5.0 Recover

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Strategy	ID No.	Action Option	Affordability	Assumptions	Economic Prosperity	Assumptions	Innovation	Assumptions	Circularity	Assumptions	Waste Reduction	Assumptions	GHG Emissions Reduction	Assumptions	Environmental Stewardship	Assumptions	Inclusivity	Assumptions	Convenience	Assumptions	Community Participation	Assumptions	Supports Waste Prevention Habits and Actions	Assumptions	Practicality of Implementation	Assumptions	Accountability	Assumptions	Transparency	Assumptions	Consistency / Harmonization	Assumptions	Collaboration	Assumptions	Resilience	Assumptions
5.1 Recover materials and energy from non-recyclable materials	ID169	Collect dimensional lumber not suitable for reuse or recycling to process into fuel to replace fossil fuels in applications such as district energy and other decentralized heating and agricultural/industrial systems.	Med	Requires investment in collection systems, processing infrastructure (e.g., biomass fuel production), and end-use facilities. Could be cost-competitive with fossil fuels over time.	High	Could create opportunities in bioenergy production and create jobs.	High	Would be an innovative approach for the region to use low-quality wood.	Low	Focused on recovery (non-recyclable material)	High	Includes high tonnage of non-recyclable wood from the C&D sector.	Med	Overall net GHG emissions reduction when compared to burning of fossil fuels.	Med	Compared to burning of fossil fuels, not likely to change impact, positively or negatively, on environmental stewardship.	Med	No changes to impacts on barriers or access experienced by different groups/people	High	May increase convenience of managing non-recyclable lumber. But could be challenging to collect if mixed with other materials.	Med	Likely no large changes to community building, social connection and peer-to-peer learning	Low	If anything this would encourage materials to remain unrecyclable.	Low	Additional infrastructure and technology would likely require more than 10 years to implement considering design requirements, permits, construction, etc.	Med	No changes to ability to hold actors responsible.	Med	No changes to transparency	Med	No significant change to consistency/harmonization across the region.	Med	May involve collaboration, but does not guarantee partnerships.	High	Has potential to build regional energy resilience.
5.1 Recover materials and energy from non-recyclable materials	ID172	Advocate for and explore the potential for piloting technologies that can convert construction and demolition wood waste into energy and fuel such as: electricity, aviation fuel or hydrogen, biomass/biocoal.	Low	Typically these types of technologies come with significant cost and investment, even at the pilot stage. However, some costs could be managed by grant funding and private investment. Up front costs will remain high for the sector when exploring new technologies.	High	Could create technologist opportunities for the region and jobs. However, huge job numbers are not often associated with these technologies, but the exploration and research could involve more jobs.	High	Would require high level of innovation and would be new for the region.	Low	Focused on recovery (non-recyclable material)	High	Includes high tonnage of non-recyclable wood from the C&D sector.	Med	Depending on what technologies are chosen, but if waste-to-energy is replacing fossil fuels, there is an opportunity for an overall GHG emissions reduction. Only if compared to burning fossil fuels and primary source is non-recycled wood.	Med	If comparing to burning of fossil fuels, not likely to change impact, positively or negatively, on environmental stewardship.	Med	No changes to impacts on barriers or access experienced by different groups/people	Med	Likely limited/restricted but would provide contractors and haulers with additional disposal options.	Med	Likely no large changes to community building, social connection and peer-to-peer learning	Low	If anything this would encourage materials to remain unrecyclable.	Low	Advocacy could start earlier, but even exploring pilot options could take upwards of 10 years when considering regulations and permits.	Med	No changes to ability to hold actors responsible.	Med	No changes to transparency	Med	No significant change to consistency/harmonization across the region.	Med	May involve collaboration, but does not guarantee partnerships.	Med	Has potential to build C&D management disposal options further in the future, but not likely to have a significant impact in the near future through advocacy and pilot exploration.
5.1 Recover materials and energy from non-recyclable materials	ID168	Share information with respect to construction and demolition waste characteristics and quantities to support investigations into the potential to recover materials from non-recyclable construction and demolition waste.	Med	No significant change to cost assumed with this option being focused on sharing of information.	Med	Indirect - better data supports businesses and investors in developing new recovery markets for currently non-recyclable materials. Long-term economic potential if markets are created.	Med	Has the potential to be higher, but with idea sharing, likely only a process improvement making incremental progress.	Low	Focused on recovery (non-recyclable material)	High	Includes high tonnage of non-recyclable wood from the C&D sector.	Med	Depending on what 'recovery' looks like, but if waste-to-energy is replacing fossil fuels, there is an opportunity for an overall GHG emissions reduction. Only if compared to burning fossil fuels and primary source is non-recycled wood.	Med	If comparing to burning of fossil fuels, not likely to change impact, positively or negatively, on environmental stewardship.	Med	No changes to impacts on barriers or access experienced by different groups/people	Med	No changes in convenience by increasing knowledge of best practices.	Med	Likely no large changes to community building, social connection and peer-to-peer learning	Low	If anything this would encourage materials to remain unrecyclable.	High	Sharing of ideas should be relatively easy to implement in the next 0-5 years.	Med	No changes to ability to hold actors responsible.	Med	No changes to transparency	Med	No significant change to consistency/harmonization across the region.	High	Sharing of information involves collaboration amongst industry experts and municipalities.	High	Has potential to increase connectedness of resources and information.
