biofuel

The Power of Wood

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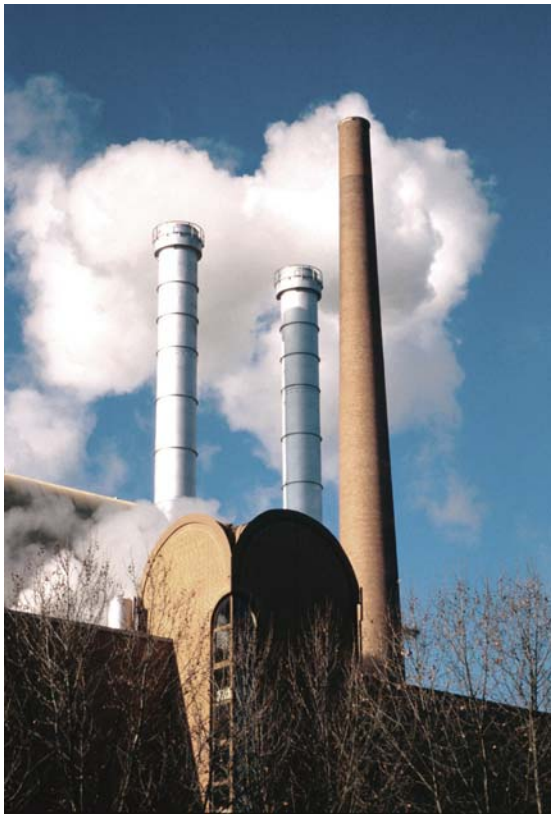
The wind and the sun are among the most familiar forms of renewable energy. Biofuel (wood waste) is another form of renewable energy that offers many advantages in the fight against global warming.

People have used biofuel to produce energy and heat for centuries. Today, fossil fuels like coal and natural gas have replaced biofuel energy as a primary fuel source, making North America the highest fossil fuel, carbon dioxide-emitting region of the world—1.82 billion tons of carbon in 2004.[1]

How Biofuel Energy Works

Today's forest industry uses the entire tree. Wood waste from forestry operations is collected and sent to plants where it is burned to produce steam, which drives a turbine that generates electricity. Forest products companies have powered their mills with energy from wood waste for decades. Excess power can be delivered to the electric power grid.[2]

As the world begins to take action against climate change, **biofuel energy can reduce greenhouse gases,** improve forest health, reduce the risk of wildfires and boost local economies.



1 Marland, G., T.A Boden, and R.J. Andres, "2007 Global, Regional, and National CO_2 Emissions." In Trends: A compendium of Data on Global Change. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn. U.S.A.
2 California Energy Commission, "Biofuel In California" Challenges, Opportunities, and Potentials for Sustainable Management and Development, CEC-500-2005-160, June 2005. p. xiv

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Biofuel Benefits:

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- **Reduced global warming**—One bone dry ton of biofuel used to produce electricity provides a net reduction of greenhouse gas emissions by at least one ton compared to coal- or natural gas-fired power plants.[3]
- **Reduced dependence on imported fossil fuel**—Every ton of wood burned to generate electricity keeps 0.4 tons of fossil fuel (natural gas) in the ground.[4]
- **Renewable energy**—Trees are replanted, creating more potential biofuel and other valuable products.
- **Reduction in wildfires**—Clearing out overgrown brush and debris reduces potential fuel for wildfires, and decreases the intensity and severity of fires.
- **Employment and economic development**—Biofuel use creates jobs, yields tax benefits and creates more economic activity for rural communities.
- **Supplemental electricity**—Biofuel power plants can help meet local electricity needs during periods of high demand. Unlike wind-generated electricity, biofuel can be used regardless of weather.[5]
- **Reduced greenhouse gas emissions**—Clearing debris and undergrowth and using it to produce energy will keep forests healthy and allow them to sequester larger amounts of CO_2 while producing clean oxygen.[6,7]

Reduced landfill: using wood waste to produce energy will keep it out of landfills.

3 Brink, Steven A. "Potential Contribution of California Forestlands to Assembly Bill 32 Emission Reduction Goals." http://www.norcalsaf.org/temparticles/Brink.pdf; and CFA proposal to ARB for AB32 emissions reduction. p. 22.
4 California Energy Commission, "Biofuel In California" Challenges, Opportunities, and Potentials for Sustainable Management and Development, CEC-500-2005-160, June 2005. p. 4
5 California Energy Commission, "Biomass In California: Challenges, Opportunities, and Potentials for Sustainable Management and Development," CEC-500-2005-160, June 2005. p. vi
6 CH2M Hill, "Climate Project: Carbon Sequestration and Storage by California Forests and Forest Products," August 2007
7 U.S. Forest Service, California Region; Mike Landram, Regional Silviculturist.

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