



**School of Environmental
and Forest Sciences**

UNIVERSITY *of* WASHINGTON

College of the Environment



Global CLT Demand and Forestry

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Global mass timber demand study

The Scope of the Project

Regions/Countries

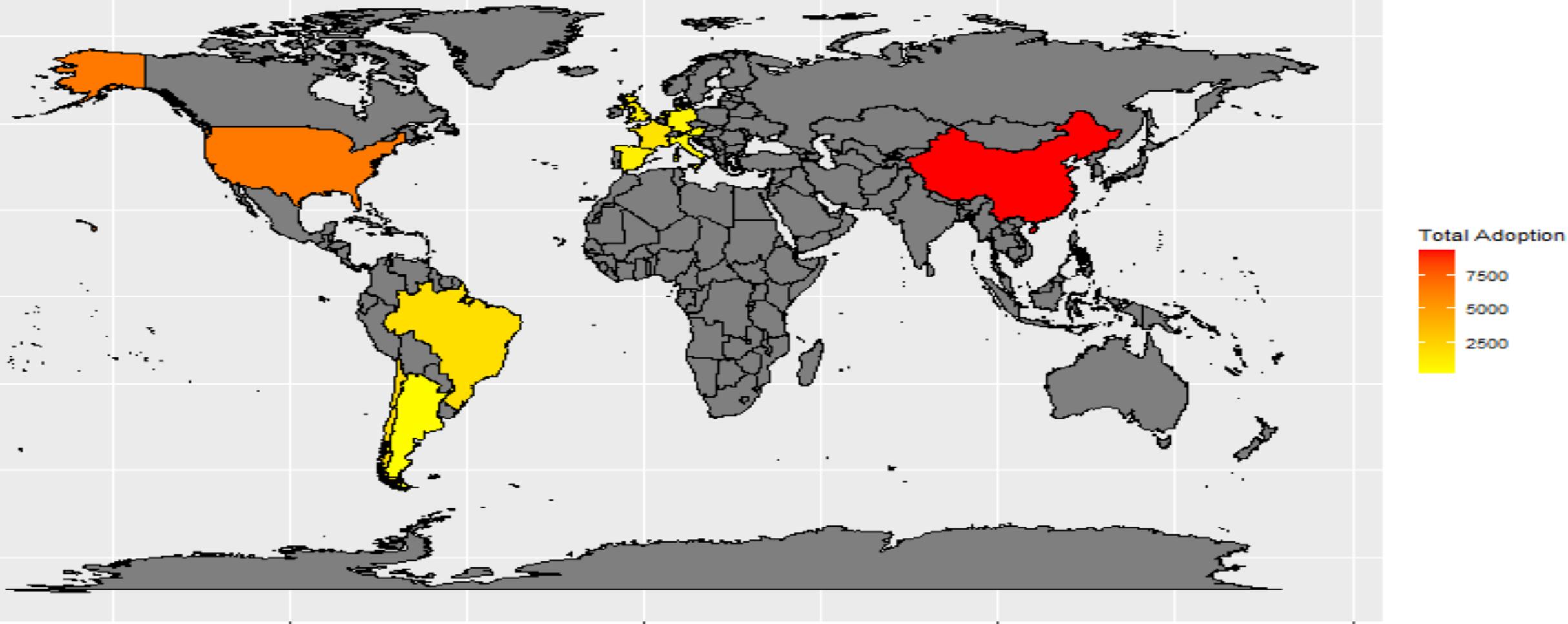
Region	Country
United States	U.S.
China	China
Euro-7	Austria
	France
	Germany
	Italy
	Netherlands
	Spain
	UK
Latin America-3	Argentina
	Brazil
	Chile

Housing Type

Type	Stories
Residential	≤ 6
	7 to 12
	≥ 13
Nonresidential	≤ 6
	7 to 12
	≥ 13

Wood Use Covered

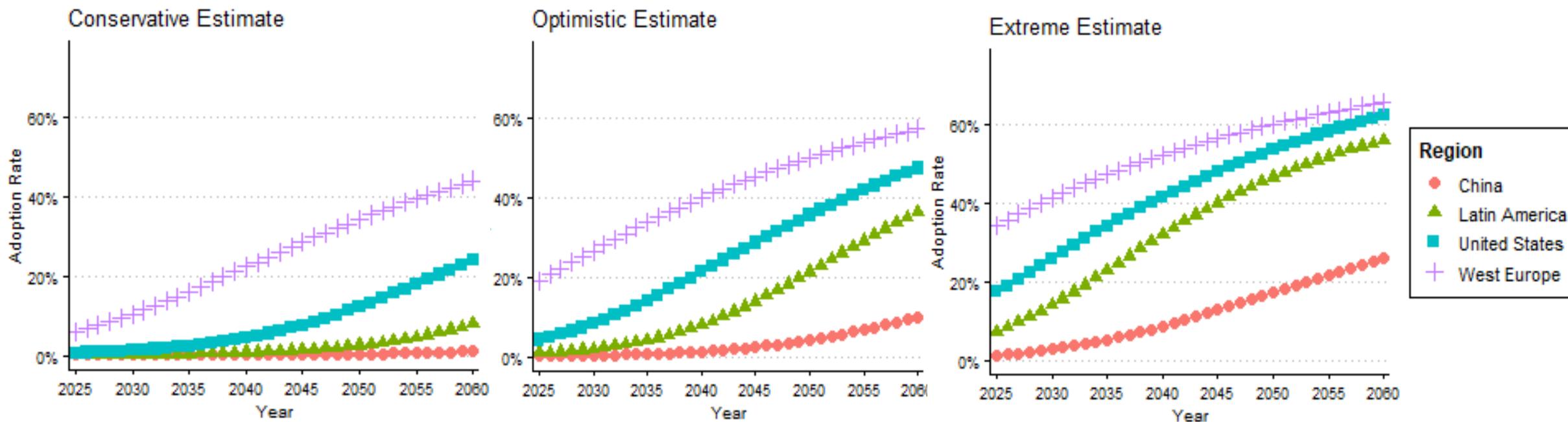
Type	Stories
CLT	Structural Wall
	Floor Diaphragm
	Roof and Misc.
GluLam	Beams
	Columns
	Misc

