

February 9, 2015

Sent via First Class Mail and E-mail

Gina McCarthy
Administrator, US Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator McCarthy,

As the Environmental Protection Agency strives to limit greenhouse gas (GHG) emissions, it is critical for the carbon accounting rules to be correct. Rules that improperly credit activities for reducing emissions when they actually increase them create powerful perverse incentives. We write to raise strong concerns about the November 19th, 2014 memo from Acting Assistant Administrator for the Office of Air and Radiation Janet McCabe (McCabe memo), which would credit use of woody biomass for energy with reducing emissions, when it actually increases them. Because EPA can expect its accounting rule to be applied globally, it is likely to lead to the additional harvest or conversion to agriculture of large areas of the world's forests.

Burning biomass instead of fossil fuels does not reduce the carbon emitted by power plants. In fact, as EPA itself acknowledges, burning biomass degrades facility efficiency and increases day-to-day emissions over emissions when fossil fuels are burned alone. Growth of additional biomass beyond business-as-usual or recovered from waste can help to offset those emissions, but peer-reviewed science indicates this process takes several years to several decades. This conclusion was the basis of a report issued by EPA's Science Advisory Board (SAB) in 2012, which criticized EPA's 2010 Draft Framework for Biogenic CO₂ Accounting (the Framework) because it would have claimed carbon savings for harvests of wood that diminished the growth of forest stocks in the US and much of the world. By itself, diverting biomass from existing uses in food, paper and timber cannot reduce GHG emissions (except at the cost of food, paper and timber). At the same time, burning biomass, such as trees, that would otherwise continue to absorb and store carbon comes at the expense of reduced carbon storage.

The McCabe memo proposes to treat as "carbon-free" all woody or agricultural feedstocks so long as they are derived "from sustainable forest or agricultural practices." At maximum, "sustainability" implies that forest harvesting does not exceed growth, which is a necessary, but not sufficient condition for carbon neutrality, as found by the SAB. At minimum, sustainability practices can help reduce soil erosion and other environmental impacts of forestry or agricultural production. But such practices have little-to-no bearing on the carbon implications of biomass use. Including such exemptions for broad categories of biomass fuels in a final rule would not only encourage large-scale harvesting of wood to replace coal and other fossil fuels but also place no limits on the diversion of the world's agricultural land to energy use, requiring conversions of forests and grasslands to meet food needs.

The potential implications of these exemptions are large because even small quantities of bioenergy require large quantities of wood. For example, the US Energy Information Agency estimates that treating woody biomass as carbon free with modest carbon restrictions would result in an additional 4% of present US electricity from wood by 2035. That would require an increase of wood equivalent to 70% of the US timber harvest, which for perspective would be far greater than if we were to abolish all paper and cardboard recycling in the US. The International Energy Agency estimates that treating bioenergy as carbon free globally, coupled

with strong carbon policies, would lead to reliance on woody biomass for 6% of electricity by 2035, and that would require more than a doubling of global commercial timber harvest.

According to common estimates, the world likely needs 70-100% more food in the next forty years—and possibly a comparable increase in commercial wood products. These demands are placing great stress on the world's forests, woody savannas and wetlands and their carbon storage. The proposed EPA policies would greatly add to this stress to produce small quantities of energy.

In addition, the exemptions in the McCabe memo are likely to lead to increased US emissions of CO₂. The exemptions would, in effect, allow power plants and factories to ignore the loss of carbon from forests when they harvest trees for energy, but the US must count this carbon when it reports national emissions under the UN Framework Convention on Climate Change. Numerous studies have shown that when whole trees are harvested to replace coal, the result is an increased transfer of carbon to the air for decades due to the lower carbon efficiency of using wood than fossil fuels. Ignoring this carbon in US law cannot change what the atmosphere sees, and does not change our obligations to report those emissions accurately to the world.

The creation of such an accounting loophole in the EU has resulted in European power plants setting up large wood pellet facilities in the US—primarily in the Southeast— and rapidly increasing pellet exports to Europe. Although they are incorrectly claiming GHG reductions for burning these wood pellets, their actions are increasing our reported emissions. The US should be objecting to these activities, not creating a similar accounting loophole in US law. Doing so would seriously undermine President Obama's admirable pledge to reduce US emissions 20% by 2020 and 30% by 2030.

The approach proposed in the McCabe memo would harm efforts, to which the US is an active party, to protect forests around the world, particularly tropical forests. The exemption for "sustainably-derived" wood would not exclude tropical forests from feeding the US energy market or replacing US wood diverted from pulp and paper into energy production. Neither can the US expect other countries to abstain from claiming similar GHG reductions by cutting down their forests for energy. In effect, the proposed exemption would operate to reverse the Reduced Emissions from Deforestation and Forest Degradation (REDD) program. It would reward forest managers for the carbon in their trees but only if they cut those trees down.

