

Code red for green machine

Canada's vast forests, once huge absorbers of greenhouse gases, now add to problem

By Howard Witt
TRIBUNE CORRESPONDENT

VANCOUVER — As relentlessly bad as the news about global warming seems to be, with ice at the poles melting faster than scientists had predicted and world temperatures rising higher than expected, there was at least a reservoir of hope stored here in Canada's vast forests.

The country's 1.2 million square miles of trees have been dubbed the "lungs of the planet" by ecologists because they account for more than 7 percent of Earth's total forest lands. They could always be depended upon to suck in vast quantities of carbon dioxide, naturally cleansing the world of much of the harmful heat-trapping gas.

But not anymore.

In an alarming yet little-noticed series of recent studies, scientists have concluded that Canada's precious forests, stressed from damage caused by global warming, insect infestations and persistent fires, have crossed an ominous line and are now pumping out more climate-changing carbon dioxide than they are sequestering.

Worse yet, the experts predict that Canada's forests will remain net carbon sources, as opposed to carbon storage "sinks," until at least 2022, and possibly much longer.

"We are seeing a significant distortion of the natural trend," said Werner Kurz, senior research scientist at the Canadian Forest Service and the leading expert on carbon cycles in the nation's forests. "Since 1999, and especially in the last five years, the forests have shifted from being a carbon sink to a carbon source."

Translation: Earth's lungs have come down with emphysema. Canada's forests are no longer our friends.

So serious is the problem that Canada's federal government effectively wrote off the nation's forests in 2007 as officials submitted their plans to abide by the international Kyoto Protocol, which obligates participating governments to reduce their greenhouse gas emissions.

Under the Kyoto agreement, governments are permitted to count forest lands as credits, or offsets, when calculating their national carbon emissions. But Canadian officials, aware of the scientific studies showing that their forests actually are emitting excess carbon, quietly omitted the forest lands from their Kyoto compliance calculations.

"The forecast analysis prepared for the government ... indicates there is a probability that forests would constitute a net source of greenhouse gas emissions," a Canadian Environment Ministry



Swaths of mountain forest in British Columbia lay bare after a controlled burn to attack the mountain pine beetle (below), which has ravaged more than 50,000 acres in the province. Canadian officials say global warming has let the beetles thrive and dried forest lands, leaving them susceptible to natural fires. ANDY CLARK/REUTERS 2005

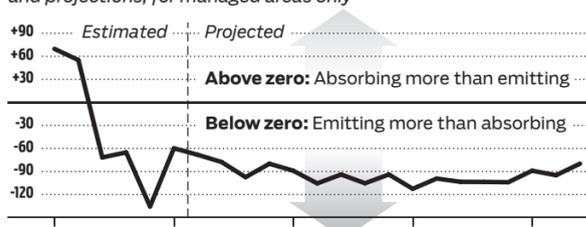
In Canada, trouble with the trees

Canada's vast woodlands, which make up more than 7 percent of the world's forests, have begun emitting more carbon dioxide than they absorb due to insect infestations, forest fires and other stresses, scientists say.



CANADIAN FOREST CO₂ BALANCE

In millions of metric tons; using midrange estimates and projections; for managed areas only



NOTE: Some carbon losses counted here are from trees used for wood products and are not released into the atmosphere.

SOURCES: Natural Resources Canada, Proceedings of the National Academy of Sciences of the United States of America

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spokesman told the Montreal Gazette.

Canadian officials say global warming is causing the crisis in their forests. Inexorably rising temperatures are

slowly drying out forest lands, leaving trees more susceptible to fires, which release huge amounts of carbon into the atmosphere.

Higher temperatures also



BRITISH COLUMBIA MINISTRY OF FORESTS AND RANGE

are accelerating the spread of a deadly pest known as the mountain pine beetle, which has devastated pine forests across British Columbia and is threatening vital timber in the neighboring province of Alberta. More than 50,000 square miles of British Columbia's pine forest have been stricken so far with the telltale markers of death: needles that turn bright red before falling off the tree.

Bitter cold Canadian winters used to kill off much of the pine beetle population each year, naturally keeping it in check. But the milder winters of recent years have allowed the insect to proliferate.

"That's what's causing some of our forests to switch from a carbon sink position to a source position," said Jim Snetsinger, British Columbia's chief forester. "Once those infested trees are killed by the pine beetle, they are no longer sequestering carbon—they are giving it off."

Snetsinger noted that even-

tually, over the course of a generation, some of the dying forests will begin to regenerate and once again begin storing more carbon than they release. But for the foreseeable future, experts say, their models show that Canada's forests will stay stuck in a vicious global-warming cycle, both succumbing to the effects of climate change and, as they decay and release more carbon, helping to accelerate it.

That grim reality is stoking a new debate over commercial logging, one of Canada's biggest industries.

Environmentalists contend that the extreme stresses on Canada's forests, particularly the old-growth northern forest, mean that logging ought to be sharply curtailed to preserve the remaining trees—and the carbon stored within them—for as long as possible.

Moreover, they argue that the disruptive process of logging releases even more carbon stored in the forest peat, threatening to set off what they describe as a virtual "carbon bomb"—the estimated 186 billion tons of carbon stored in Canada's forests, which is equivalent to 27 years worth of global carbon emissions from the burning of fossil fuels.

"There's only one thing which hauls all that carbon out of the forest, and that's logging," said Merran Smith, director of the climate program at the environmental group ForestEthics. "What we need to do is maintain as much biodiversity as we can, so we are prepared to adapt as temperatures change, so we

have resilience."

But Kurz and other government scientists contend that a logging moratorium is no solution to the global warming problem and would in fact increase carbon emissions over the long term.