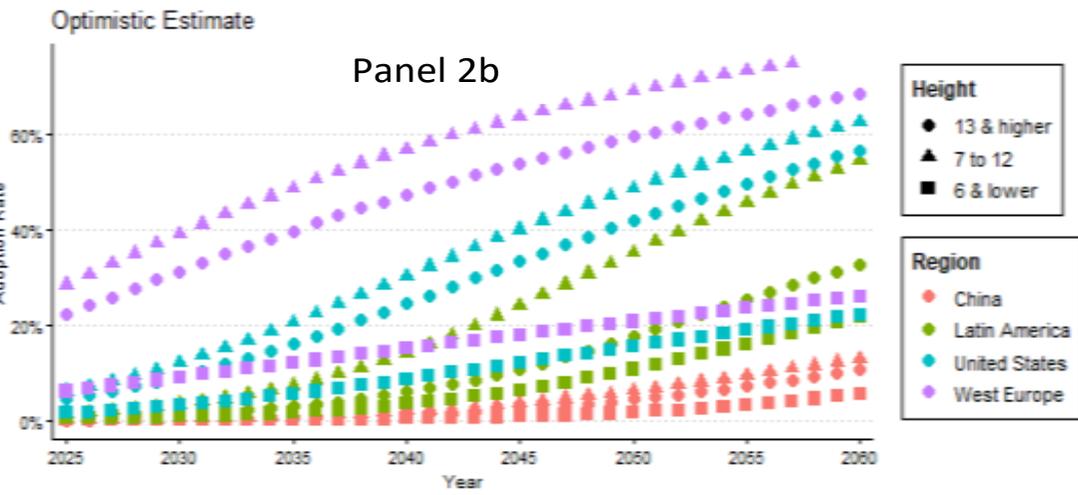
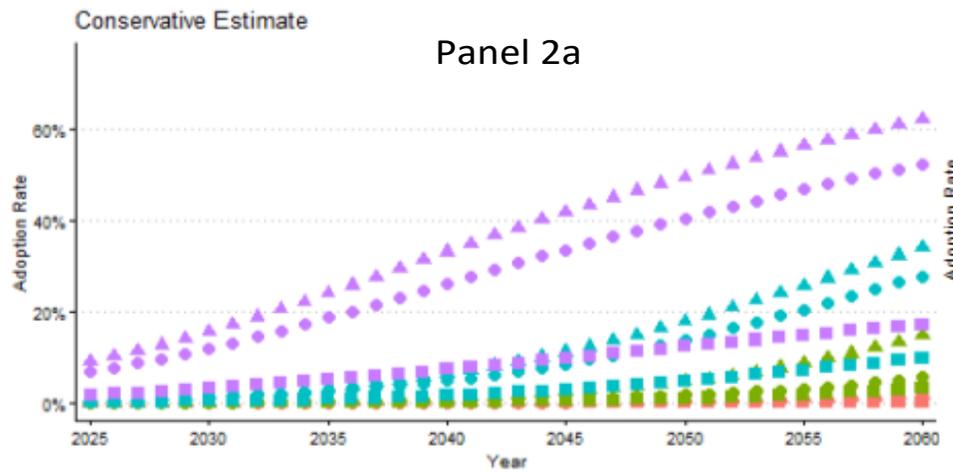
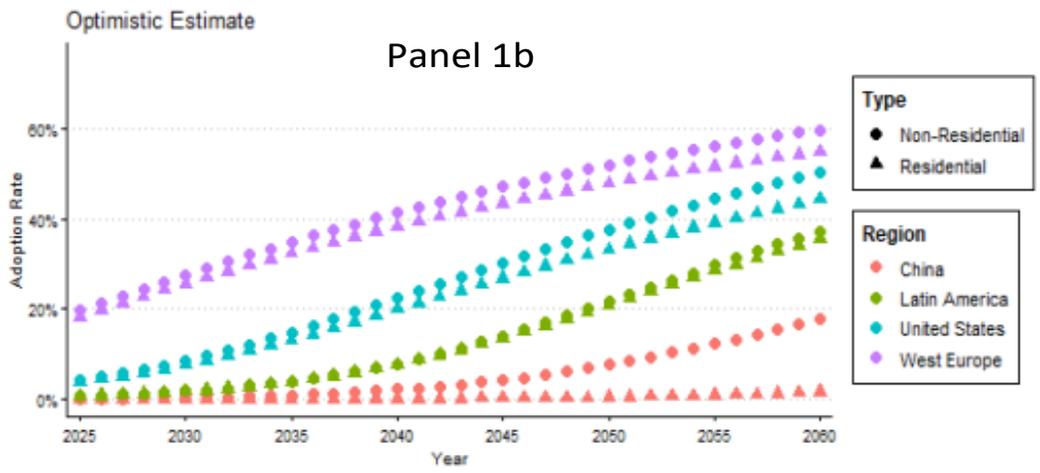
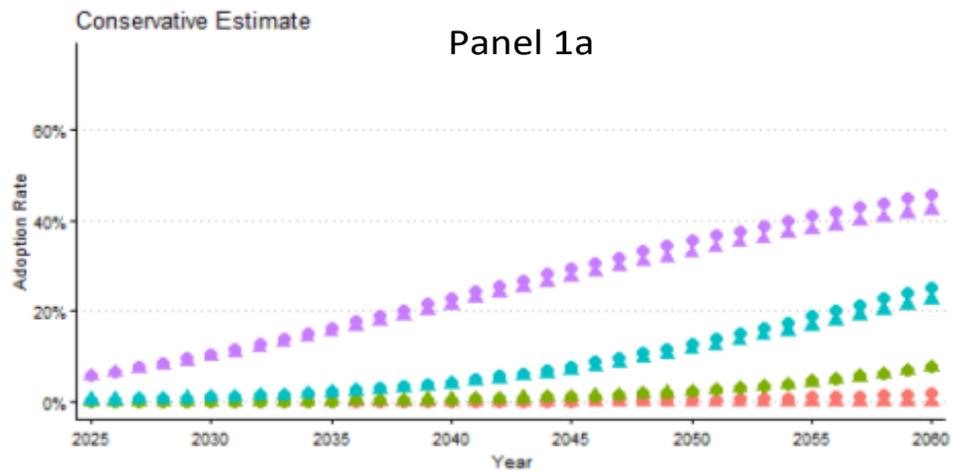


