

Cary Study explores the role of biomass in energy solutions

By Andrew Austin

MILLBROOK—Using trees in the Northeast as a source of energy would not by itself make a big dent in the region's overall reliance on fossil fuels, but if it is done right it can replace perhaps 16 percent of the fossil fuel used to heat homes; and it can be just one more of the ways to create more jobs, preserve natural resources and reduce the United States' dependence on foreign oil.

Those are two conclusions of a new study released last Thursday by the Cary Institute of Ecosystem Studies, a not-for-profit environmental research and education organization in Millbrook.

According to the report, federal and state government are trying to find out how forests can be used to meet their goals for developing clean, sustainable energy. The Cary Institute studied data from the US Department of Agriculture about forests in eight Northeast states, including New York. The institute also studied data from the Energy Information Administration.

The institute's focus was finding out how much forest can be sustainably harvested for energy, how much forest fuels could replace fossil fuels and coal and how, technically, the harvest can be converted into energy to reduce the use of oil and promote rural economies.

For starters, most of the timber harvesting in the Northeast is to provide wood for uses other than energy consumption, said Dr. Charles Canham, a scientist at the institute and one of the report's authors. Canham said that to get forest fuel, the Northeast would have to use the leftover debris of traditional timber harvesting. He said there is no vision of the Northeast's timber being harvested primarily to provide fuel.

The report looked at a variety of things that could affect how much

forest fuel could be used to replace fossil fuels and coal, and found that the forests could only meet as low as 1.4 percent of the Northeast's total energy needs if only the leftovers are used for energy. This figure could only get as high as 5.5 percent if all available wood products were diverted to energy use, something that would not really happen, said Canham. For New York alone, the range is only 0.7 percent to 2.8 percent.

"These numbers probably sound like small numbers, and they are certainly smaller than a lot of the hope and expectation that has been out there, but they are still important numbers if we want to preserve working forests, create local jobs and develop regional renewable energy sources," said Canham.

Forest fuel becomes a more viable energy replacement when it is used in specific sectors of the economy, said the report. The report said that using the lowest estimates of the amount of forest fuel that could be used for energy, that forest fuel can:

Replace 6 percent of coal used for making the northeast's electricity, or

Replace 28 percent of the liquid fossil fuels used in the commercial and industrial heating sector, or

Replace 16 percent of the liquid fossil fuels used in the residential heating sector.

Also, it varies from state to state, said the report. In Maine, forest fuel could replace up to 42 percent of that state's use of fossil fuel in commercial/industrial heating or 49 percent of fossil fuel use in residential heating. New Hampshire could replace 84 percent of its use of fossil fuels in industrial/commercial heating.

Using forests for fuel could make up a "meaningful fraction" of the renewable energy resources states today are aiming for, said Canham.

New York State has set a goal of

making 11 percent of its energy use come from non-hydro renewable sources, said the report. In New York, using wood chips for home heating could replace 11 percent of fossil fuels, or using wood pellets for heating could replace eight percent of fossil fuels, said the report.

So, "while forest biomass is part of the renewable energy toolkit, it is by no means a panacea," said Canham.

And what about jobs? Another of the report's authors, scientist Steven Hamburg from the Environmental Defense Fund, said the report does not include any analysis of the potential job growth from developing an industry for harvesting forests for fuel, though the report nevertheless states repeatedly and broadly that developing the forest fuel industry is an important source of jobs.

If forest biomass is used in the areas where it is harvested to substitute for the oil needed for commercial/industrial and residential heating, it can maximize the local economic impact, said Hamburg. He said biomass use can strengthen the timber and pulp markets and help keep working forests as working forests and not developed parcels.

"There are opportunities in the region," said Hamburg.

Several municipalities in Dutchess County over the years have striven to find ways to protect open space and farmland from residential development.

In both the report and a press conference announcing the report, the authors warned that when governments come up with policies to encourage the use of forests for energy, they have to be careful not to provide incentives for people to cut down too much forest. Over-harvesting would hurt the forests and actually release more carbon into the atmosphere than fossil fuels do, they warned.