Senate Energy and Public Utilities Committee
Chairman Steve Wilson
Opponent Testimony on Substitute House Bill 6
Testimony of John Finnigan
Lead Counsel, Environmental Defense Fund

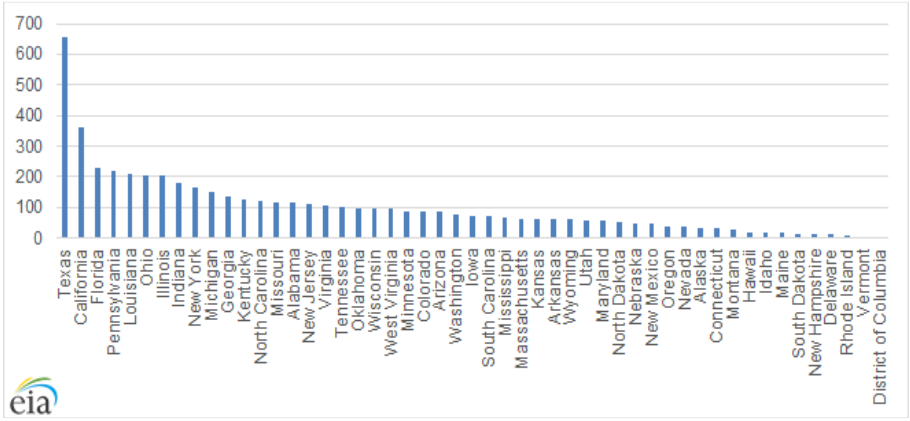
June 18, 2019

Chair Wilson, Vice Chair McColley, Ranking Member Williams, and Members of the Senate Energy and Public Utilities Committee, my name is John Finnigan, Lead Counsel for the Environmental Defense Fund (EDF). With over two million members, EDF develops scientific and market-based solutions to help solve the world's critical environmental problems. Thank you for the opportunity to speak to you today as an opponent to Substitute House Bill 6 (HB 6). EDF's basic message is – we need free markets, not free handouts, so we oppose the bill.

HB 6 Addresses Global Warming and Climate Change

HB 6 deals with how to reduce the carbon emissions from fossil fuel plants that cause global warming and climate change. Thank you for considering this critical environmental issue. This is a key part of EDF's strategic plan.[1] Ohio's energy sector has the sixth highest level of carbon emissions in the country, as shown below:[2]

Table 1 – Energy Sector Carbon Emissions, by State



[1] EDF, *Pathways 2025: EDF Strategic Plan*, available at: https://www.edf.org/sites/default/files/Pathways_2025-EDF_Strategic_Plan.pdf

[2] EIA, Energy-Related Carbon Dioxide Emissions by State, 2005-2016 (February 2019), available at: https://www.eia.gov/environment/emissions/state/analysis/pdf/stateanalysis.pdf

By recognizing that carbon emissions cause global warming and climate change, you are joining the majority of Americans and taking a mainstream position that has increasing bipartisan support, including support from many leading Trump Administration officials.

The Global Climate Change Research Act of 1990 requires the Trump Administration to issue the National Climate Assessment every four years. Thirteen Trump Administration federal agencies, hundreds of Trump Administration scientists and the National Academies of Science, Engineering and Medicine contribute to this report. The Trump Administration released the latest National Climate Assessment in November. The report concludes that if carbon emissions are not addressed, the earth's atmosphere will warm up to 8° Fahrenheit by the end of the century, with devastating consequences to human health, the environment, the economy, agriculture and national security.[3]

Most Republicans now support taking action to control carbon emissions to combat climate change, as noted in last week's Wall Street Journal.[4] According to the article, a recent survey by respected pollster Frank Luntz shows that 69% of Republican voters agree that the Republican Party hurts itself by opposing action to address climate change. The article reports that reducing carbon emissions is a top priority for Senator Lisa Murkowski (R., Alaska), committee chair for energy and natural resources, and that Representative Matt Gaetz (R., Florida) introduced the Green Real Deal to address climate change.

So thank you for considering legislation recognizing that carbon emissions cause global warming and climate change.

We Need Free Markets, Not Free Handouts

HB 6 gives us free handouts, but what we need is free markets. The best way to reduce carbon emissions would be to use a market-based solution that places a cap on carbon emissions from power plants, with declining limits and tradeable emission allowances. This would create financial incentives to find the best technology at the lowest cost. We know that markets work and that is why we strive to use market-based solutions in other areas such as health care and

[3] U.S. Global Change Research Program, *Fourth National Climate Assessment* (November 23, 2018), available at: https://nca2018.globalchange.gov/

[4] Wall Street Journal, *GOP Voices Emerge on Climate* at A6 (June 13, 2019), available at: https://www.wsj.com/

education. We know that markets are the most efficient way to allocate resources, and as fiscally conservative and responsible legislators, we know you are concerned with how to spend taxpayer dollars efficiently. We know you are also concerned about protecting the jobs at Ohio's two nuclear plants. A market-based approach would help accomplish your goals and would also lead to billions of dollars in new investment and thousands of new jobs.