Countries – 2060 optimistic scenario

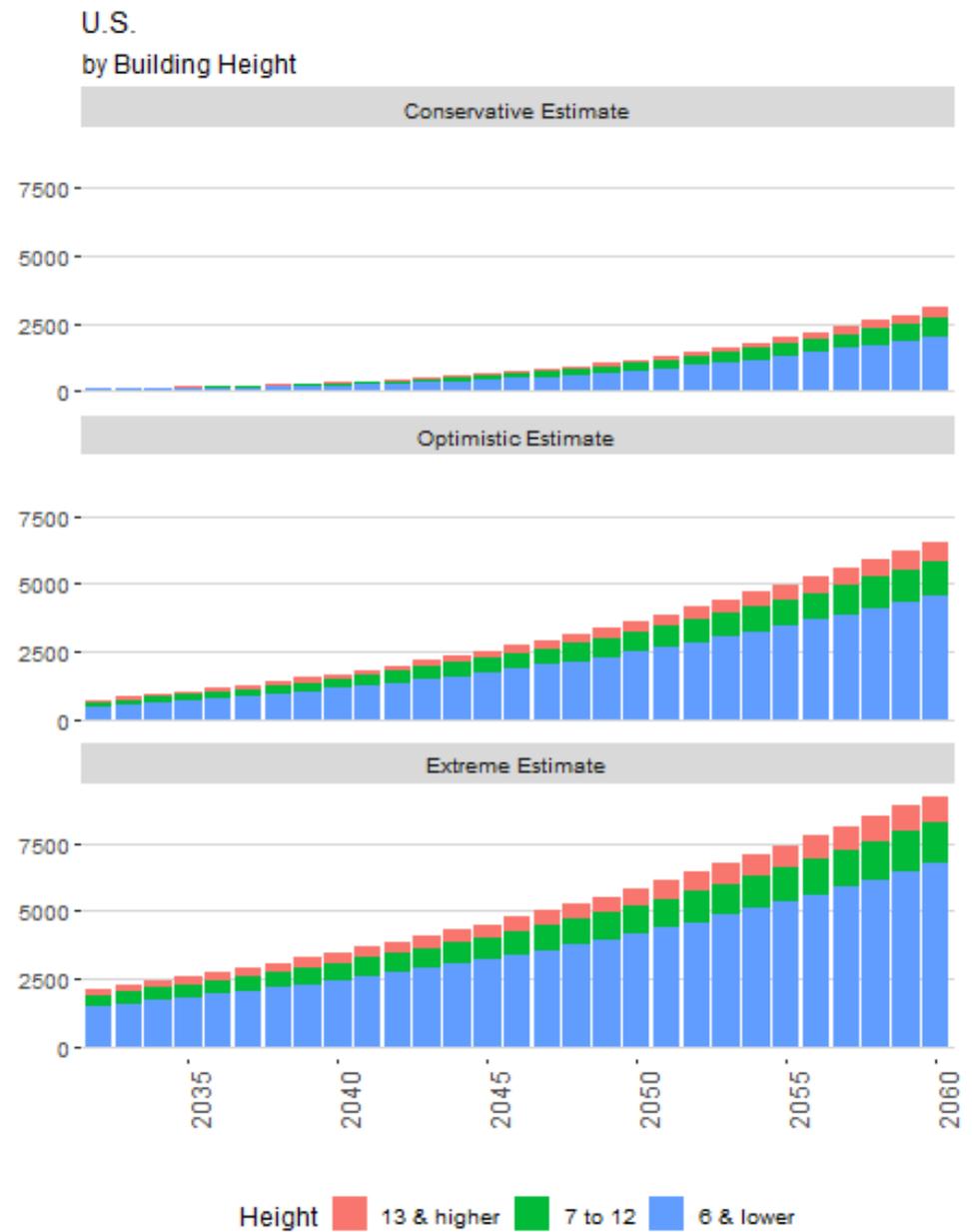
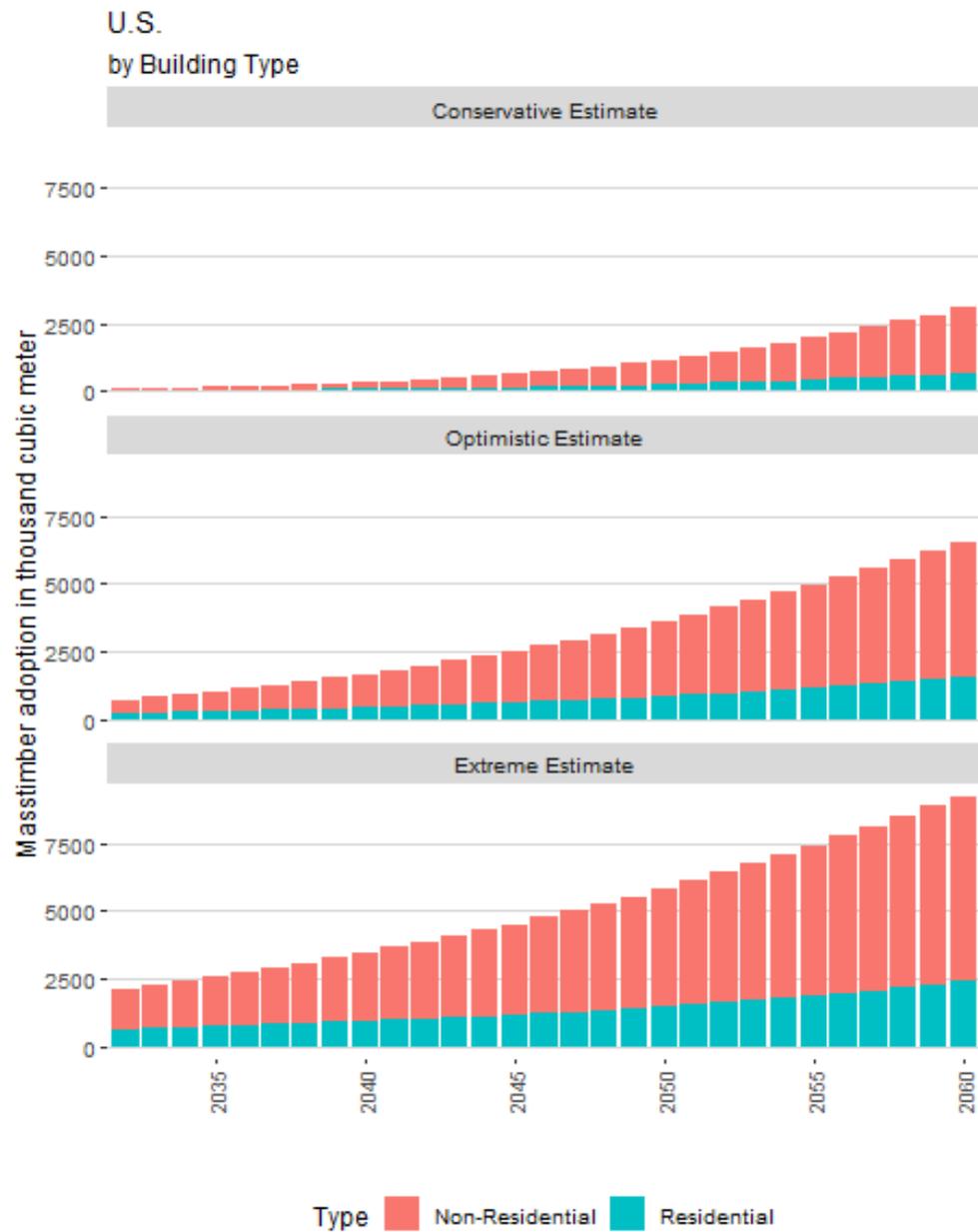
Mass Timber Adoption in thousand cubic meters

