

Energy, job potential in forest residues

By Tad Mason

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All energy is not created equal. Nowhere is this more apparent than in the realm of greenhouse gas emissions.

Producing energy from coal and other fossil fuels causes an increase in greenhouse gas emissions while energy produced from biomass sources does not. Yet less than 2 percent of California's electricity comes from biomass-fired power-generation facilities.

California must overcome two significant obstacles to derive more energy from in-state, renewable sources. The first is uncertainty surrounding the carbon benefits that biomass power-generation offers. This uncertainty has been clouded by recent efforts to exclude certain biomass sources from emerging carbon markets and impede biomass infrastructure expansion. The development of new biomass facilities has been blocked by claims that since carbon dioxide is released during the combustion process, perhaps biomass energy isn't carbon friendly after all.

Science should quickly dispel that notion. Burning woody biomass can have a net zero impact on carbon emissions because it deals entirely with biogenic carbon, or carbon that is part of an above-ground cycle in which carbon moves between oceans, land masses and the atmosphere. In contrast, burning fossil fuels takes carbon that has been stored underground and returns it to the air.

Forest residues contain carbon that was removed from the atmosphere and stored in branches, needles and leaves through photosynthesis. When those residues are burned, some carbon indeed goes up the smokestack: biogenic carbon that never was underground and therefore does not cause an increase in atmospheric carbon. Methane, a byproduct of natural wood decay and a greenhouse gas roughly 25 times more potent than carbon dioxide, is completely oxidized.

Using forest residues to produce energy avoids methane release and prevents those materials from burning in wildfires, the leading source of emissions in California. Thinning forests and putting residues to good use can simultaneously reduce emissions from wildfire and fossil fuel-based energy. Biomass is absolutely a carbon-beneficial energy source.

The second obstacle is cost. It is relatively expensive to harvest, collect, process and transport to power plants the brush, small trees and waste from forest-thinning

operations that are used to produce biomass energy. The value of biomass fuel seldom covers the cost of processing it for energy production.

Policymakers have the means to address cost. If California is to meet its goals of reducing emissions to 1990 levels and deriving 33 percent of its energy from renewable sources by 2020, policymakers will need to step up.

Fortunately, there's an upside to the costs associated with biomass energy: family wage jobs. The activities that make biomass energy expensive are labor-intensive. With rural California suffering from high unemployment, investing in energy generation that creates twice as many jobs per dollar as wind and four times as many jobs as oil makes sense.

It is up to our elected leaders to foster an environment that encourages investment in carbon-beneficial energy and spares taxpayers expenses related to wildfire suppression.

California's 20-year old Integrated Waste Management Act includes a provision that has had the unintended consequence of diverting biomass away from power generation and into landfills. The diversion credit should be eliminated. The state should consider offering a tax credit similar to what Oregon and others offer to turn hazardous forest fuels into energy. Oregon provides a \$10 per green ton tax credit to biomass fuel producers that convert biomass material from forest-based operations.

It is also time to level the playing field with federal tax incentives that put biomass on par with other renewable energy sources. Biomass currently receives one-half the tax credits that investments in wind, geothermal and solar receive.

The California Energy Commission estimates that California could sustainably use three times more biomass for energy annually than it does today. That would offset a tremendous amount of fossil-fuel consumption.

The fuel is there, and so are the jobs. What we need now are policies that make realizing those benefits feasible.

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