

## Wood Is New Coal as Polluters Use Carbon-Eating Trees (Update2)

By Jeremy van Loon

June 2 (Bloomberg) -- Wood is becoming a hot commodity in a new low-carbon world.

Power companies are burning more trees because the renewable fuel can be cheaper than coal and ignited without needing permits to release carbon dioxide, the main greenhouse gas blamed for global warming.

Vattenfall AB<<http://www.bloomberg.com/apps/quote?ticker=VATT%3ASS>> of Sweden, Germany's RWE AG<<http://www.bloomberg.com/apps/quote?ticker=RWE%3AGY>> and American Electric Power Inc.<<http://www.aep.com/environmental/actions/Renewableenergy/>> of Ohio, the biggest coal-burner in the U.S., have switched a few plants over to wood and more are planned. So far that hasn't driven up paper prices or strained forests, which absorb carbon dioxide in photosynthesis.

"Wood is very quickly becoming a very important part of the energy mix and in a few years will be a global commodity much like oil," said Heinrich Unland<[http://search.bloomberg.com/search?q=Heinrich+Unland&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Heinrich+Unland&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, chief executive officer of Novus Energy GmbH<[http://www.novusenergy.eu/cms/front\\_content.php](http://www.novusenergy.eu/cms/front_content.php)>. The German company runs a wood-power plant north of Hamburg that supplies heat to a Total SA<<http://www.bloomberg.com/apps/quote?ticker=FP%3AFP>> refinery.

Using biomass for power and heat -- mainly from poplar, willow and pine trees -- grew by 25 percent during the past two decades, according to the International Energy Agency, the Paris-based adviser to 28 oil-consuming nations such as the U.S.

Industrialized nations drew 4 percent of their energy from biomass in 2006, the most recent data available from the IEA. That was the equivalent of about 1.1 billion barrels of oil.

Chips of wood stumps and branches, heated to 400 degrees Celsius (750 degrees Fahrenheit) at the Novus furnace, are as efficient as coal and cheaper: European Union rules don't require carbon-dioxide permits because the trees absorbed a like amount of the gas before harvest, making them carbon-neutral.

Refinery Books Credit

Total in turn is able to book a credit for the heat provided by Novus because it's from renewable fuel.

The French company avoids buying emission permits for 9,400 tons of gases released a year at the Hamburg-area refinery where it heats crude oil to make bitumen, a component of asphalt, according to Delphine

Saucier<[http://search.bloomberg.com/search?q=Delphine+Saucier&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Delphine+Saucier&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, a company spokeswoman in Berlin.

The same Novus plant also supplies power to 13,000 homes in northern Germany. Inside its furnace, willow trees combust and a conveyor belt feeds chips of other species into the fire, a scene that can be viewed from a heat-resistant window.

All Vattenfall coal plants in Denmark are slated for conversion to biomass using a technique known as co-firing to ease the transition. The process mixes wood with coal to reduce the CO2 emissions, helping to save on pollution permits and sometimes on fuel, depending on the price of the trees used.

‘Soften the Blow’

The Stockholm-based utility bowed to pressure from environmental groups in March when it dropped plans to build a coal-powered plant in Berlin and instead erect two wood-burning facilities. Vattenfall is searching for feedstock among forestry and agricultural companies to boost tree and biomass use as much as 10-fold in five years, said Edvard

Lind<[http://search.bloomberg.com/search?q=Edvard+Lind&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Edvard+Lind&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, a spokesman.

American Electric, which will need carbon permits under a bill heading for a House of Representatives vote, has conducted biomass co-firing tests<<http://www.aep.com/environmental/actions/Renewableenergy/>> at several of its U.S. plants. The utility has a demonstration plant in the U.S. that burns wood and had wood-burning plants in the U.K. About 800,000 households in the U.S. use wood as their main source of heat.

“Wood is a huge part of the solution to making a move away from fossil fuel and softening the blow of the transition to clean energy,” Bracken

Hendricks<[http://search.bloomberg.com/search?q=Bracken+Hendricks&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Bracken+Hendricks&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, a senior fellow at the Center for American

Progress<<http://www.americanprogress.org>> and energy adviser to President Barack

Obama<[http://search.bloomberg.com/search?q=Barack%0AObama&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Barack%0AObama&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, said in an interview.