Adoption Scenarios

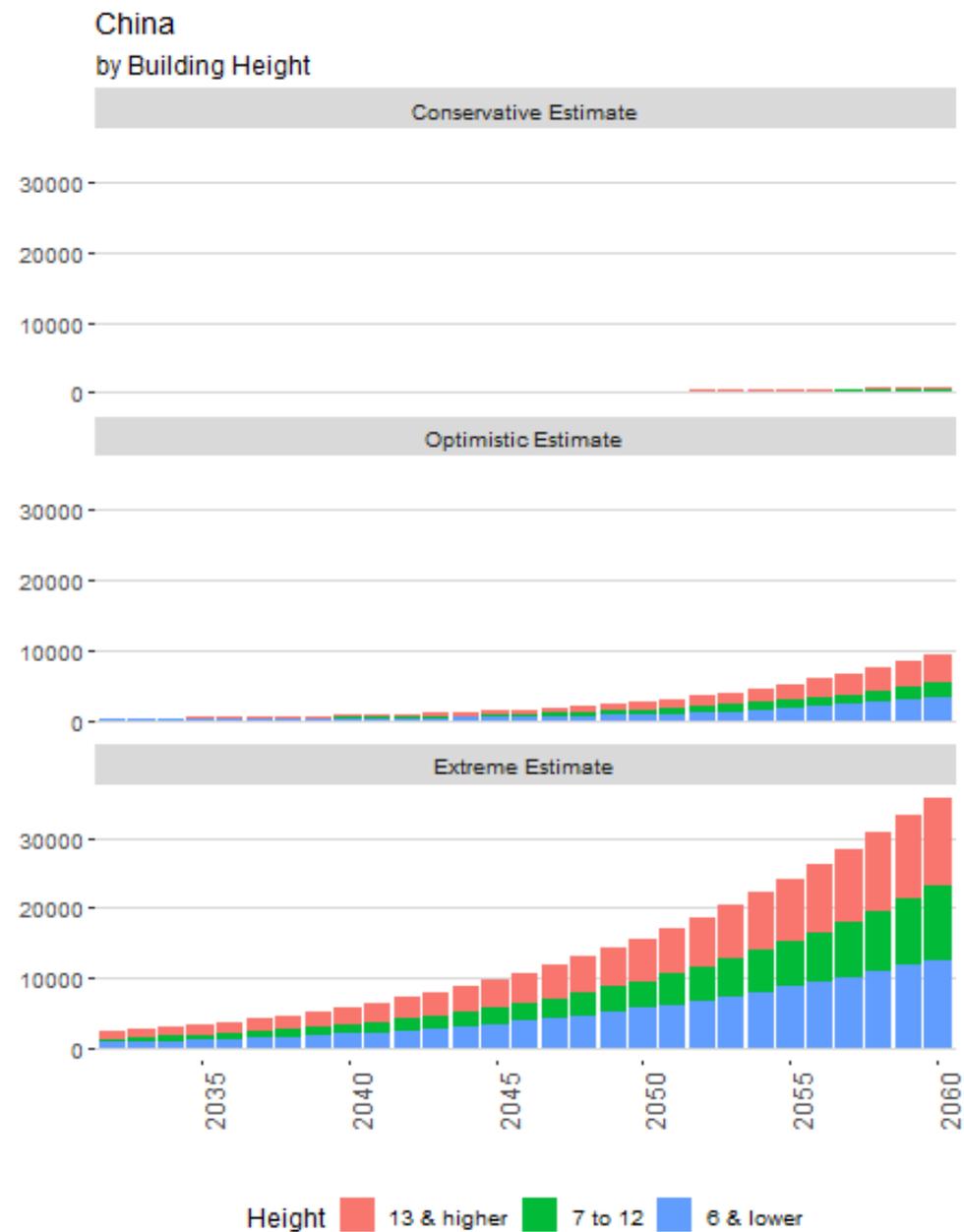
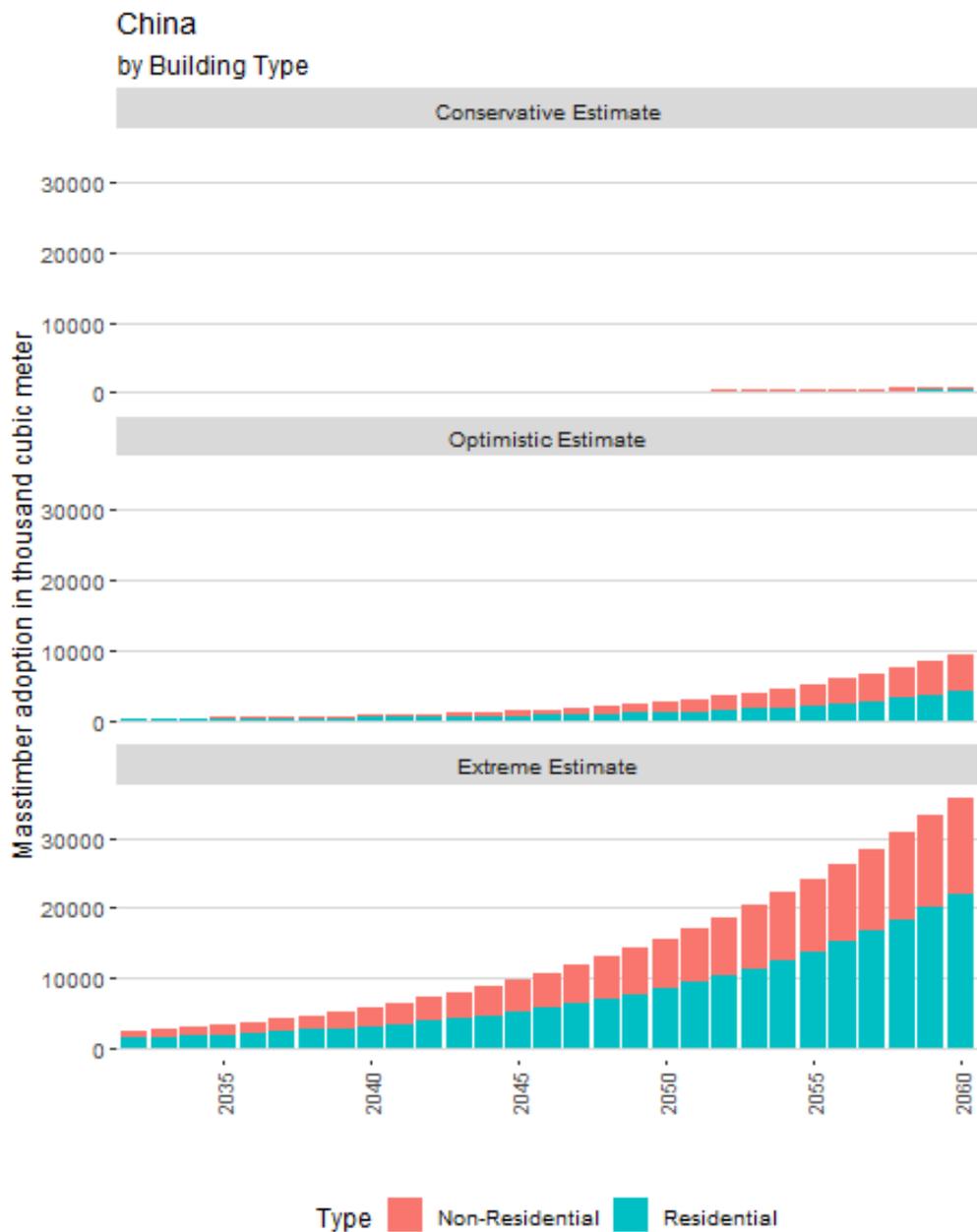




