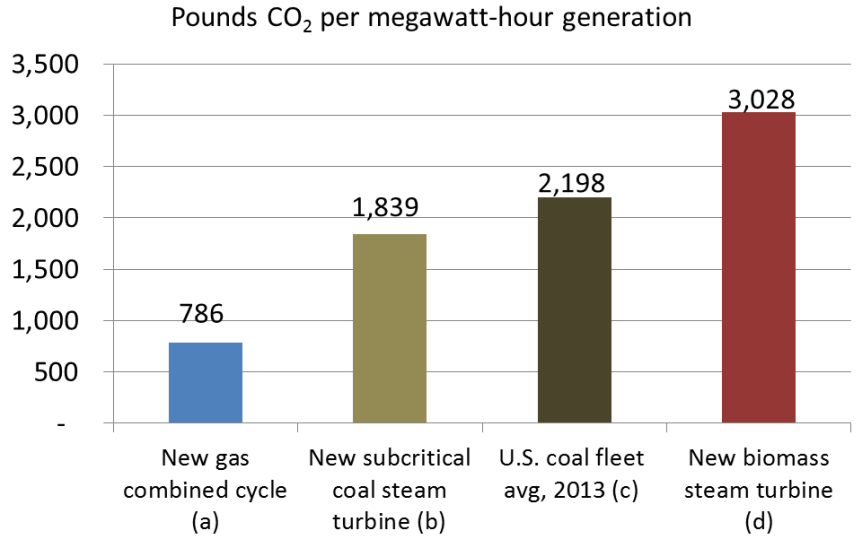
July 6, 2016

Virginia Congressional Delegation
U.S. House of Representatives and U.S. Senate

Dear Members of Congress:

We are a group of environmental organizations located in the Commonwealth of Virginia. We write to express our urgent and deep concern at recent attempts in Congress to legislate biomass energy as "carbon neutral." If enacted, the "Collins amendment" to the Senate Energy Bill[1] and separate language in the House and Senate Appropriations bills[2] would promote forest harvesting for biomass fuel and increase carbon emissions from the power sector. These provisions contradict EPA's independence to regulate carbon and other sources of pollution and weaken US leadership on global forest preservation and climate change commitments reached under the 2015 Cop 21 Paris Agreement. Accordingly, we request that you strongly oppose placement of this language, or any similar language dictating specific favorable treatment for bioenergy, in any legislation.

Utility-scale biomass plants are demonstrably a highly inefficient and polluting way to generate electricity. Typical CO_2 emissions at a modern utility-scale biomass plant are more than 150% those of a state-of-the-art coal-fired plant, and as much as 400% those of a natural gas facility.[3] Theoretically, forests can regrow and capture CO_2 to offset these emissions – but forest modeling shows that such regrowth takes decades, and is not adequate to recapture the full lifecycle emissions of biomass electricity production, which are significant.



Provisions dictating that EPA must treat bioenergy as carbon neutral appeared in the recently passed Senate energy bill and in the House and Senate Interior/EPA Appropriations bills as passed by the full appropriations committee in each chamber.

The Washington Post editorial page recently characterized attempts to legislate bioenergy as carbon neutral in the Senate energy bill as a "glaring flaw," [4] referencing a letter sent to the Senate by scientists that concludes treating bioenergy as carbon neutral would "promote deforestation in the U.S. and elsewhere and make climate change much worse."[5] Signers included Thomas Lovejoy, Professor of Environmental Science and Policy at George Mason University; James Perry, Professor of Marine Science at the College of William and Mary; and professors James Galloway, Deborah Lawrence, and Herman Shugart in the Department of Environmental Sciences at the University of Virginia.

"Burning forest biomass to make electricity releases substantially more carbon dioxide per unit of electricity than does coal," the scientists wrote. "Removing the carbon dioxide released from burning wood through new tree growth requires many decades to a century, and not all trees reach maturity because of drought, fire, insects or land use conversion. All the while the added carbon dioxide is in the atmosphere trapping heat. Right now, large areas of American forests including old growth trees are being cleared for pellets that are shipped to Europe and burned to produce electricity that is counted there as zero carbon."

Last year, the Washington Post highlighted one of the destructive consequences of this European policy: clearcutting of forests for pellet manufacture by Enviva, a company based in Maryland.[6] Enviva has claimed it uses waste wood and residues to make the pellets at its mills in North Carolina and Virginia. However, investigations into the actual sources of wood used reveals extensive clearcutting,[7, 8] including in bottomland hardwood forests[9] that represent important forest carbon stocks and provide irreplaceable habitat. Currently, the pellet industry's main market is in Europe, but legislating bioenergy as carbon neutral could encourage conversion of coal plants to wood pellets in the United States, driving further forest cutting. Already, Dominion Virginia Power has converted three Virginia coal plants to burn wood – thereby locking in continued carbon pollution.

