

Building Circular: Strategies for Sustainable Construction and Stakeholder Engagement

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King County

Background

- 600 million tons of Construction and Demolition (C&D) debris are generated yearly.
- Clean Wood is one of the largest materials flowing through our waste stream.
- Salvaging lumber, sheet wood, and pallets will reduce wood waste, reduce GHG emissions, and catalyze a circular system in the King County area.
- The purpose of this research is to gauge stakeholders interested in participating in a King County's proposed Salvaged Lumber Warehouse.

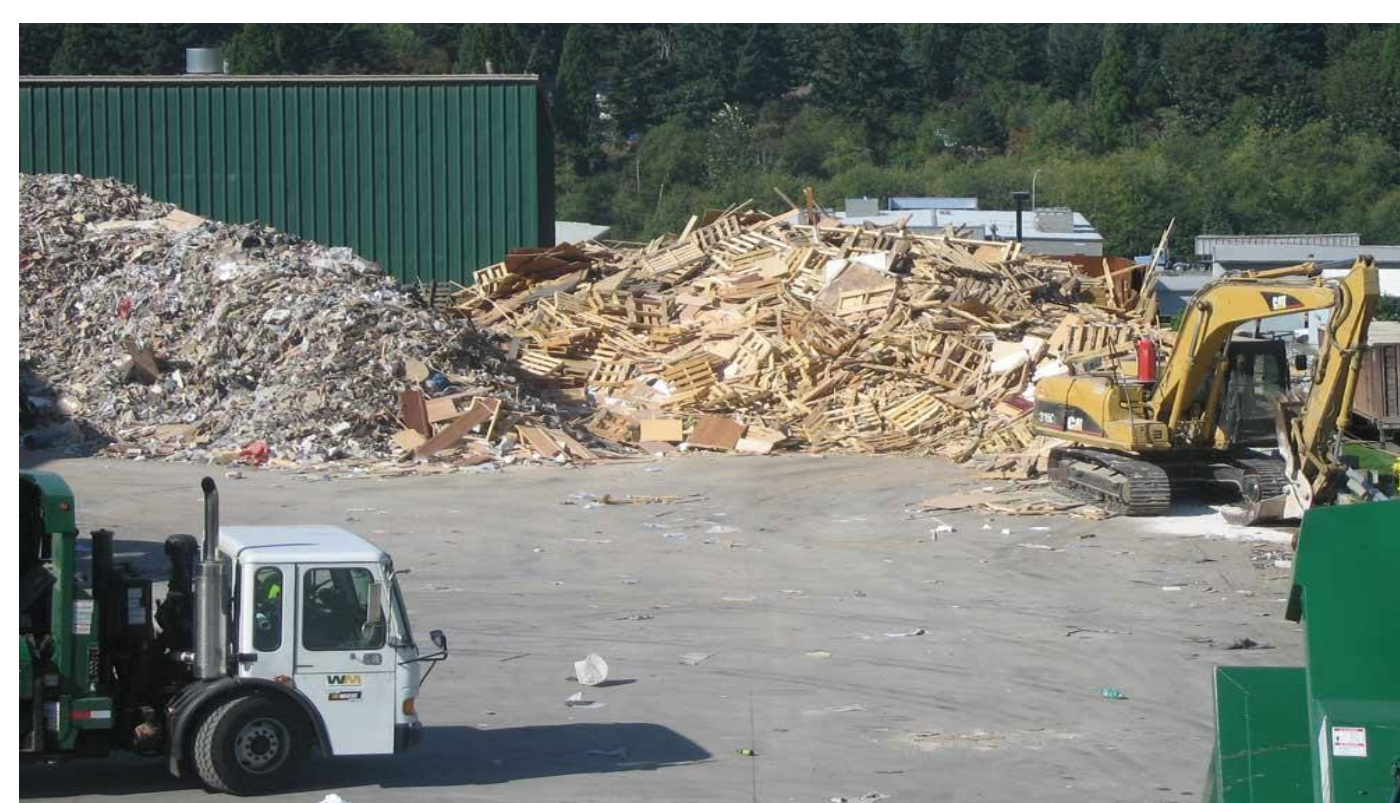


Figure 1 depicts the large amount of salvageable lumber that ends up at various landfills around King County. Source: King County

Research Question

What are stakeholders interests in participating in circular practices to lower the amount of waste in the construction industry?

Internship and Methods

- Interned with King County's Solid Waste Division.
- Developed and administered surveys to local stakeholders.
- Conducted a literature review on importance of circular economies.