Adoption Scenarios by const. type and height



United States – Mass Timber Adoption Potential: by building height and building type



China – Mass Timber Adoption Potential: by building height and building type

Alternative mass timber demand scenarios (thousand m³)

	Conservative			Optimistic			Extreme		
Country/Region	2020	2040	2060	2020	2040	2060	2020	2040	2060
Asia	8	53	803	65	677	9,399	523	5,812	35,867
China	8	53	803	65	677	9,399	523	5,812	35,867
Europe	186	1,224	3,478	728	2,363	4,982	1,672	3,338	6,220
Austria	8	51	154	31	98	218	71	137	268
France	61	391	1,103	237	735	1,533	535	1,014	1,868
Germany	29	198	495	114	382	711	262	539	888
Spain	30	196	610	117	386	892	273	557	1,134
United Kingdom	32	217	670	128	437	1,000	301	638	1,290
Rest of Europe	26	171	446	101	326	628	229	454	773
North America	19	323	3,064	128	1,655	6,534	653	3,465	9,253
United States	19	323	3,064	128	1,655	6,534	653	3,465	9,253
South America	3	62	794	30	749	3,901	246	3,175	6,385
Argentina	0	3	45	2	31	255	15	148	449
Brazil	1	27	336	13	328	1,752	107	1,459	2,958
Chile	2	33	413	15	389	1,894	124	1,569	2,979
World	217	1,662	8,139	952	5,444	24,816	3,094	15,791	57,725

How do these number translate to lumber and logs harvest

Lumber and Logs demand increase as a result of mass-timber demand growth

- If you are more comfortable with MMBF (million board feet) numbers divide the values in the previous table by 1.6 (approximate value). Then you need to factor in approximately 1.2 units of lumber to 1 unit if mass-timber – (note, the internet may tell you to divide it by 2.35 – but that's not correct)
 - So, in extreme scenario the total global demand was 57,725 m³ which is equivalent to 35,000*1.2 = 42,000 MMBF
- Now, the lumber of log ratio is around 2:1
 - that would imply 84,000 MMBF of logs or 140 million m³ of logs
- However, it may also be noted that this increase in logs and lumber, due to mass-timber use in building constructions, will also result in price increase of lumber.
 - So the net impact of forests will be smaller than the number quoted
 - Moreover, the global supply of SW logs and lumber is estimated to increase over the next 35-40 years, so that should also be factored in to be able to get a proper picture on the net incremental increase.

Impact of this additional demand on the forests

Based on the paper:

Effects on global forests and wood product markets of increased demand for mass timber

