



From the April 2010 Issue

Biomass for Heat: The Forgotten Renewable?

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Widespread use of biomass for heat in the U.S. would reduce greenhouse gas (GHG) emissions, decrease our dependence on foreign fossil fuels and create jobs in rural communities hardest hit by the recession. And yet, despite these benefits, biomass thermal energy has been largely overlooked in the discussion on how to address America's energy challenges.

Thermal energy, or heat, represents roughly one-third of total U.S. energy consumption. It is used daily by homes, businesses and industrial facilities across the country, most frequently for space heating, water heating or industrial processes. Biomass, ever versatile, can be an efficient source of renewable energy for all of these heating needs.

For such a large end-use, it is astonishing how little attention thermal energy has been given in the U.S. To date, nearly all of the government grants and incentives for renewable energy support the electricity and transportation sectors. Renewable sources of thermal energy, such as biomass, have largely been forgotten.

In spite of this policy disparity, a few more than 1 million U.S. homes, universities, hospitals and other organizations have installed biomass heating systems. The most advanced of these stoves, boilers, and furnaces convert biomass into useful thermal energy at up to 90 percent efficiency. Additionally, these heating systems typically offset fuels such as heating oil or propane, improving our nation's energy independence while reducing GHG emissions.

The story of biomass thermal industry is impressive, but the fact is that biomass resources will not be directed to their most efficient uses without technology-neutral energy policy. And the current reality is that less-efficient electricity and transportation end-uses for biomass are heavily incentivized at both the state and federal levels. Incentives in one sector impact the pricing of raw biomass materials in all other sectors. America needs a level playing field, where biomass thermal can compete on its merits with biomass power and transportation fuels.

So why has this not happened already? Part of the reason is that until recently there was no organization to connect and coordinate the inherently disaggregated industry. The Biomass Thermal Energy Council was formed in January 2009 to fill this need. BTEC represents biomass producers, fuel refiners, appliance manufacturers, distributors, and other organizations in the biomass thermal supply chain. These members use the full range of biomass feedstocks, including wood residues, agricultural residues and purpose-grown energy crops. At the time of this writing, we have 77 members in 29 U.S. states and four countries.

Our mission is to advance the use of biomass for heat and other thermal energy applications, including combined heat and power. We advocate for public policies that recognize the energy savings and efficiencies that can be provided through these uses. Last year, one of our notable accomplishments was getting an amendment included in the proposed comprehensive Senate energy bill, the American Clean Energy Leadership Act. This amendment, introduced by U.S. Sen. Jeanne Shaheen, D-N.H., will establish telescoping renewable energy credits for the useful electric and thermal output of biomass facilities. If passed, this bill will create renewable energy credits for biomass energy that are directly tied to the efficiency of the facility.

Our efforts are focused on directing biomass resources to their most efficient uses. Some of our other legislative initiatives include production tax credits for renewable thermal energy and the expansion of investment tax credits for biomass heating systems. We are also working to raise the profile of biomass thermal energy at U.S. DOE and USDA and their respective sub-agencies.

We are beginning to engage in education, outreach, research and analysis on behalf of the industry. By raising awareness and improving the quality of market data, we aim to provide consumers, investors and policymakers with the information they need to make sound decisions regarding biomass thermal energy.

Biomass thermal energy has enormous potential. The use of biomass for heating offsets imported fossil fuels, reduces GHGs, creates jobs and promotes the sustainable use of our natural resources. Instead of being the forgotten renewable, biomass thermal must be a key element in America's energy future.