LEAGUE OF WOMEN VOTERS OF DELAWARE
2400 W 17th Street, Clash Wing, Room 1, Lower Level, Wilmington, DE 19806
lwvde@comcast.net www.lwvdelaware.org

December 22, 2015

To: Valerie Gray
DNREC Division of Air Quality
655 S. Bay Road
Suite 5N
Dover, DE 19901

COMMENTS FROM THE LEAGUE OF WOMEN VOTERS OF DELAWARE ON THE CLEAN POWER PLAN

The EPA's Clean Power Plan (CPP)[1], announced on August 3, 2015, is the most ambitious effort so far by the federal government to reduce U.S. carbon emissions, which contribute to climate change and sea level rise. It's goal is to reduce CO2 emissions from the nation's fossil fuel power plants by about 32% by 2030, relative to a 2005 baseline.[2] Success of the CPP is necessary if the U.S. is to show international leadership in mitigating climate change through President Obama's Climate Action Plan.[3] The U.S. has a special responsibility as the world's largest economy and the country that has released by far the largest cumulative carbon emissions (about 26% of the global total) since the beginning of the Industrial Revolution.[4] Delaware, with its relatively long coastline, subsiding coast, and lowest average elevation of any state in the country (about 60 ft),[5] is particularly vulnerable to sea level rise and increasingly powerful coastal storms.

The CPP has set a specific goal for each state. In the case of Delaware, it is expected to reduce its rate-based average emissions from electricity generating units from 1254 lbs CO2/MWh in 2012 to 916 lbs CO2/MWh[6] in 2030– a reduction of 27%. On a mass-based average the goal, according to the EPA, is to reduce the CO2 emissions from 4.81 short tons of CO2 in 2012 to 4.71 short tons of CO2 in 2030 – a reduction of 2.0%.[7] Delaware's 2030 goal can be easily achieved for a number of reasons:

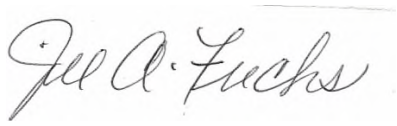
- Delaware's CO2 emissions from electricity generation have already decreased significantly since 2005.
- Delaware is a member of the Regional Greenhouse Gas Initiative (RGGI); most of the funds raised by Delaware through the sale of the CO2 emission allowances (one allowance for each ton of CO2 produced by electricity generation in the 9-state RGGI region) have been used to promote improved energy efficiency and renewable energy in Delaware.
- All but one of the fossil fuel powered electrical generating units in the state (one unit at Indian River) have switched from steam generation using coal to combined cycle turbines using natural gas,[8] which produce about half as much CO2/MWh of electricity generated.
- Delaware has a Renewable Portfolio Standard (RPS) that requires that the percentage of electricity generation from renewable energy sources increase to 25% of the total by 2025.[9]
- The Climate Framework for Delaware,[10] written by state agencies in response to Governor Markell's Executive Order 41, recommends a 30% reduction in carbon emissions from all sources by 2030, relative to 2008.

Because of Delaware's vulnerability to climate change, especially sea level rise and coastal storms, ***the LWVDE urges Delaware to take a leadership role in climate mitigation – by reducing its per capita carbon emissions from all sources until they are among the lowest in the U.S. That means strengthening Delaware's goal for reducing carbon emissions from all sources by 2030 from the 30% recommended by the Framework report to 50%, relative to 2008.*** In 2013 Delaware ranked 21 among the 50 states, with NY, VT, CA, RI and CT in the top five in terms of the lowest per capita emissions.[11] The more ambitious goal can be achieved by a combination of improved energy efficiency and more rapidly replacing fossil fuels by renewable energy sources. The Solutions Project,[12] founded by Professor Mark Jacobson at Stanford University, shows how each state can produce all of its energy needs from its renewable energy resources by 2050. For Delaware the mix of renewable energy sources would be:

Offshore Wind	65%
Onshore Wind	5%
Solar PV Plants	19.7%
Residential Rooftop PV	5%
Commercial/Gov't Rooftop PV	3.9%
Wave devices	1%
Tidal turbines	0.5%

The annual energy, health and climate change cost savings in 2050 are estimated to be $12,470 per person! It is clear that we need to develop our offshore wind resource. It's full development - combined with electric vehicles, many more charging stations, and improved vehicle batteries - could greatly reduce our carbon emissions from transportation fuels, which now make up a larger fraction of Delaware's carbon emissions (about 40%) than electricity generation (about 30%).[13] The addition of Vehicle to Grid (V2G) technology, developed by Professor Willett Kempton at the University of Delaware, could provide both energy storage and delivery.[14]

The U.S. League of Women Voters and the Delaware League support an increasing price on carbon emissions from all sources as a powerful policy tool in promoting the transition to a sustainable and fossil fuel-free future.[15] Putting an increasing price on the carbon emissions from transportation fuels – especially in conjunction with neighboring states – could assist Delaware in moving to a leadership position in climate change mitigation.



Jill Fuchs, President, League of Women Voters of Delaware

Chad Tolman, Climate Change Chair, LWVDE

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[1] EPA's Clean Power Plan: Highlights of the Final Rule, Congressional Research Service, August 2015. At: https://www.fas.org/sgp/crs/misc/R44145.pdf

[2] Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, Federal Register, Vol 80, Oct 23, 2015. At: https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22842.pdf

[3] The President's Climate Action Plan, June 2013. At: https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf

[4] Figure 27, Current and cumulative fossil fuel carbon dioxide emissions. Updated figures, Columbia University. At: http://www.columbia.edu/~mhs119/UpdatedFigures/

[5] Table No. 351, Extreme and Mean Elevations by State, Section 6, Geography and Environment. At: http://www.census.gov/prod/2004pubs/04statab/geo.pdf

[6] EPA Clean Power Plan: State at a Glance – Delaware. At: http://www3.epa.gov/airquality/cpptoolbox/delaware.pdf

[7] The lower percentage of emissions reduction on a mass basis must be because the total number of MWh is expected to increase from 2012 to 2030 as the economy expands. 4.81 and 4.71 short tons of CO2 correspond to 4.36 and 4.27MMTCO2, where MMT stands for millions of metric tons. The EPA lists the CO2 emissions from fossil fuel combustion (in millions of metric tons) by state and by sector from 1990 through 2013. For Delaware's electric sector for the years 2005, 2008 and 2012 the emissions listed are 6.29, 6.14, and 4.53 MMTCO2. For 2013, the last year listed, the number was 4.02 MMTCO2. At: http://www3.epa.gov/statelocalclimate/documents/pdf/CO2FFC_2013.pdf

[8] Coal Plant Conversion Projects. At: http://www.sourcewatch.org/index.php/Coal_plant_conversion_projects

[9] Delaware Renewable Energy Portfolio Standards. At: http://delcode.delaware.gov/title26/c001/sc03a/

[10] The Climate Framework for Delaware, 2014. At: http://www.dnrec.delaware.gov/energy/Pages/Climate-Framework.aspx

[11] Figure 2 in Energy-Related Carbon Dioxide Emissions at the State Level, 2000-2013. U.S. Energy Information Administration, October 2015. At: http://www.eia.gov/environment/emissions/state/analysis/

[12] The Solutions Project. At: http://thesolutionsproject.org

[13] Private communication from Phil Cherry.

[14] See: https://udapps.nss.udel.edu/experts/326649430-Willett_M_Kempton

[15] Price on Carbon. At: http://priceoncarbon.org