This approach would also undercut incentives to use biomass that is truly low in carbon. For example, power producers would have little incentive to focus on wastes and residues—which can result in lower net emissions compared to burning fossil fuels, but can be expensive to collect and transport—if EPA credits those feedstocks with no more benefits than harvesting whole trees.

We urge you to reconsider the approach to biomass as proposed in the McCabe memo and instead employ a scientifically valid system for counting the global warming effects of biomass.

Sincerely,

Dr. Viney P. Aneja, Professor of Air Quality, Professor of Environmental Technology, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC

Arild Angelsen, Professor, UMB School of Economics and Business, Norwegian University of Life Sciences, 1432 Ås, Norway

Mark S. Ashton, Morris K. Jesup Professor of Silviculture and Forest Ecology, Director of School Forests, Yale University, New Haven, CT

Mary S. Booth, PhD, Director, Partnership for Policy Integrity, Pelham, MA

Robert Cabin, Associate Professor of Ecology and Environmental Science, Brevard College, Brevard, NC

Ken Caldeira, Department of Global Ecology, Carnegie Institution of Washington, Stanford, CA

Elliot Campbell, Associate Professor, Environmental Engineering, University of California, Merced, CA

Kelly Caylor, Director of Graduate Studies, Civil and Environmental Engineering, Princeton University, Princeton, NJ

Rob Carroll, Emeritus Professor of Ecology, Distinguished Fellow, River Basin Center, University of Georgia, Athens, GA

Eric Chivian M.D., Founder and Former Director, The Center for Health and the Global Environment, Harvard Medical School, Boston, MA

Norm Christensen, PhD, Professor, Emeritus, and Founding Dean, The Nicholas School of the Environment, Duke University, Durham, NC

Scott Collins, Regent's Professor, Department of Biology, University of New Mexico, Albuquerque, NM

Felix Creutzig, Group Leader, Mercator Research Institute on Global Commons and Climate Change, Berlin, Germany

Gretchen C. Daily, Bing Professor of Environmental Science, Department of Biology and Woods Institute for the Environment, Stanford University, Stanford, CA

Steven Davis, Assistant Professor, Earth System Science, University of California, Irvine, CA

Eric A. Davidson, Professor and Director, Appalachian Laboratory, University of Maryland Center for Environmental Science, Cambridge, MD

Saara DeWalt, Associate Professor of Biological Sciences, Clemson University, Clemson, SC

Lyndon Estes, Associate Research Scholar, Woodrow Wilson School and the Program in Science, Technology, and Environmental Policy, Princeton University, Princeton, NJ

Ivan J. Fernandez, PhD, Professor, School of Forest Resources and Climate Change Institute, University of Maine, Orono, ME

Adrien C. Finzi, Professor, Department of Biology, Boston University, Boston, MA

David Foster, Director, Harvard Forest, Harvard University, Cambridge, MA

Janet Franklin, Professor, Arizona State University, Tucson, AZ

Andrew J. Friedland, Professor of Environmental Studies, Dartmouth College, Hanover, NH

Dr. Mark Fulton, Professor of Biology, Bemidji State University, Bemidji, MN

James N. Galloway, Sidman P. Poole Professor of Environmental Sciences, University of Virginia, Charlottesville, VA

Andrew George, PhD, Adjunct Instructor, School of Government/Curriculum for the Environment and Ecology, University of North Carolina at Chapel Hill, Chapel Hill, NC

David J. Gibson FSB, Distinguished Professor of Plant Biology, Southern Illinois University Carbondale, Carbondale, IL

Charles Godfray, Hope Professor of Zoology at Jesus College, Oxford University, Oxford, United Kingdom

Scott Goetz, Deputy Director and Senior Scientist, Woods Hole Research Center, Falmouth, MA

Dr. Christine Goodale, Associate Professor, Department of Ecology and Evolutionary Biology, Cornell University, Ithaca, NY

Bronson W. Griscom, PhD, Director, Forest Carbon Science, Forests and Climate Global Priority, The Nature Conservancy, New York, NY

Peter Groffman, Senior Scientist, Cary Institute of Ecosystem Studies, Millbrook, NY

Jessica Gurevitch, Professor, Stony Brook University, Stony Brook, NY

Charles B. Halpern, Research Professor, University of Washington, Seattle, WA

John Harte, Professor of Ecosystem Sciences, University of California, Berkeley, CA

Richard A. Houghton, Senior Scientist, Woods Hole Research Center, Falmouth, MA

Dr. Michael Huston, Professor, Department of Biology, Texas State University, San Marcos, TX

Kalan Ickes, Assistant Professor, Department of Biological Sciences, Clemson University, Clemson, SC

Dennis H. Knight, PhD, Professor Emeritus, University of Wyoming, Laramie, WY

William Laurance, Distinguished Research Professor, James Cook University, Cairns, Australia

Beverly E. Law, PhD, Professor of Global Change Biology & Terrestrial Systems Science, Oregon State University, Corvallis, OR

