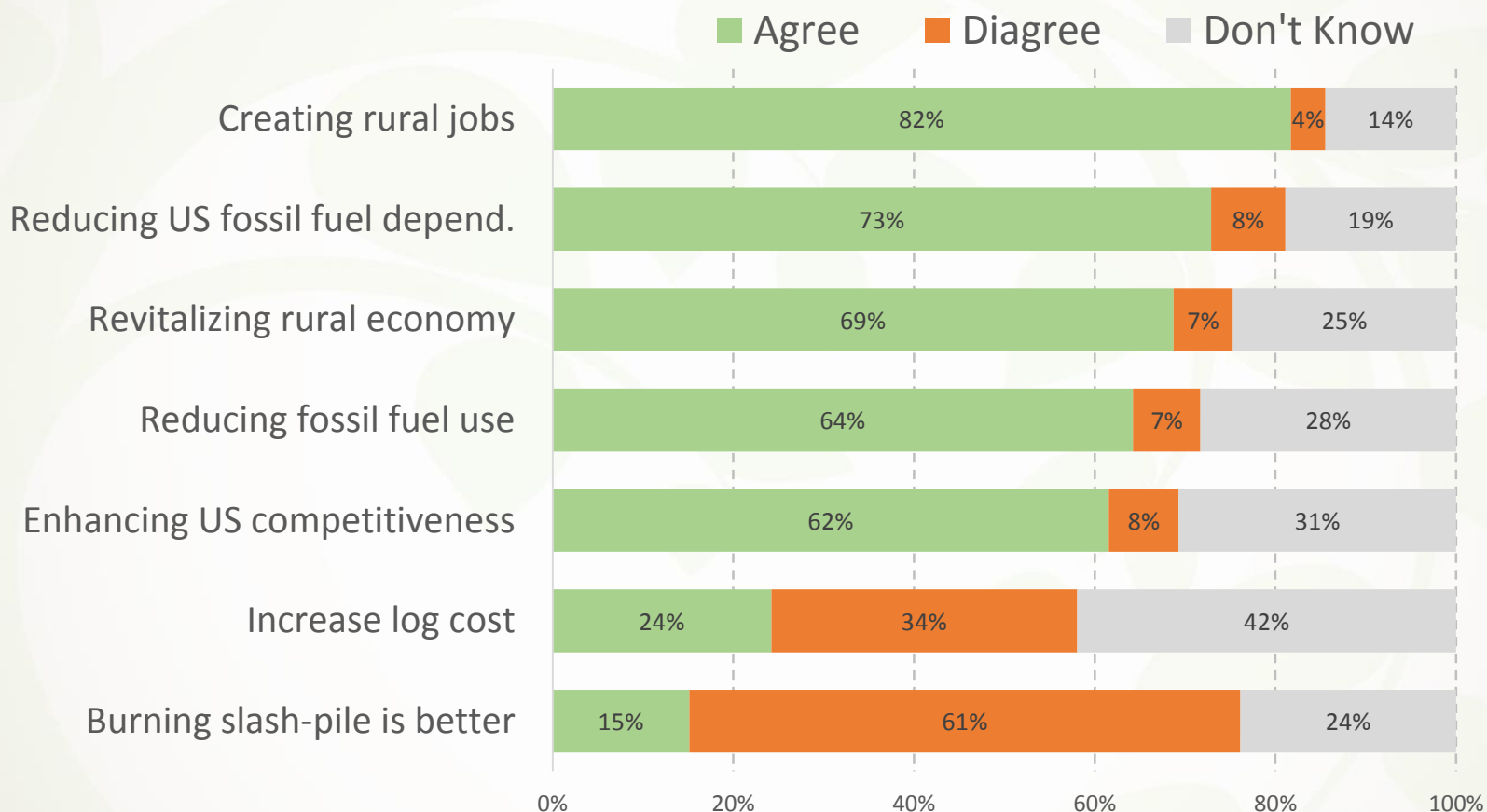
BioEnergy



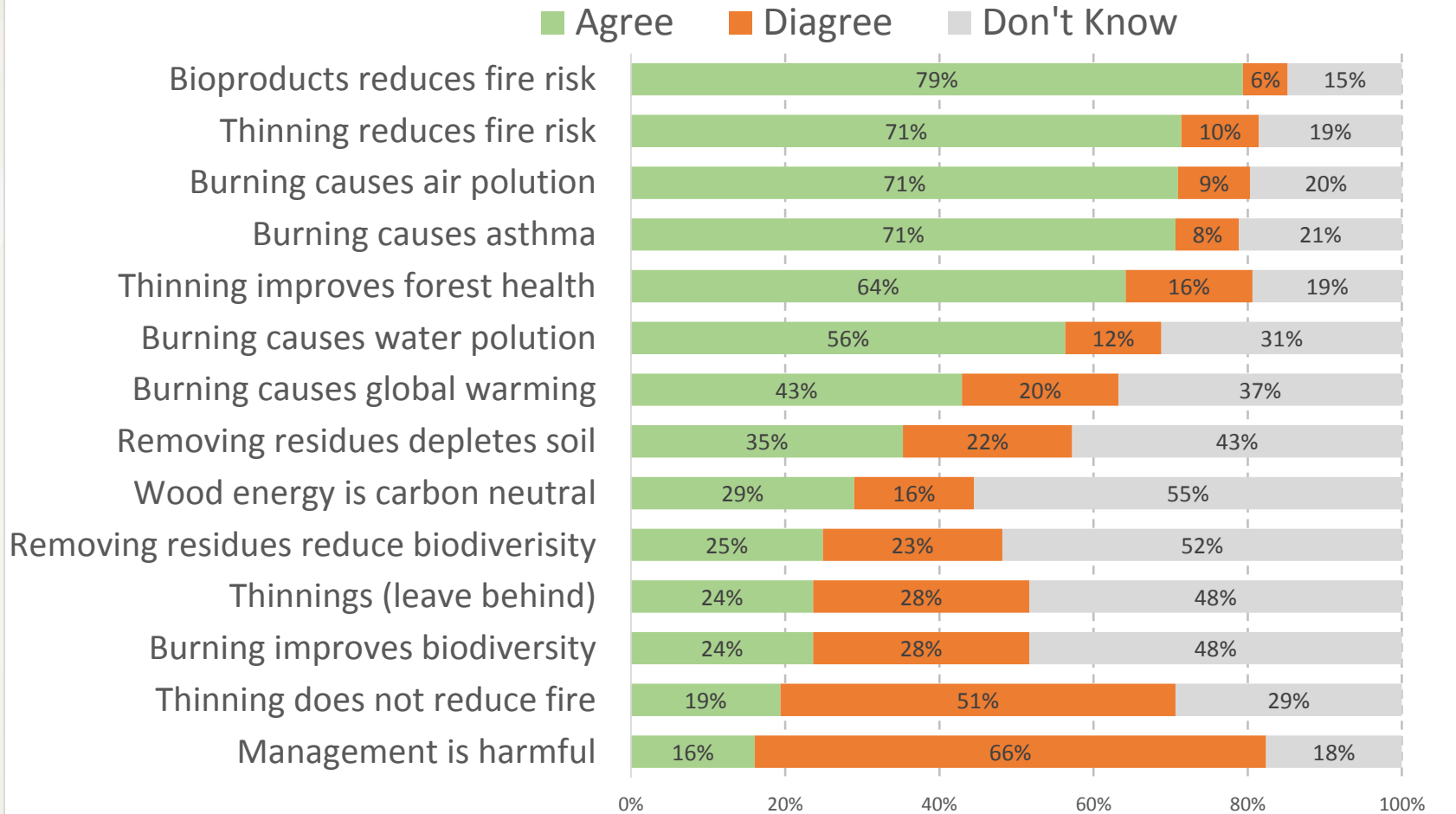
Biochar



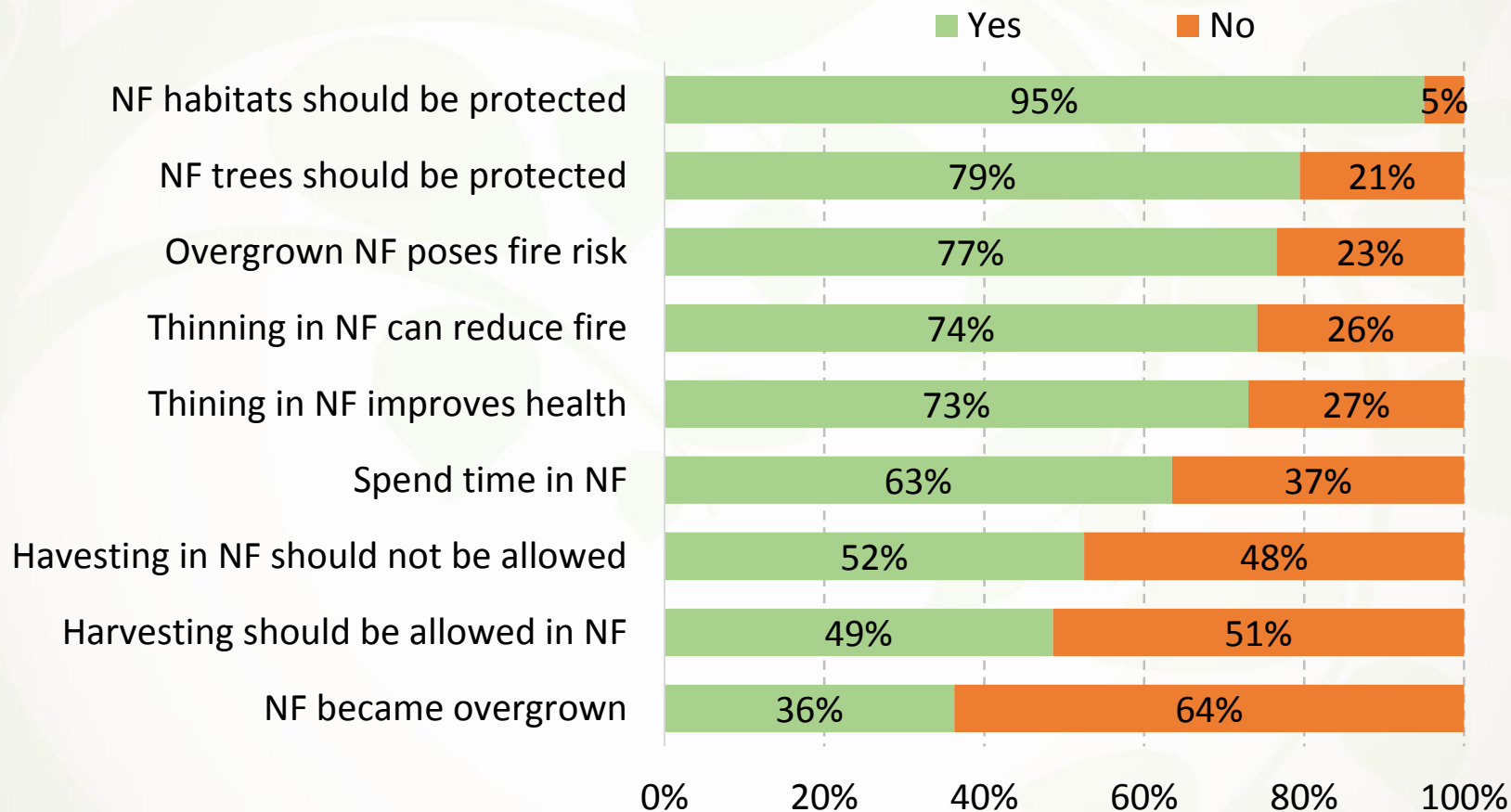
Results: Perceptions of Bioenergy and Bio-products



Results: Perceptions about Environmental Impacts



Results: Perceptions about National Forest Lands



Conclusion

- Public perceptions of bio-energy products are positive
- Many are currently not aware of these products
- Public perceives benefits to continuing the development of alternative energy sources
- First Phase of Social Perception Survey is currently ongoing (Exploratory)
- Next Phase to include Latent Class Analysis (Confirmatory)

Thank You Questions?

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