

## RENEWABLE ENERGY

## Ottawa can't see the forests for the fields



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Canadians tend to take wood – as a primary source of renewable energy – for granted. Perhaps it's because, with 0.5 per cent of the world's population, we possess 10 per cent of the world's forests. (As comparisons of this kind often show, we have much to take for granted.)

Whatever the reason, we always forget wood when we list the fashionable sources of sustainable energy that we hope will save us in the decades ahead: wind, tidal, geothermal, solar, biomass. In its 2007-2008 statistical report on climate change, for example, Statistics Canada names all of these sources of energy without once mentioning wood. Yet people are more apt to be throwing logs on the fire

in the next 100 years than at any time in centuries past.

Depending on your definition of biomass, wood can get a quick mention here or there in this context – or not. Statistics Canada's Human Activity and the Environment: Annual Statistics, for example, defines biomass as bio-waste: agricultural wastes, forest wastes, municipal wastes, food wastes. Natural Resources Canada cites wheat straw, corn stover, wood residue and switchgrass. Although wood must necessarily be "bio," its higher economic worth ensures its exemption from "biomass." Hence, in evaluating renewable energy, wood is out of sight, out of mind. We don't see the forests for the fields.

In fact, as a primary source of energy (as opposed to a primary source of studs, planks, beams and posts), Canada's forests and woodlots provide lots of wood best used by burning. This wood is no longer limited to the traditional Yule log. It now comes in different shapes and sizes. British Columbia, for instance, has exported 80 per cent of its processed beetle-infested

pinus to Europe as pellet-sized firewood.

Wood smoke in days of yore contained more than 100 pollutants and the conventional country cook stove emitted more of them in nine hours than a passenger car now emits in 18,000 kilometres. But wood stoves and wood furnaces have gotten remarkably cleaner and more efficient. They are now 90 per cent cleaner and 90 per cent more efficient than the stoves once found in our grandparents' kitchens and living rooms. In the next generation, wood furnaces (and fireplaces, too) will emit zero pollutants, will burn so cleanly that they will have no need for chimneys and will leave behind no ashes.

Wood as fuel gets more respect in Europe and the United States these days than it gets in Canada. In a report last year, for example, the United Nations Economic Commission for Europe asserted that wood energy was "reshaping the entire European forest sector." The commission found that wood energy consumption was significantly

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higher in many countries around the world than earlier statistics had indicated; it cited growing shortages of supply and increases in prices.

The United States has kept comprehensive statistics on wood energy consumption for more than 200 years. In the past 60 years, for example, U.S. consumption of wood as a source of primary energy has increased by almost 50 per cent – from 1.5 quadrillion BTUs (British thermal units) in 1948 to 2.2 quadrillion BTUs in 2007. For comparison

purposes, U.S. hydroelectric power consumption increased in the same period from 1.4 quadrillion BTUs to 2.4 quadrillion BTUs – almost precisely the same trajectory as wood. Thus, in 2007, U.S. hydro power supplied 36 per cent of the country's renewable energy consumption; wood supplied 32 per cent. In contrast, biofuels (as variously defined) supplied 1.4 quadrillion BTUs (20 per cent); geothermal and wind each supplied 0.4 quadrillion BTUs (5 per cent); and solar supplied 0.1 quadrillion BTUs (1 per cent).

Within the next two or three years, wood will almost certainly supplant hydro as the No. 1 single source of renewable energy in the United States – for the simple reason that hydro power has been in episodic decline since 1974 (when it hit peak consumption of 3.1 quadrillion BTUs). U.S. hydro consumption has since fallen by 20 per cent. Wood consumption is now separated from hydro consumption by only 0.2 quadrillion BTUs (or twice the present consumption of solar power).

The U.S. Department of Energy, in its most recent global energy outlook, puts Canada's consumption of renewable energy (in 2005) – from all sources – at 3.7 quadrillion BTUs. On this basis, U.S. wood power consumption alone equals almost two-thirds of Canada's entire renewable energy consumption. The department suggests that Canada's production of renewable energy will grow by 1.6 per cent a year, assuming the federal government maintains its subsidies "even when it [the various forms of renewable energy] cannot compete economically with fossil fuels."

In fact, in its eco-energy program, the federal government has provided \$15-billion for precisely this kind of subsidy. Natural Resources Canada says the wind, geothermal, tidal and solar projects can qualify. Though it remains the only fuel that warms three times (when cut, when stacked, when burned), wood cannot qualify. This is an inexplicable mistake in a nation that possesses so much renewable firewood to hew.