Results

Interest in Circular Economy

How interested are you in participating in or supporting efforts that promote circular economy practices?

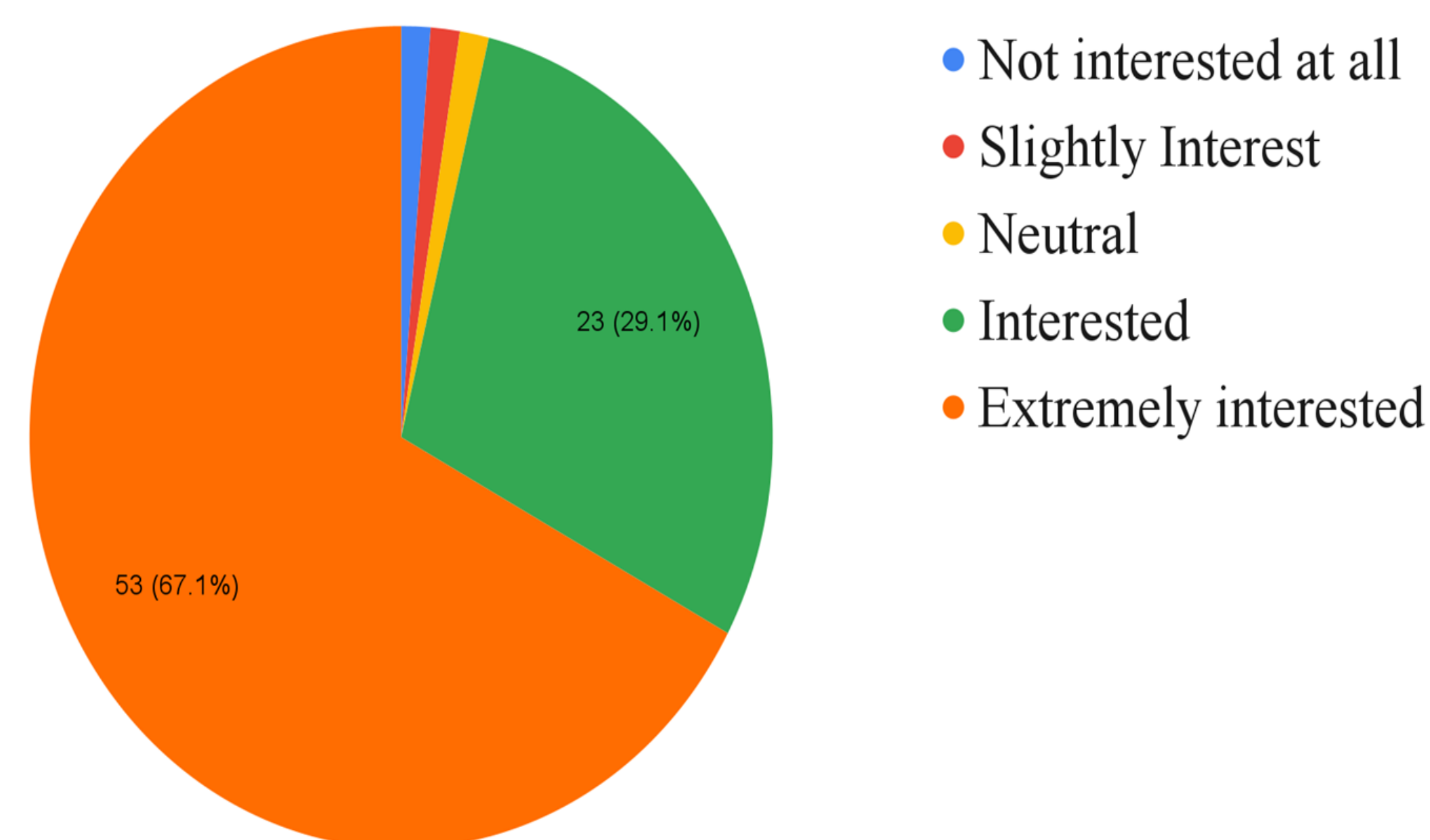


Figure 2 depicts a chart from the results of my survey. 53 out of the 79 responses were extremely interested in participating in a circular economy.

Motivation for Participation in a CE

What motivates your company to engage with circular practices?

