

# CHIPTEC®

## WOOD ENERGY SYSTEMS

### GREEN MOUNTAIN COLLEGE VOTED GREENEST COLLEGE IN AMERICA



For the second year in a row Sierra Club has ranked Green Mountain College, located in Putney VT, at the top of the list of “America’s 100 Greenest Schools”. Green Mountain College was ranked No. 1 in 2010 and ranked No. 2 in 2011. The honor of being the country’s greenest college was due in part to their initiatives and efforts in attaining college energy sustainability. Green Mountain College chose CHIPTEC Wood Energy Systems, of Williston VT, to supply a state of the art biomass gasification system to replace their dependence and consumption of #6 fuel oil with wood chips, an eco-friendly renewable energy source. By use of CHIPTEC’s patented gasification technology, Green Mountain College has not only been able to diminish their carbon footprint and foster long-term sustainability but also significantly reduce and fix annual energy operating costs.

#### Project Facts

- Plant went online in spring 2010
- Boiler output:400hp
- Will burn an estimated 4,000 - 5,000 tons of locally sourced woodchips annually, shifting 85 percent of current fuel oil usage to biomass.
- 85% reduction in in #6 fuel oil annually (190,000 gallons)
- CO2 reduction: 2,844 plus metric tons per year. 40% reduction in carbon foot print
- Electricity produced: 15-20% of the campuses need (400,000 kilowatt-hours of electric per year)
- CO emissions: 8 ppm average @12%CO2 (via EPA test method 10)
- Particulate emissions: 0.009 lbs/MMBTU, average (via EPA test method 5)



For more information on how CHIPTEC Wood Energy Systems can fix and reduce your long term operating cost, contact us at 802-658-0956 or visit us on the web at [www.chiptec.com](http://www.chiptec.com)



54 Echo Place, Unit #1  
Williston VT, 05495  
802-658-0956  
Fax: 802-660-8904  
[www.chiptec.com](http://www.chiptec.com)

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### EASTERN ILLINOIS UNIVERSITY REPLACES COAL BURNING FACILITY WITH RENEWABLE ENERGY CENTER



October 7, 2011 marked the grand opening of Eastern Illinois University's Renewable Energy Center which replaced their 85 year old coal burning steam plant. Honeywell International was awarded the project which is not only their largest energy performance contract to date but the center will be one of the largest biomass renewable energy projects in the country. Honeywell selected CHIPTEC Wood Energy Systems for the third time to join them on a project and to supply two of their state of the art biomass gasifiers designed to reduce greenhouse gas emissions on campus by 80 percent.

#### Project Facts:

- Plant went online in July 2011
- Two(2) gasifiers & boiler system
- Steam Production: one(1) 40,000lbs per hour @ 150 psig, one(1) 40,000lbs per hour @ 620 psig
- CO emissions: less than 50 ppm
- Particulate emission of 0.03 lbs/MMBTU
- Fuel storage up to 750 tons of wood chips, enough to supply the steam needs on campus for 10 days
- Projected \$140million in energy savings over the next 20 years



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### CHIPTEC WOOD ENERGY SYSTEMS HELPS MIDDLEBURY COLLEGE BECOME CARBON NEUTRAL



Middlebury College located in the foot hills of Vermont, has pledged to be carbon neutral by the year 2016. To achieve their goal, the college looked to install a biomass fired boiler system to replace approximately one million gallons of #6 fuel oil per year and reduce their carbon foot print. To accomplish their goals, Middlebury College turned to CHIPTEC Wood Energy Systems of Williston Vermont. CHIPTEC Wood Energy Systems provided Middlebury College with one of CHIPTEC's patented, state of the art biomass gasification system coupled to a steam boiler to produce high pressure steam which will be used for heating, cooling and electrical production. The CHIPTEC system will allow Middlebury College to achieve their goal of being carbon neutral by 2016.

#### Project Facts

- Plant went online in January 2009
- Steam Production: 21,000-30,000 per hour @ 240 psig
- 50% reduction in in #6 fuel oil annually (1,000,000 gallons plus)
- Annual #6 fuel savings \$700,000 per year
- CO2 reduction: 12,500 plus metric tons per year. 40% reduction in carbon foot print
- Annual wood chip consumption: 20,000 tons per year
- Electricity produced: 15-20% of the campuses need (3-5 million kilowatt-hours of electric per year)
- CO emissions: 63 ppm average @12%CO2 (via EPA test method 10)
- Particulate emissions: 0.017 lbs/MMBTU, average (via EPA test method 5)



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