That's because, they argue, essential wood products for construction, furniture and other uses would have to be replaced with other man-made materials, such as plastic, steel or concrete, which require the burning of even more fossil fuels—and therefore carbon emissions—during their manufacturing process.

"It's not as simple as saying, 'Log less and therefore have more carbon sequestered in the forests,'" Kurz said. "That is true, but if in order to do that you have more fossil fuel emitted elsewhere, your impact on the climate may be negative."

Instead, some scientists argue for more extensive logging of the remaining commercial forests so that older forest stands, which are most vulnerable to insect infestations and have nearly reached their carbon-storage capacity, can be replanted with younger trees that will take in even more carbon during their growing years.

hwitt@tribune.com

Cheap oil's hidden cost

Canada's oil sands bear heavy environmental toll: chicago.tribune.com/oilsands

Greenhouse gas showdown

Will new Bush rules force Obama's hand?

By Jim Tankersley
WASHINGTON BUREAU

WASHINGTON — President George W. Bush could be forcing President-elect Barack Obama to act almost immediately to curb global warming, after years of the Bush administration fighting attempts to crack down on greenhouse gas emissions.

Or, depending on which interpretation prevails, Bush could be giving his successor much-needed breathing room on a volatile issue.

In its final weeks, the Bush administration has moved to close what it calls "back doors" to regulating carbon dioxide and other greenhouse gases. It barred the Environmental Protection Agency from considering the effects of global warming on protected species. And it excluded carbon dioxide from a list of pollutants the EPA regulates under the Clean Air Act.

Environmentalists call the moves a last-minute attempt

to block speedy, executive action by the president's successor on climate change, an issue that Obama calls a top concern. But they say it could backfire, by prompting lawsuits and fueling fights over coal-fired power plants that the new administration would need to resolve quickly.

Obama "now has to clean up a mess," said David Bookbinder, chief climate counsel for the Sierra Club, which has challenged the EPA over the Clean Air Act decision and plans to sue to block it. "They're forcing him to act sooner than he otherwise might have."

Yet energy-industry lobbyists predict the challenges will fail. They say the Bush administration's actions give Obama time and political cover to take a more deliberative approach to emissions regulation and avoid overly broad, overly swift rules that could slow construction projects for schools and businesses, not just power plants.

"I'm quite confident that the Obama administration will have no interest in coming in and immediately reversing" the decisions, said

Jeffrey Holmstead, a former EPA clean air administrator who now represents energy industry clients at the lobbying firm Bracewell & Giuliani in Washington.

Underlying the debate is the issue of how the federal government should reduce America's emissions of the gases scientists blame for global warming, including carbon dioxide. Congress has long debated, but never approved, a so-called cap-and-trade system to limit carbon emissions.

Frustrated, environmental groups have looked for other ways to fight global warming. They have pressed to list the polar bear, whose habitat has dwindled as arctic ice melts, as a threatened species. The Interior Department consented this summer, but later it declared that any protection for the bears under the Endangered Species Act did not extend to regulating greenhouse gases.

Environmental groups also sued to force the EPA to regulate carbon dioxide as a pollutant under the Clean Air Act. The Supreme Court ruled the EPA had the power

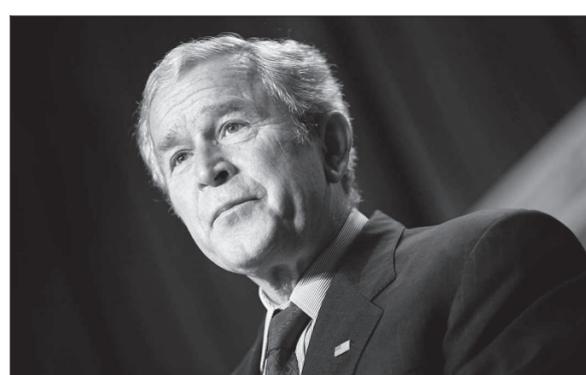
to do that, but administration officials have declined to exercise it.

EPA Administrator Stephen Johnson issued a memo in late December—as part of a review for a proposed coal-fired power plant expansion in Utah—that excludes carbon dioxide from the list of pollutants the government must regulate under the Clean Air Act when approving construction projects.

Environmentalists called the memo a gift to the coal industry and utilities.

"This is a desperate attempt to interfere with the Obama administration's ability to deal with greenhouse gases from power plants," said John Walke, a former EPA attorney who is now clean air director for the Natural Resources Defense Council.

Industry lobbyists say the memo leaves the door open for Obama to regulate carbon dioxide eventually through the EPA and that it gives him time to solve a wider problem. A broad rule, they say, risks limiting school expansions, office construction and even some home building into the



The Bush administration excluded carbon dioxide from a list of pollutants regulated by the EPA under the Clean Air Act. AP

same regulatory process a power plant would face.

The memo allows Obama's team time to solve those issues, Holmstead maintains, so "they don't sweep in hundreds of thousands of small building projects around the country."

Obama vows to push aggressively for a cap-and-trade bill as president. Under this method of trading, overall air quality goals are set by the government, and individual facilities such as power plants are given allowances for what they can emit. Facilities that pollute less than they are permitted to can trade a share of their allowance to others that pollute more.

And the president-elect's top energy adviser promised during the campaign that Obama would move to regulate carbon under the Clean Air Act within 18 months of taking office.

Now, environmentalists say, Bush has put pressure on Obama to act sooner or risk watching states approve new power plants without regard to carbon emissions. Energy companies have taken quick notice of the EPA memo: Duke Energy recently cited it in a court filing supporting its bid to build a new coal-fired plant in Indiana.

jtankersley@tribune.com