by

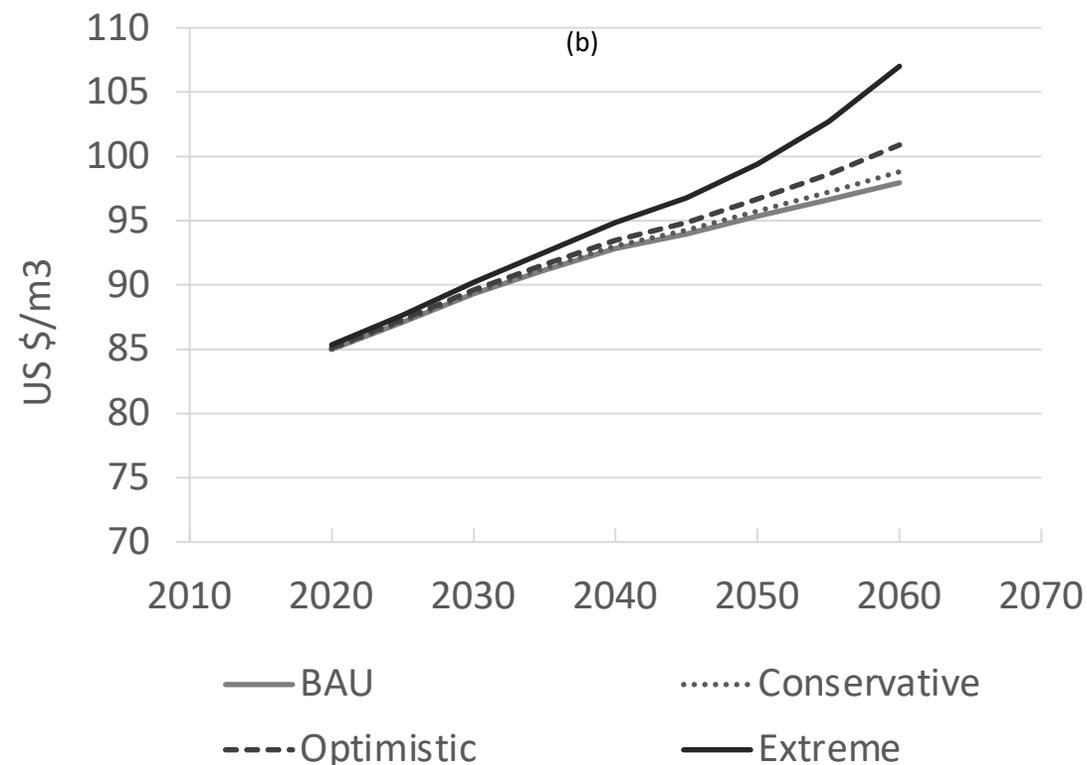
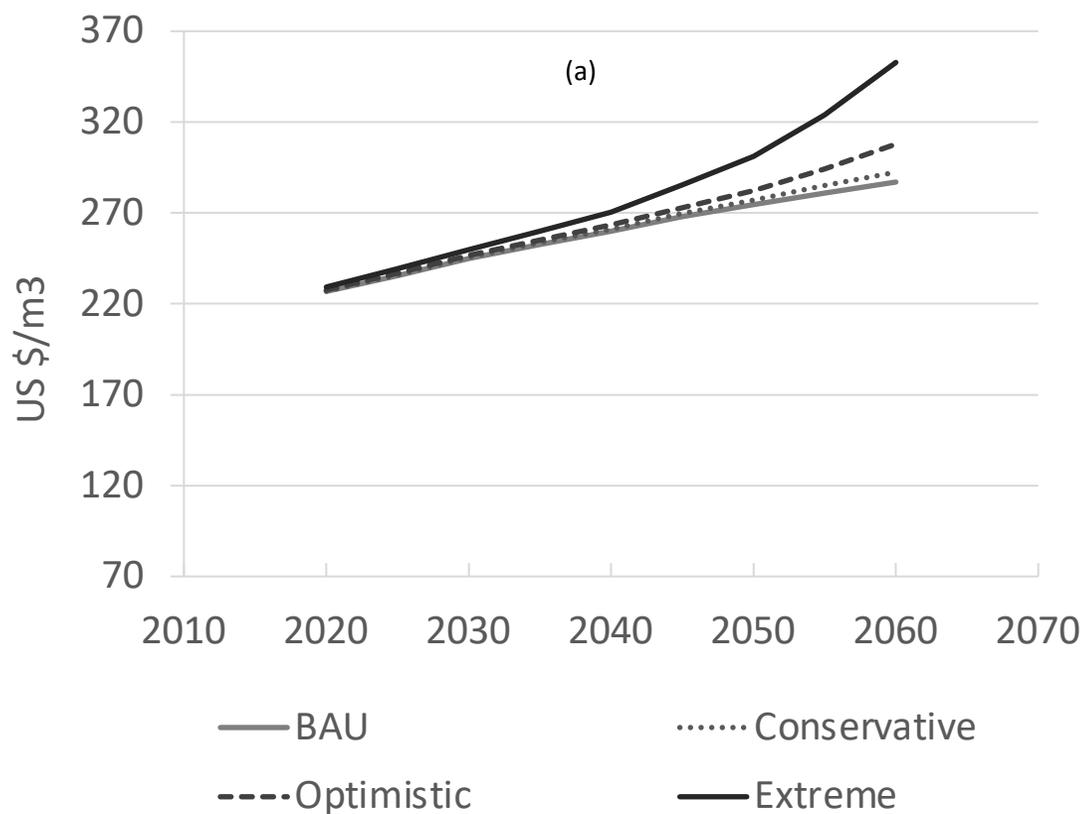
Prakash Nepal, Craig M.T. Johnston, and Indroneil Ganguly

Projected world price:

