

**HM3 Energy Awarded \$241,000  
by U.S. Endowment for Forestry and Communities**

*Pilot plant assistance moves HM3 Energy toward  
first commercial biomass torrefaction plant*

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GRESHAM, ORE. – The U.S. Endowment for Forestry and Communities has awarded \$241,000 to HM3 Energy for pilot plant operation and key commercial scale equipment design and fabrication. The pilot plant produces torrefied biomass pellets which can be used as a clean energy alternative to coal in coal-fired power plants.

HM3 Energy is one of eight businesses and educational institutions nationwide receiving US Endowment awards to demonstrate new processes and practices to sustainably produce green energy, provide market for forest residual material, and add jobs in rural communities using woody bio-based energy.

The Endowment is a not-for-profit which works collaboratively with partners in the public and private sectors to advance systemic, transformative and sustainable change for the health and vitality of the nation's working forests and forest-reliant communities. For more information about the Endowment, visit [www.usendowment.org](http://www.usendowment.org).

HM3 Energy has developed a proprietary process using torrefaction to convert underutilized biomass with low commercial value—forest waste, agricultural residue and urban waste wood—into dry and dense pellets suitable as alternative fuel in existing coal-fired power plants. The biomass is torrefied by heating it at high temperatures in the absence of oxygen.

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About HM3 Energy -- HM3 Energy, Inc., an Oregon corporation, has developed a proprietary process to turn biomass into clean fuel to replace coal in coal-fired power plants. Existing power plants designed to burn coal can co-fire biomass with coal, or directly replace all coal with biomass, drastically reducing carbon and other harmful emissions such as mercury, sulfur and nitrous oxides.

The proprietary TorrB™ technology uses torrefaction to produce biomass briquettes/pellets very different from traditional wood or biomass pellets. The resulting dense solid biofuel pellets can be shipped and stored outside, just like coal. These TorrB™ pellets also can be pulverized and fed into a coal-fired boiler without any modifications to the coal-fired plant, saving millions of dollars in retrofitting costs.

HM3 Energy ran a successful test burn of 100% TorrB™ (torrefied) biomass in a coal-fired boiler at Western Research Institute in February of this year. The biomass performed just as coal during a steady-state combustion of first a 50/50 coal/biomass blend, followed by 100% pulverized biomass feed. The TorrB™ biomass performed just as coal, with the exception that a feed rate of about 20% less biomass feed was needed to maintain the same furnace temperature.

Besides the US Endowment grant, HM3 Energy was one of only two Oregon companies this year to receive a USDA SBIR Phase I grant. HM3 Energy received the largest award available—\$90,000—to develop an economical method to remove almost all rocks and soil without the use of water from normally wet and dirty forest waste feedstock.

HM3 Energy is an Oregon-based corporation formed in 2008 (first as HM3 Ethanol) to produce cellulosic ethanol from untapped non-food renewable resources as feedstock. The technical team consists of five senior chemists and engineers who have studied conversion of lignocellulosic feedstock for years.

In late 2008 the team realized that torrefying low-value biomass such as forest waste, agricultural residue and urban waste wood would have a much greater impact on reduction on carbon emissions, and thus global warming. In 2009 the company changed its name to HM3 Energy and concentrated on clean solid fuel to replace coal from biomass.

For further information contact:

Hiroshi Morihara  
503-674-3222

<http://www.hm3e.com>