

Biomass Electricity



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Millions of tons of organic waste, such as wood and plant residues, are produced in California each year. Thanks to advances in technology, this waste, also known as 'biomass,' is put to valuable use producing electricity. Californians currently use electricity in their homes and businesses that is produced from burning agricultural and forest residues, and collected landfill and other renewable methane gases, though few probably realize it.

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The power of biomass



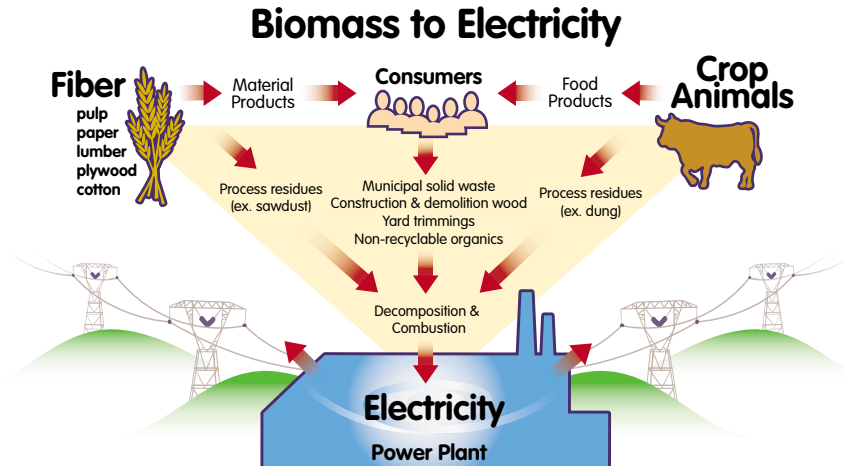
What is biomass electricity?

Biomass electricity is drawn from combusting or decomposing organic matter. Already there are about 75 waste-to-energy plants in California, with a total capacity exceeding 1,000 megawatts—about 2 percent of the state's total electrical capacity. These plants power our homes and businesses with electricity from waste matter that would have been released into the atmosphere, added fuel to forest fires, and burdened our landfills.

decomposing organic matter. Today, biomass electricity is already utilized throughout the state in a variety of ways.

Combustion

The Wheelabrator Shasta Energy Company power plant, a modern, independent, wood-fired 49 megawatt power plant, produces enough electricity to power about 49,000 typical homes. Every year, it processes 750,000 tons of lumber mill



Why is biomass electricity important?

Using biomass to produce electricity reduces our reliance on fossil fuels, the nation's primary energy sources for electricity, and the largest contributors to air pollution and greenhouse gases. We will eventually run out of fossil fuels. Biomass electricity offers alternatives with a host of benefits:

1. Our supply of biomass will never run out.
2. Electricity produced by biomass reduces the threat of global climate change.
3. Using biomass waste eliminates the need to place it in landfills.
4. Clearing biomass from wooded areas helps prevent forest fires.
5. Using by-product methane gases to produce electricity eliminates odor and reduces air pollution in surrounding areas.

waste and forest residues from Shasta County in California and surrounding areas. Unusable waste wood from surrounding public and private land, a renewable resource, is selectively removed and processed in the plant, improving remaining standing timber and reducing potential fuel for forest fires.

Decomposition

At Royal Farms No. 1 in Tulare, California, hog manure is slurried and sent to a covered lagoon for biogas generation. The collected biogas fuels a 70 kilowatt (kW) engine-generator and a 100 kW engine-generator, meeting the farm's monthly electricity and heat energy demand.

The Sanitation Districts of Los Angeles County started collecting methane gas from the Puente Hills Landfill, one of the largest in the country, to fuel electricity production in the 1980's. In 1994, the project was expanded to include compressing landfill gas as fuel for a fleet of 11 garbage trucks. Area residents love that today's trash trucks are fueled by yesterday's trash!

The future of biomass electricity

In the future, we can expect technological advances to reveal more ways to efficiently harness the energy from combusting and

Harness the Power All Around Us

For more information on biomass electricity and other renewable energy sources

www.consumerenergycenter.org



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