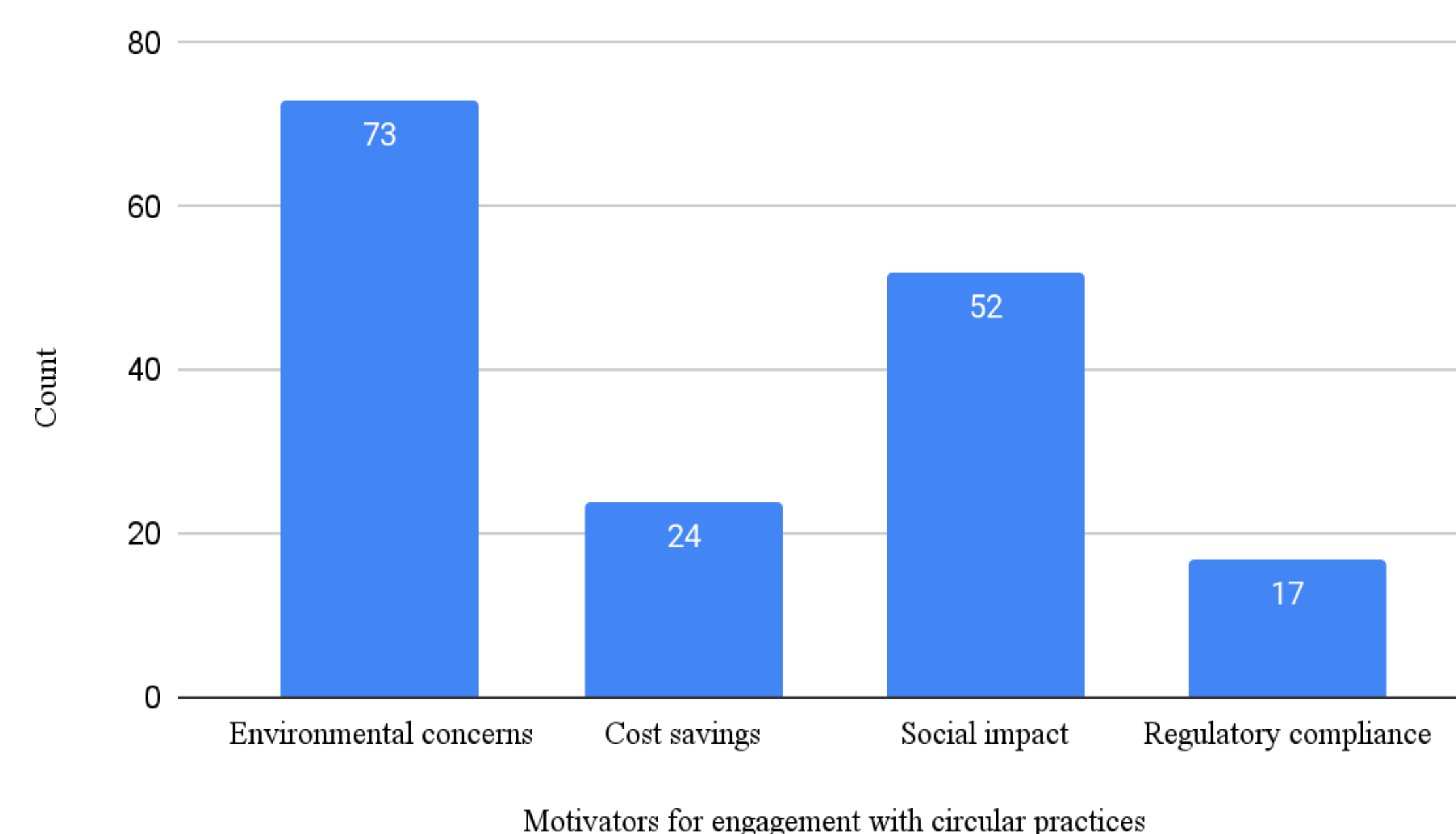


Figure 3 depicts a chart from the results of my survey. 73 out of 79 participants are motivated to make engage in circular practices because of environmental concerns.

Takeaways

- Understanding stakeholders' perspectives is crucial for ensuring the successful implementation of circular construction practices.
- 67% of stakeholders expressed extreme interest in incorporating circular economy practices into their organizations (see Figure 2).
- 92% of respondents expressed interest in contributing to circular construction practices, with motivations such as environmental stewardship, social impact, and potential cost savings. (see Figure 3).

Implications

- With the creation of a circular economy, building products made from locally sourced salvaged lumber would have significantly lower carbon emissions.
 - Reusing and reducing C&D materials can lower financial costs.
- In order to implement these changes we have to recognize and combat barriers to waste mitigation
 - Barriers include lack of time, resources, technology, training and policy.
- By examining the challenges, successes, and lessons learned from these initiatives, researchers can provide insights into effective strategies, innovative solutions, and best practices.

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