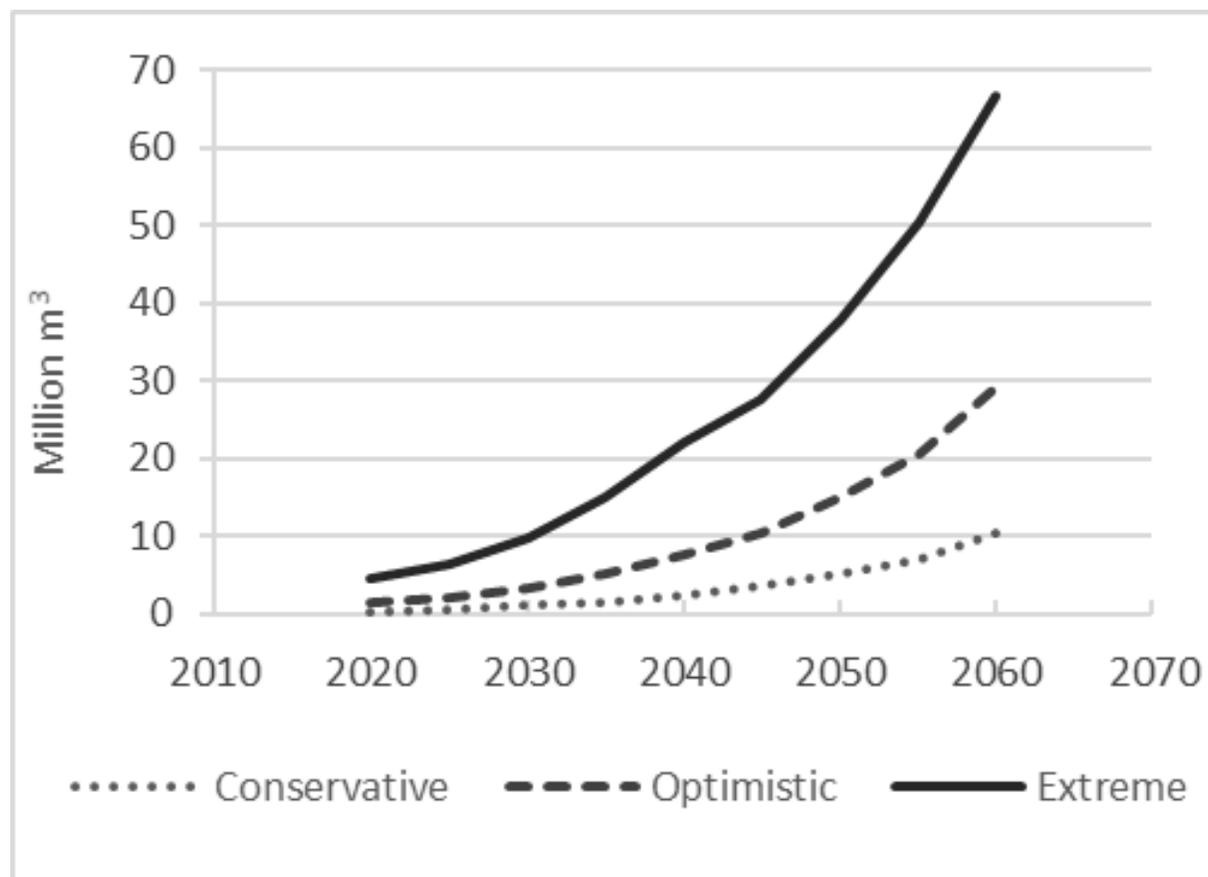
a) softwood lumber

and

b) softwood logs



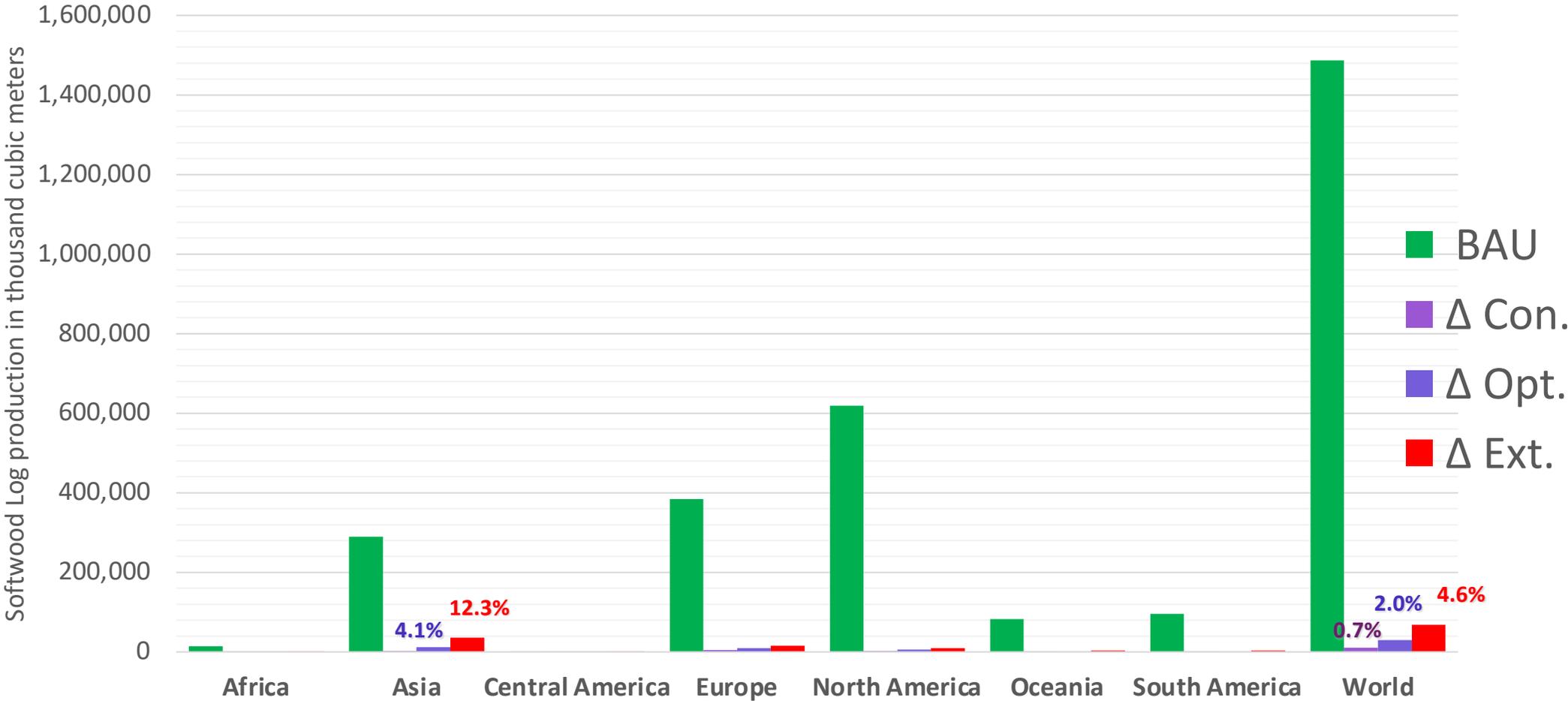
Projected changes incremental log demand.