Deborah Lawrence, PhD, Professor of Environmental Sciences, Director, Food Fuel and Forests Global Program of Distinction, University of Virginia, Charlottesville, VA

Thomas Lovejoy, Senior Fellow, United Nations Foundation, New York, NY, Professor, Environment Science and Policy, George Mason University, Fairfax, VA

Jerry Melillo, Distinguished Senior Scientist, Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA

David J. Mladenoff, Department of Forest & Wildlife Ecology, University of Wisconsin-Madison, Madison, WI

Russell K. Monson, Louise Foucar Marshall Professor, School of Natural Resources and the Environment and Laboratory for Tree Ring Research University of Arizona, Tucson, AZ, Professor Emeritus, Ecology and Evolutionary Biology University of Colorado, Boulder, CO

Bill Moomaw, Professor, Emeritus of Environmental Policy, The Fletcher School, Professor, Practice Department of Chemical and Biological Engineering at Tufts University, Medford, MA

Knut Nadelhoffer, Director, University of Michigan Biological Station, Professor, Dept. of Ecology & Evolutionary Biology, University of Michigan, Pellston, MI

Erik T. Nilsen, Professor of Biology, Virginia Tech, Blacksburg, VA

Reed Noss, Provost's Distinguished Research Professor, University of Central Florida, Orlando, FL

Michael O'Hare, Goldman School of Public Policy, University of California, Berkeley, CA

Michael W. Palmer, Regents Professor, Department of Botany, Oklahoma State University, Stillwater, OK

Sam Pearsall, PhD, Adjunct Professor, Curriculum for the Environment and Ecology, University of North Carolina at Chapel Hill, Chapel Hill, NC

Robert K. Peet, Professor, Department of Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC

Stuart Pimm, Doris Duke Professor of Conservation Biology, Nicholas School of the Environment, Duke University, Durham, NC

Dr. Bill Platt, Department of Biological Sciences, Louisiana State University, Baton Rouge, LA

Richard Plevin, Research Scientist, Institute of Transportation Studies, University of California, Davis, CA

Mark A. Ratner, Lawrence B. Dumas Distinguished University Professor, Professor of Chemistry, Department of Chemistry, Northwestern University, Evanston, IL

William A. Reiners, Professor of Botany Emeritus, University of Wyoming, Laramie, WY

David W. Roberts, PhD, Professor and Head, Ecology Department, Montana State University, Bozeman, MT

G. Phillip Robertson, University Distinguished Professor, Michigan State University, East Lansing, MI, Sustainability Lead, DOE Great Lakes Bioenergy Research Center, Madison, WI

Dr. Tom Rooney, Associate Professor, Department of Biological Sciences, Wright State University, Dayton, OH

Karina VR Schafer, Associate Professor, Rutgers University Newark, New Brunswick, NJ

Joshua Schimel, Professor of Soil & Ecosystem Ecology, University of California, Santa Barbara, CA

William H. Schlesinger, Dean Emeritus, the Nicholas School of the Environment, Duke University, Durham, NC, President Emeritus, the Cary Institute of Ecosystem Studies, Millbrook, NY

Timothy D. Searchinger, Research Scholar, Woodrow Wilson School, Princeton University, Princeton, NJ

Miles R. Silman, Wake Forest Professor of the Environment and Natural Resources Director, Center for Energy, Environment, and Sustainability, Wake Forest University, Winston-Salem, NC

Richard Thomas, Professor and Chair of Biology, West Virginia University, Morgantown, WV

Nancy Tuchman, PhD, Founding Director, Institute of Environmental Sustainability, Loyola University Chicago, Chicago, IL

Dirk Vanderklein, PhD, Associate Professor, Department of Biology and Molecular Biology, Montclair State University, Montclair, NJ

Peter Vitousek, Professor of Biology, Stanford University, Stanford, CA

Fabian Wagner, Gerhard R. Andlinger Center Visiting Professor in Energy and the Environment, Princeton University, Princeton, NJ

Don Waller, John T. Curtis Professor of Botany and Environmental Studies and Chair: Department of Botany, Conservation Biology Major, University of Wisconsin - Madison, Madison, WI

Joy Ward, Associate Professor, University of Kansas, Lawrence, KS

Richard Waring, Professor of Forestry, Emeritus, Oregon State University, Corvallis, OR

David Wilcove, Professor of Public Affairs and Ecology and Evolutionary Biology at the Woodrow Wilson School, Princeton University, Princeton, NJ

Kerry D. Woods PhD, Professor of Natural Science, Bennington College, Bennington, VT

George M. Woodwell, Founder, Woods Hole Research Center, Falmouth, MA

cc:

Ralph Cicerone, National Academy of Sciences, National Research Council

Sarah Dunham, EPA Office of Atmospheric Programs

Joseph Goffman, EPA Office of Air and Radiation

John P. Holdren, Executive Office of the President of the United States

Janet McCabe, EPA Office of Air and Radiation