As we have written previously to EPA, treating bioenergy as carbon neutral contradicts not just common sense but peer-reviewed studies in leading journals,[10] as well as EPA's own scientists and EPA's biogenic carbon panel of the Science Advisory Board, who have concluded that bioenergy is not *a priori* carbon neutral. Legislating that bioenergy produces no carbon pollution makes as little sense as legislating that climate change does not exist. We ask that you support EPA's independence and protect forests by rejecting any attempt to legislate bioenergy as carbon neutral.

Thank you,

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Gail Fendley, President
Michelle's Earth Foundation

Seth Heald, Chair
Sierra Club-Virginia Chapter

Nat Mund, Legislative Director
Southern Environmental Law Center

Ben Glenzer
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[1] *"To support the key role that forests of the US can play in addressing the energy needs of the US, the Secretary, the Secretary of Agriculture, and the Administrator of the Environmental Protection Agency shall, consistent with their missions, jointly –*

1. *ensure that the federal policy relating to forest bioenergy –*
   - *A. is consistent across all Federal departments and agencies; and*
   - *B. recognizes the full benefits of the use of forest biomass for energy, conservation, and*
2. *responsible forest management; and establish clear and simple policies for the use of forest biomass as an energy solution, including policies that –*
   - *A. reflect the carbon-neutrality of forest bioenergy and recognize biomass as a renewable energy source, provided the use of forest biomass for energy production does not cause conversion of forests to non-forest use;*
   - *B. encourage private investment throughout the forest biomass supply chain, including in-*
     - *i. working forests;*
     - *ii. harvesting operations;*
     - *iii. forest improvement operations;*
     - *iv. forest bioenergy production;*
     - *v. wood products manufacturing;*
     - *vi. paper manufacturing;*
   - *C. encourage forest management to improve forest health; and*
   - *D. recognize State initiatives to produce and use forest biomass."*

[2] From page 83 at http://appropriations.house.gov/uploadedfiles/bills-114hr-sc-ap-fy2017-interior-subcommitteedraft.pdf:

"The Administrator of the Environmental Protection Agency shall base agency policies and actions regarding air emissions from forest biomass including, but not limited to, air emissions from facilities that combust forest biomass for energy, on the principle that forest biomass emissions do not increase overall carbon dioxide accumulations in the atmosphere when USDA Forest Inventory and Analysis data show that forest carbon stocks in the U.S. are stable or increasing on a national scale, or when forest biomass is derived from mill residuals, harvest residuals or forest management activities. Such policies and actions shall not pre-empt existing authorities of States to determine how to utilize biomass as a renewable energy source and shall not inhibit States' authority to apply the same policies to forest biomass as other renewable fuels in implementing Federal law."

[3] **CO_2 per MMBtu**

a, b, c : from EIA at http://www.eia.gov/environment/emissions/co2_vol_mass.cfm. Value for coal is for "all types." Different types of coal emit slightly more or less.

d: Assumes HHV of 8,600 MMBtu/lb for bone dry wood (Biomass Energy Data Book v. 4; Oak Ridge National Laboratory, 2011. http://cta.ornl.gov/bedb.) and that wood is 50% carbon.

Efficiency

a: DOE National Energy Technology Laboratory: Natural Gas Combined Cycle Plant F-Class (http://www.netl.doe.gov/KMD/cds/disk50/NGCC%20Plant%20Case_FClass_051607.pdf)

b: International Energy Agency. Power Generation from Coal: Measuring and Reporting Efficiency Performance and CO_2 Emissions. https://www.iea.org/ciab/papers/power_generation_from_coal.pdf

c. EIA data show the averaged efficiency for the U.S. coal fleet in 2013 was 32.6% (http://www.eia.gov/electricity/annual/html/epa_08_01.html)

d: ORNL's Biomass Energy Data Book (http://cta.ornl.gov/bedb; page 83) states that actual efficiencies for biomass steam turbines are "in the low 20's"; PFPI's review of a number of air permits for recently proposed biopower plants reveals a common assumption of 24% efficiency.

[4] "Dear Congress: Burning Wood is Not the Future of Energy," Washington Post (April 28, 2016). Accessed online at https://www.washingtonpost.com/opinions/burning-wood-is-not-the-future-of-energy/2016/04/28/9cd9376c-08b9-11e6-bdcb-0133da18418d_story.html

[5] http://whrc.org/letter-to-the-senate-on-carbon-neutrality/

[6] Joby Warrick. "How Europe's Climate Policies Led to More U.S. Trees Being Cut Down." The Washington Post (June 2, 2015). Accessed online at https://www.washingtonpost.com/national/health-science/how-europes-climate-policies-have-led-to-more-trees-cut-down-in-the-us/2015/06/01/ab1a2d9e-060e-11e5-bc72-f3e16bf50bb6_story.html

[7] https://www.nrdc.org/sites/default/files/wood-pellet-biomass-pollution-FS.pdf

[8] https://www.dogwoodalliance.org/wp-content/uploads/2015/06/Wetlands-Logging-Investigation-Flyer.pdf

[9] https://www.dogwoodalliance.org/wetland-investigation-3-16/