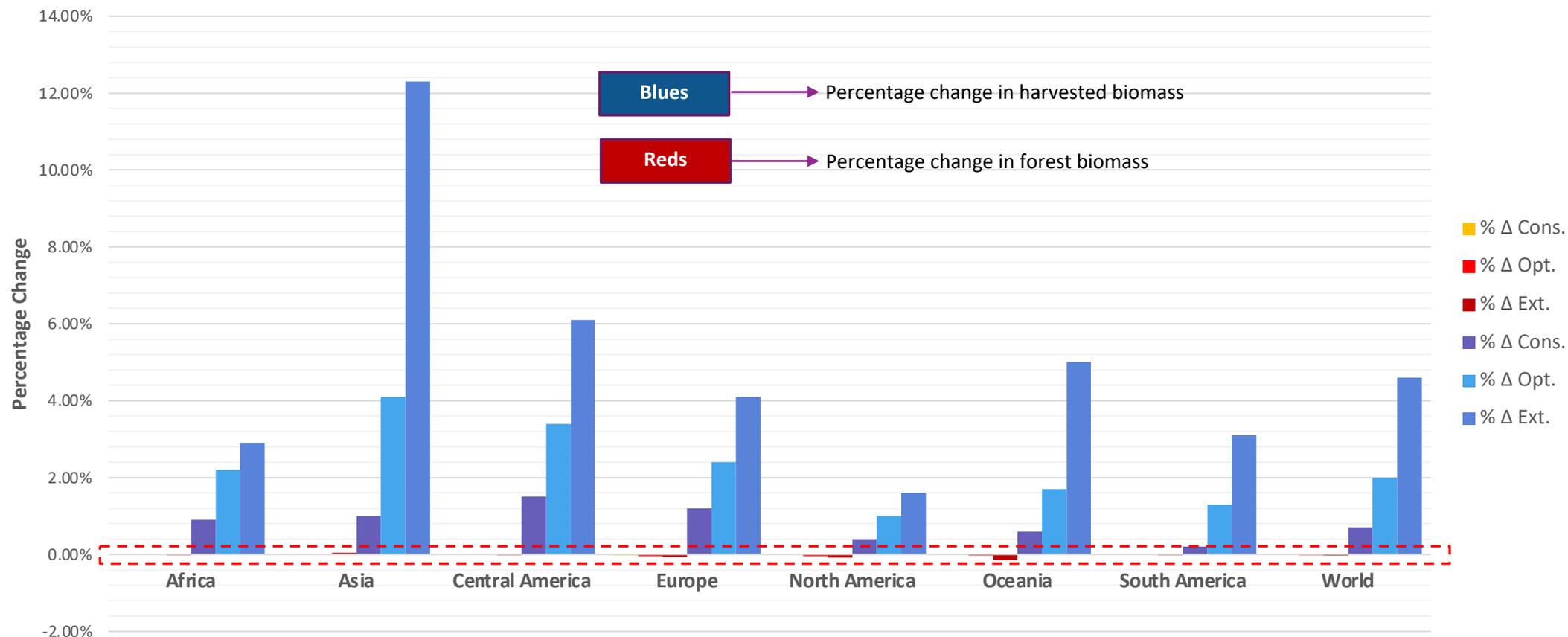
Assumptions:

1. Forest land remains unchanged
2. Forest Regeneration empirical statistics

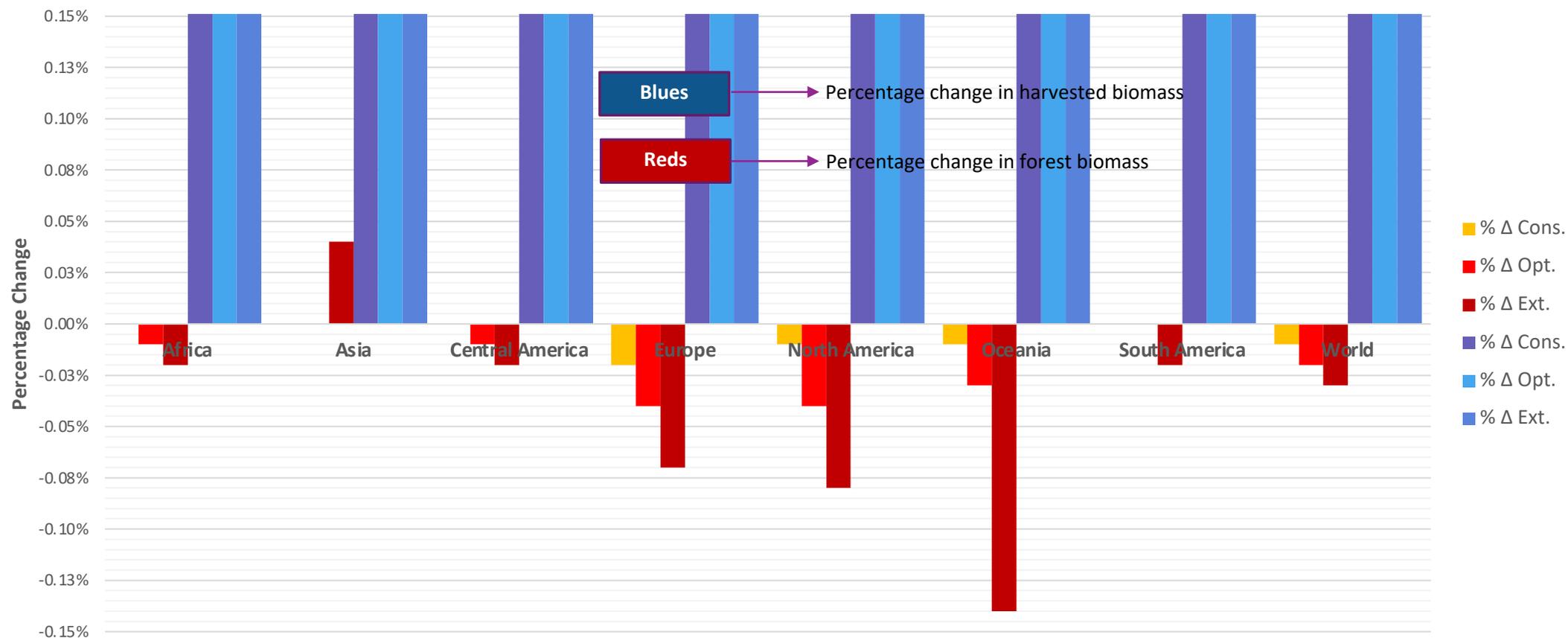
FOROM-projected differences in production (thousand m³) of in 2060 between the alternative mass timber demand and BAU scenarios.



Percentage change harvest vs forest biomass



Percentage change harvest vs forest biomass



Thank you for your attention!

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<https://indro.shinyapps.io/MassTimberProj/>