

Renewable Energy from America's Forests: Achieving Our Nation's Economic, Environmental and Energy Goals

Forests provide a reliable source of renewable and domestic energy.

The forest products industry is the leading producer and user of renewable biomass energy and produces more energy from biomass than all the energy produced from solar, wind, and geothermal sources combined.¹

The 28.5 million megawatt hours of electricity the industry produces annually is enough to power almost three million homes.²

America's forests and the forest products industry help reduce our nation's carbon footprint.

America's forests serve as the most significant natural sink of greenhouse gases, capturing and storing 15% of annual U.S. greenhouse gas emissions through photosynthesis and storing it in the forest and in wood products.³

Increasingly, responsibly managed forests provide clean, renewable energy that serves as a substitute for fossil fuels. According to the U.S. Department of Energy, using forest materials to make biofuels that replace gasoline can reduce greenhouse gas emissions by as much as 86% compared to gasoline.⁴

The EPA concluded that renewable energy from forest materials does not increase carbon dioxide in the atmosphere.

The EPA concluded that there is "scientific consensus . . . that the carbon dioxide emitted from burning biomass will not increase CO₂ in the air if it is done on a sustainable basis."⁵ This position is supported by the IPCC, the Energy Information Administration, the World Resources Institute and other credible scientific bodies.

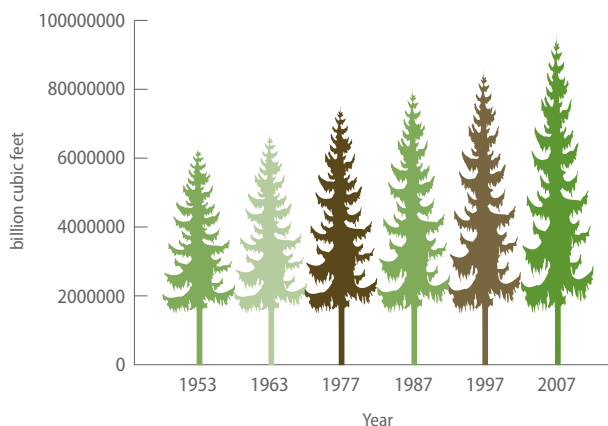
Trees are part of the natural carbon cycle. As they grow, they absorb carbon dioxide. When renewable forest biomass is burned for energy, it releases the captured carbon dioxide back into the atmosphere. However, trees are replanted, renewing the biomass and reabsorbing the carbon dioxide and repeating the cycle. Simply put — biomass combustion does not increase carbon in the atmosphere when the overall biomass stock is renewed.



The U.S. is continually renewing its biomass supply:

- The U.S. grows more trees than it harvests. The standing inventory (volume of growing trees) in U.S. forests has grown by 49% between 1953 -2007.⁶
- The EPA reports that carbon storage in U.S. forests continues to increase – sequestering more than 800 million metric tons of carbon dioxide equivalents annually.³

Trend in Growing Stock in U.S. Timber Lands, 1953-2007



Source: USDA Forest Service, U.S. Forests Resource Facts and Historical Trends, Sep 2009, <http://fia.fs.fed.us/library/brochures/docs/Forest%20Facts%201952-2007%20English.pdf>.

With growth in renewable energy demands, America's forests and the forest products industry can further advance the economy and the environment.

Currently, the industry contributes over \$200 billion to the economy and employs approximately 1 million people⁷ — but can employ even more with emerging energy markets.

Using biomass for energy can create more jobs in rural America – both within the forest products industry and to support emerging energy markets.

Forests must be properly managed in order to continue to realize their greenhouse gas, economic, and energy benefits. New markets for forest biomass, such as renewable energy, help improve forest health and conserve America's forests.

A recent study by the Forest Foundation concluded that just four of California's wildfires in 2007 sent greenhouse gases into the atmosphere equivalent to emissions from 7 million cars driving for one year.⁸

Managing forests can prevent and mitigate forest calamities while also improving wildlife habitat, forest health and resilience. Not only does proper forest management prevent GHG emissions, but also helps forests adapt to climate change and absorb additional CO₂.

Renewable energy markets for forest materials give forest landowners and managers additional funds to maintain their land in good condition.

Renewable energy markets and other markets for forest material help conserve the 57% of America's forests that are privately owned,⁶ as markets for biomass and products from forests further incentivize landowners to keep their forests intact and manage them efficiently.

¹American Forest and Paper Association. From the Internet at <http://afandpa.org/RenewableEnergy.aspx> on January 20, 2010.

²American Forest and Paper Association. From the Internet at <http://www.afandpa.org/ourindustry.aspx?id=438> on March 4, 2010.

³U.S. Environmental Protection Agency. 2009. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*.

⁴U.S. Department of Energy. *Ethanol Benefits*. Retrieved from the Internet at <http://www.afdc.energy.gov/afdc/ethanol/benefits.html> on February 8, 2010.

⁵U. S. Environmental Protection Agency Combined Heat and Power Partnership. *Biomass Combined Heat and Power Catalog of Technologies*, 96 (Sept. 2007) available at www.epa.gov/chp/documents/biomass_chp_catalog.pdf.

⁶Society of American Foresters. *State of America's Forests*. 2007.

⁷American Forest and Paper Association. Retrieved from the Internet at <http://www.afandpa.org/ourindustry.aspx?id=35> on January 20, 2010.

⁸Bonnicksen, T. M. and The Forest Foundation. *Impacts of California wildfires on climate and forests: a study of seven years of wildfires (2001-2007)*, FCEM Report 3. 2009.

American Forest Foundation
American Forest and Paper Association
The Hardwood Federation
Forest Landowners Association
National Alliance of Forest Owners