Coal Versus Wood

Some utilities have other priorities than experimenting with wood, including Endesa SA<<http://www.bloomberg.com/apps/quote?ticker=ELE%3ASM>>, Spain's biggest power producer from coal. "We're focusing instead on new technology to capture carbon dioxide" at plants to keep it from entering the atmosphere, said company spokesman Guillermo Errea<[http://search.bloomberg.com/search?q=Guillermo+Errea&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Guillermo+Errea&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)> in Madrid.

Novus's Unland said he pays suppliers about the same price for wood as for coal per megawatt of power. That compares with about \$64 a ton for ARA Steam Coal and \$63 for a barrel of oil, which is expected to rise, according to Dresdner Kleinwort.

While the European Union<<http://www.ec.europa.eu>>'s 11,000 regulated factories and power plants got about 93 percent of their permits for free in 2008, they will have to pay for more in coming years. Utilities in Western Europe will buy all permits and manufacturers 20 percent of permits from 2013.

The total cost of emission allowances for EU polluters through 2020 was estimated at 425 billion euros (\$592 billion) by Barclays Capital analyst Trevor Sikorski<[http://search.bloomberg.com/search?q=Trevor+Sikorski&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Trevor+Sikorski&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)> on April 17.

Forestry and biofuel companies are also developing liquid and gas fuels from wood, though that's more costly so more work is needed before products can be sold at a profit, said Elliot Campbell<[http://search.bloomberg.com/search?q=Elliot%0ACampbell&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Elliot%0ACampbell&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, a researcher at the University of California.

## Roman Baths

Romans were early to understand the versatile nature of trees 2,000 years ago. Rome at its peak had 900 public baths fed with wood supplied by a fleet of 60 ships scouring Mediterranean waters for new sources after local forests thinned, according to "A Forest Journey" by John Perlin<[http://search.bloomberg.com/search?q=John+Perlin&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=John+Perlin&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, published in New York.

Easter Island in the Pacific west of Chile was covered with subtropical forests until the 1500s. Polynesians who arrived 1,600 years ago then cut and burned the trees for energy as well as to build canoes and transport their stone statues, according to Jared Diamond in "Collapse."

While forests blanket about a third of the planet's land surface, they're being harvested or burned at a rate that reduces tree cover by a Greece-sized area each year, sparking concern about whether replanting efforts will keep pace.

### Supply Limits

"There's a strong limit to supply," said Albrecht von Sydow<[http://search.bloomberg.com/search?q=Albrecht+von%0ASydow&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Albrecht+von%0ASydow&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, chief executive of Woodstone<<http://www.woodstonepellets.com>>, a U.S. maker of wood pellets. Demand for the company's pellets exceeds supply and this year's production is already sold out, he said.

Biomass and wood contribute more primary energy in Europe than wind, solar or hydropower, United Nations Economic Council for Europe<[http://www.unece.org/timber/docs/tc-sessions/tc-66/pd-docs/Paper\\_PotentialWoodSupply\\_v18Oct.pdf](http://www.unece.org/timber/docs/tc-sessions/tc-66/pd-docs/Paper_PotentialWoodSupply_v18Oct.pdf)> says. Europe's per-capita biomass energy use may triple by 2020 in response to a plan to expand renewable energy, the United Nations Food and Agriculture Organization said.

With offshore wind projects difficult and expensive to build in deep, salty water and solar contributing a tiny fraction of the region's energy needs, wood offers energy companies the quickest and easiest way to expand low-carbon power generation, said Josef Auer<[http://search.bloomberg.com/search?q=Josef+Auer&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Josef+Auer&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, an energy analyst at Deutsche Bank in Frankfurt.

RWE is constructing three wood-burning plants in Germany to help dismantle its title as the biggest producer of greenhouse gases in Europe. The company aims to increase its production of electricity with wood in the EU five-fold to 600 megawatts, the equivalent of a coal plant, by 2011.

"The more renewable energy, the less we'll have to spend on CO2 certificates," said Konrad Boecker<[http://search.bloomberg.com/search?q=Konrad+Boecker&site=wnews&client=wnews&proxystylesheet=wnews&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1](http://search.bloomberg.com/search?q=Konrad+Boecker&site=wnews&client=wnews&proxystylesheet=wnews&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&filter=p&getfields=wnnis&sort=date:D:S:d1)>, a spokesman for the company's alternative energy operations.

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