

Leafy, green and good

A recent study is giving trees a bad rap in the battle against global warming.

By Greg McPherson

GREG MCPHERSON is director of the U.S. Forest Service's Center for Urban Forest Research at UC Davis.

April 16, 2007

AS THE EARTH'S temperature rises from increased carbon dioxide in the atmosphere, so too does the rhetoric of scientists and politicians. The very complex questions surrounding the causes and consequences of climate change already have been oversimplified, cast in black and white. Dangerously, the same has started to happen with discussions of possible solutions.

Trees, it seems, have become the bad guys.

Recent news stories suggest that there is one true answer to of global warming — transforming the way we produce energy, reducing carbon dioxide emissions at the source. Planting trees to combat climate change is a distraction from this solution, an "indulgence," "the morning-after pill for fossil fuel gluttons," a "dangerous illusion."

One basis for these assertions is an article in the current issue of *New Scientist* reporting the findings of researchers from the Lawrence Livermore National Laboratory and the Carnegie Institution. Their computer models indicated that the dark leaves of trees in northern latitudes may absorb so much heat from the sun that they actually contribute to global warming. But that study compared leaves' heat absorption with that of tundra and snow-covered ground, not pavement-covered Los Angeles.

The news reports failed to capture that detail, or outline the role that city trees play in fighting global climate change and their potential to do even more. Most people already know that trees reduce carbon dioxide — the biggest component of greenhouse gases — turning it into roots, leaves, bark, flowers and wood as they grow. By providing shade and evaporating water through their leaves, trees also lower the air temperature.

Planting trees to strategically shade our buildings is one way to cut energy use, which then reduces emissions from power plants. Right now, two-thirds of the electricity produced in the U.S. is created by burning coal, oil or natural gas — and on average, for every kilowatt hour of electricity created, about 1.39 pounds of carbon dioxide is released in the air.

I recently worked on the U.S. Forest Service's feasibility study of the Million Trees LA program. We found that the plan — announced by Mayor Antonio Villaraigosa last fall — could make a measurable difference in Los Angeles. Over the next 35 years, adding 1 million trees to the city would reduce atmospheric carbon dioxide by about 1 million tons, the equivalent to taking 7,000 cars off the road each year.

Excluding the mountainous areas, Los Angeles' citywide tree canopy is about 21% — on par with New York (23%). But 61% is rooftops, pavement and other impervious surfaces. By filling just half of the available sites with new trees, L.A. could become nearly 28% covered with a tree canopy.

Perhaps most important, planting trees is an immediate solution — for Los Angeles and all cities. It doesn't require the development of new technologies or massive investment in alternative energy sources. It's something any of us can do.

And while those trees are absorbing carbon dioxide and trapping smog, they also will be beautifying neighborhoods, reducing the storm water flowing into your gutter, providing a home for wildlife and a place for children to play.

Fighting climate change is complicated — but the benefits of trees in cities are not an illusion. It is far too early and we have too little information to have settled on one single solution. Certainly we must transform the way we produce and consume energy. Doing so will require the brightest minds of science, the staunchest will of politicians, and a great deal of time, effort and money.

Meanwhile, we can all plant a tree.