5.1 Recover materials and energy from non-recyclable materials	ID171	Continue to pursue processing of small load waste to recover non-recyclable wood and other materials.	Med	Unlikely to affect affordability significantly since this option is a continuation and focused on small loads.	Med	Not expected to have a significant impact on jobs.	Low	Already occuring (status quo).	Low	Focused on recovery (non-recyclable material)	High	Includes high tonnage of non-recyclable wood from the C&D sector.	Med	Overall net GHG emissions reduction when compared to burning of fossil fuels.	Med	If compared to burning of fossil fuels, not likely to change impact, positively or negatively, on environmental stewardship.	Med	No changes to impacts on barriers or access experienced by different groups/people	Med	Likely limited/restricted but provides small contractors with additional disposal options.	Med	Likely no large changes to community building, social connection and peer-to-peer learning	Low	If anything this would encourage materials to remain unrecyclable.	High	Since this is already happening it should be relatively easy to continue.	Med	No changes to ability to hold actors responsible.	Med	Performance data could be reported, but since these are private facilities, processes are less visible/understood.	Med	No significant change to consistency/harmonization across the region.	Med	May involve collaboration, but does not guarantee partnerships.	Med	Incremental progress that doesn't have significant impact on resiliency for the future growing population
5.1 Recover materials and energy from non-recyclable materials	ID170	Encourage diversion of non-recyclable construction and demolition waste to recover recyclables and alternative fuels in facilities with advanced environmental protection systems such as cement plants.	High	Could reduce fuel costs for industry and leverages existing industrial facilities (cement kilns), avoiding major new infrastructure costs.	Med	Benefits likely limited to certain industries such as cement producers.	Med	Not an overly innovative approach since use of alternative fuels for cement kilns is being done in North America. But could still prove to be innovative for the region.	Low	Focused on recovery (non-recyclable material)	High	Includes high tonnage of non-recyclable wood from the C&D sector.	Med	Overall net GHG emissions reduction when compared to burning of fossil fuels as would be required in cement kilns.	Med	Compared to burning of fossil fuels in cement kiln, not likely to change impact, positively or negatively, on environmental stewardship.	Low	Impacts are very specific to certain industries.	Med	Likely limited/restricted but would provide contractors and haulers with additional disposal options.	Low	Limited to very specific industry and not community-driven.	Low	If anything this would encourage materials to remain unrecyclable.	Med	Since plants already operate in the region this could likely be implemented between 5 and 10 years with policy support and technology installations.	Med	No changes to ability to hold actors responsible.	Med	Performance data could be reported, but since these are private facilities, processes are less visible/understood.	Med	No significant change to consistency/harmonization across the region.	Med	May involve collaboration, but does not guarantee partnerships.	High	Has potential to build regional waste system resilience by serving as an outlet for non-recyclable wood.
5.1 Recover materials and energy from non-recyclable materials	ID179	Continue to pursue the beneficial use of bottom ash from the Waste-to-Energy Facility in cement plants.	High	Potential to reduce landfilling costs of ash if material can be sold, or given, for use in cement plants.	Med	Not expected to have a significant impact on GDP or job creation. Even if material is diverted, it is unlikely to create jobs.	High	Would require high level of innovation and would be new for the region.	Low	Focused on recovery (non-recyclable material)	Low	Focused on ash material generated from waste-to-energy which is not deemed a high tonnage material according.	Med	Unknown at this time since an GHG analysis would need to be conducted based on the use of the ash versus landfilling. Unlikely to have a significant impact on GHG emissions either way.	Med	If comparing to landfilling, not likely to change impact, positively or negatively, on environmental stewardship.	Med	No changes to impacts on barriers or access experienced by different groups/people	Med	No impact on convenience expected, other than possibly for cement kilns.	Low	Since this is focused on a very industry specific audience in the region (cement kilns), community participation could be reduced	Low	Focused on disposal options for ash which, if any, could continue to encourage waste to-energy and reduce prevention actions.	Low	Research and exploring options could take upwards of 10 years to work with industry when considering regulations and permits.	Med	No changes to ability to hold actors responsible.	Med	No changes to transparency	Med	No significant change to consistency/harmonization across the region.	Med	May involve collaboration, but does not guarantee partnerships.	Med	Could reduce reliance on landfilling but does not significant impact the ability for the region to absorb shocks or disruptions.