Forest-to-Cities: Linking Climate-Smart Forestry with Mass Timber Construction

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Climate Change: An Urgent Challenge



With large implications

Frequency of local temperature anomalies in the Northern Hemisphere



McKinsey Global Institute 2020

Daily news



Forests and Climate Change

Forests today store 2x the amount of carbon dioxide in the atmosphere, or roughly 6x the amount of carbon dioxide that human activity has added to the atmosphere.

A successful forest based climate strategy would require avoiding losses of forests, storing more carbon in living forests, and sequestering carbon in long-lived wood products.







Part 1: End Forest Conversion

Whether for agriculture in the Amazon or for suburban homes and solar panels in New England deforestation releases carbon already stored and eliminates future potential to store more





Video still from NY Times: https://www.nytimes.com/video/world/americas/1000000067 21982/amazon-rainforest-fires-burning.html



Part 2: Manage Forests Better

Appropriate approaches depend on current stocking:

- Above A line—growth declines
- B line—site fully occupied and trees free to grow
- C line—site not fully occupied



Understocked forests= tremendous carbon storage opportunity



Map courtesy of Harvard Forest





"The Metro Mayors Coalition will need to add 185,000 housing units from 2015 – 2030 in order to meet demand and reduce – or at least stabilize -- housing costs."



✓ Lower emissions





 Lower emissions
Sequestration in the building







- ✓ Lower emissions
- ✓ Sequestration in the building
- ✓ Different pattern of development



Forests themselves under pressure



Implications



McDowell et al 2020

Response

"Prestore" forests by selecting for species with high survival rates under expected climate extremes

- Active management can help with such selection
- Build markets for high-carbon storage, high productivity forests
- Create understanding of the linkages of well-managed forests to highquality, affordably priced urban housing and commercial spaces

A Systemic Solution in Action

Forest-to-Cities Climate Challenge

We support using New England's forests and building with wood to fight climate change. Please count on us to be part of a community of interest—from our forests to our cities—that is committed to maximizing the climate benefits of forests and wood construction. We pledge to support sustainable mass timber as a climate solution because it is a win for the forest, a win for the rural economy, a win for urban quality of life, and a win for the planet's health.



www.ForesttoCities.org

- Achieve a significant climate mitigation wedge
- Improve forest productivity and help climate adaptation
- Forest products at the center of climate-driven development
- Support forest-based jobs in rural communities
- More housing, with more affordable pricing
- Improve mobility and reduce future sprawl
- Maintain wildlife habitat, clean air, clean water

> QUESTIONS?

This concludes The American Institute of Architects Continuing Education Systems Course

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