Demand Analysis of Ontario Wood Market Under Future Shared Socio-economic Pathways

The mass timber industry in Ontario is an emerging sector. Building developers face timber supply risks when entering this new market, while forests and sawmills may not be able to increase their production capacity as industry emerges. Moreover, it is unclear whether extra supply should appear first to promote wood utilization in mass timber industry and building construction. In order to facilitate the growth of mass timber industry, it is necessary to predict the future dynamics of wood supply and demand and eventually increase the efficiency of the market and promote better policymaking. This, however, is subject to the increasing impacts of climate change and the relevant policy implications for wood and building sector.

The use of mass timber and solid wood is important in reducing carbon emissions in construction, but sawmills and building developers are conservative due to uncertainties in supply and demand. Therefore, we conducted a research starting from the analysis of stumpage price system in Ontario, which is an indicator of the relationship between supply and demand of the wood market. Investigating the fluctuations in the historical residual value price and making projections for the future could reveal the patterns in the future demand of solid wood and engineered wood products. To define typical future development pathways assuming different level of e.g. population and economic growth and carbon emission, Shared Socio-economic Pathways are developed by Intergovernmental Panel on Climate Change (IPCC) of United Nations (UN). The five SSPs considered in this study include SSP 1: the sustainable development pathway; SSP 2: assuming the current societal development for the future; SSP 3: bringing high challenges in adaptation and mitigation through regional rivalry; SSP 4: realizing great inequalities between countries in the future; and SSP 5: the highest consumption of fossil fuels and the highest greenhouse gas emission.

The future wood demand is projected to increase under all SSPs as shown in Figure 1. **By 2030, the wood demand could be as high as 11.4 million m3 in average** among all SSPs, which is 1 million m3 higher than the present demand level (10.5 million m3). The demand may reach a higher level (15.7 million m3 in average) at the end of 21st century. SSP5 scenario would realize the highest wood demand due to the boom in economy and population.

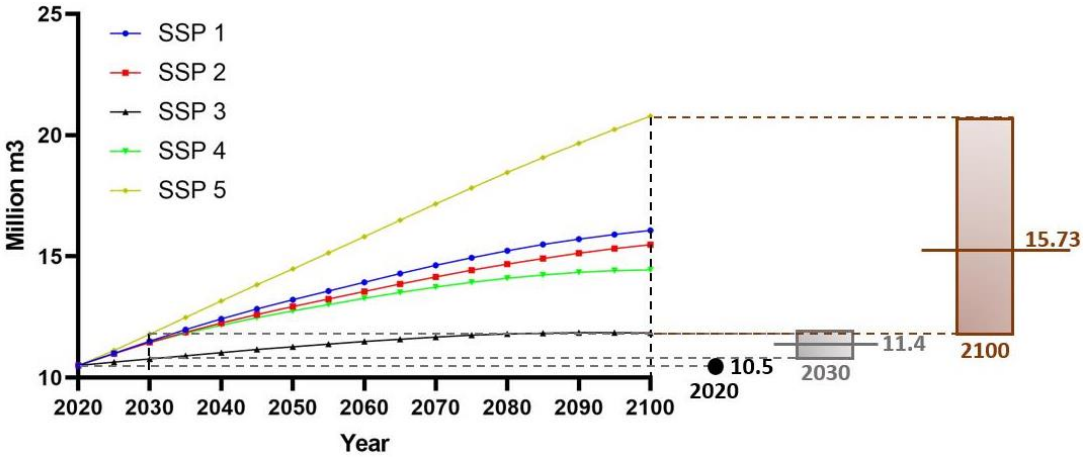

Figure 1. Projections of future wood demand in 2030 and 2100 in Ontario

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