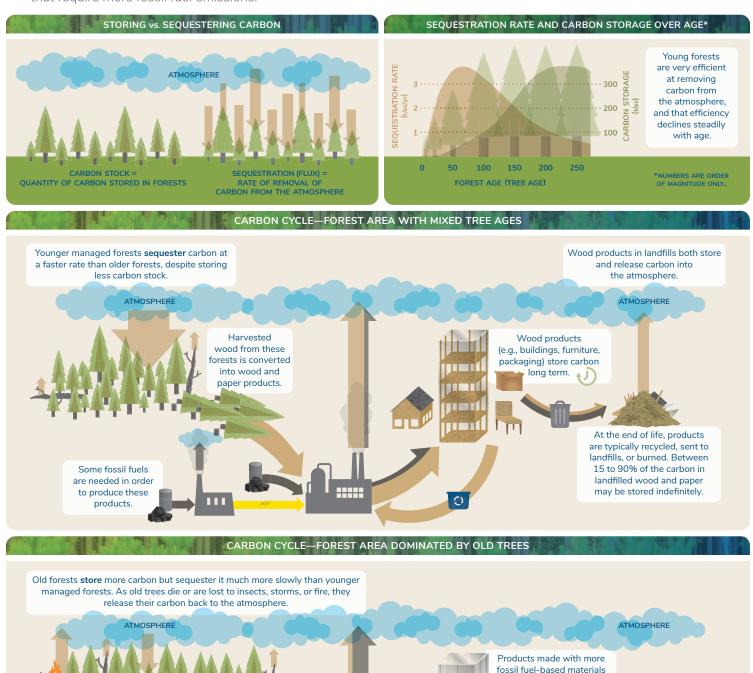


Forest Carbon from Young vs. Old Forests

Forests of different ages play different roles in removing carbon from the atmosphere and storing it in wood. Old forests have accumulated more carbon than younger forests; however, young forests grow rapidly, removing much more CO₂ each year from the atmosphere than an older forest covering the same area. Managing forests to avoid large emissions from the loss of old trees while rapidly removing CO₂ from the atmosphere through young forest growth can provide both storage and sequestration benefits. In addition, managed forests produce wood products that store carbon long after the trees are harvested. These products provide an added benefit when they are used in place of more energy-intensive ones that require more fossil fuel emissions.



INFORMATION TAKEN FROM:

Many non-wood products for

construction take more energy

to produce, and manufacturing

of non-wood packaging and

construction materials relies

on greater use of fossil fuels

Kurz, W.A., Beukema, S.J., and Apps, M.J. 1997-1998. Carbon Budget Implications of the Transition from Natural to Managed Disturbance Regimes in Forest Landscapes. Mitigation and Adaptation Strategies for Global Change Vol. 2, 4:405-421.

store less carbon than when made with wood

The fossil fuel-based component

of products does not break down

in landfills, but the carbon within

these components was not

removed from the atmosphere

and thus has no positive effect in

terms of carbon storage

McKinley, D.C., Ryan, M.G., Birdsey, R.A., Giardina, C.P., Harmon, M.E., Heath, L.S., Houghton, R.A., Jackson, R.B., Morrison, J.F., Murray, B.C., Pataki, D.E., and Skog, K.E. 2011. $A synthesis of current knowledge on forests and carbon storage in the United States. Ecological Applications 21:1902-1924. \\ https://doi.org/10.1890/10-0697.1.$

Skog, K.E. 2008. Sequestration of carbon in harvested wood products for the United States. Forest Products Journal 58:56-72.

Less wood is harvested from these forests to produce products.

Smith, J.E., Heath, L.S., Skog, K.E., and Birdsey, R.A. 2006. Methods for calculating forest ecosystem and harvested carbon, with standard estimates for forest types of the United States. General Technical Report NE-343. Newtown Square, PA: United States Department of Agriculture Forest Service, Northeastern Research Station. 216 p. https://doi.org/10.2737/

Wang, X., Padgett, J.M., De la Cruz, F.B., and Barlaz, M.A. 2011. Wood biodegradation in laboratory-scale landfills. Environmental Science & Technology 45:6864-6871. https://dx.doi.

org/10.1021/es201241g.