A great example of using markets to solve an environmental problems is the Clean Air Act of 1990. This law used a cap-and-trade system to reduce the amount of sulfur dioxide emissions from power plants, which causes acid rain. The law only cost about 10% of what the experts had predicted – because the market-based approach produced new technologies that drove down compliance costs.

Today ten states with over a quarter of the U.S. population and a third of U.S. GDP have capped carbon emissions from power plants.[5] These states are California and the nine Northeast states in the Regional Greenhouse Gas Initiative (RGGI) – Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont. New Jersey and Virginia are joining RGGI and several other states are taking steps to cap carbon emissions from power plants. Like recognizing that carbon emissions cause global warming and climate change, using a market-based solution to control carbon emissions is an increasingly mainstream, bipartisan approach.

HB 6 proponents want Ohio to aid FirstEnergy's nuclear plants because four other states helped nuclear plants in their states – New York, New Jersey, Connecticut and Illinois. Ohio, however, stands in a completely different position. These other states all adopted, or are in the process of adopting, a carbon reduction plan and Ohio has not done so. New York and Connecticut belong to RGGI and New Jersey is joining it too. Illinois is in the process of adopting a carbon reduction plan.[6] Give us a free market for emission allowances by capping carbon emissions from Ohio's fossil plants. This would help save FirstEnergy's nuclear plants and protect those jobs because the plants would earn new revenues from emission allowances.

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[5] Center for Climate and Energy Solutions, *U.S. State Carbon Pricing Policies*, available at: https://www.c2es.org/document/us-state-carbon-pricing-policies/

[6] Clean Technica, *Illinois' Legislature is now Pro-Climate Action – Law Repeal Invites Carbon Reduction* (March 30, 2019, available at: https://cleantechnica.com/2019/03/30/illinois-legislature-is-now-pro-climate-action-law-repeal-invites-carbon-reduction-cleantechnica-exclusive/

FirstEnergy's Alleged June 30th Deadline for Legislation is an Artificial Deadline

HB 6 raises important and complex energy and environmental issues, including the future of Ohio's two nuclear plants, how best to reduce carbon emissions and the future of Ohio's renewable energy portfolio and energy efficiency standards. The Senate should evaluate these issues cautiously and deliberatively. The General Assembly addressed these issues in prior years, resulting in SB 3 in 1999 and SB 221 in 2008. These laws required many months of deliberation. Rushing to act on legislation in a few weeks, without fully vetting the issues as in past years, might cause poor policy outcomes, even if HB 6 were narrowly tailored to only bail out the nuclear plants.

Unfortunately, FirstEnergy issued an ultimatum that the General Assembly "must do something" to support the nuclear plants by June 30th because FirstEnergy must order fuel by that date for refueling the plants. Charles Moore explained the issue in his testimony before this Committee on June 12, 2019:

> In order to safely and responsibly refuel the Davis-Besse facility, a decision to move forward must be made soon. Nuclear plants refuel under strict guidelines every 18-24 months, removing and replacing their fuel during a refueling outage. Davis-Besse refuels every 24 months and the next required refueling starts in February of 2020. The fabrication of the fuel assemblies is a custom, unit specific intensive process that takes up to eight months to complete, taking us right to the February 2020 refueling date. Because the fuel is essentially custom-made for Davis Besse, once it is purchased, it cannot be resold. As a result, the Company has not purchased the nuclear fuel for Davis-Besse's February outage.
>
> The decision to authorize fuel fabrication is a financial obligation of $52 million. As a result of the unprofitable position of the plants, as well as the complex bankruptcy oversight process, FirstEnergy Solutions is unable to make this commitment by June 30, 2019 without legislative support. Unfortunately, while the Company has sought relief for over 18 months, the purchase and fabrication of the fuel is now on a final stage critical time path. Without a certain outcome on the legislative front, FirstEnergy

> Solutions will continue moving forward with the closure of Davis-Besse.[7]

The truth is that FirstEnergy's deadline for closing the plants won't occur until it notifies the Nuclear Regulatory Commission that it has permanently removed the fuel, and even then FirstEnergy could later withdraw that notice. FirstEnergy's recent bankruptcy court filing spells this out:[8]

> **F. Permanent Shutdown and Defueling of Nuclear Units in Advance of Decommissioning**
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> A nuclear power plant licensee is required to notify the NRC when it decides to permanently shut down a nuclear power plant in advance of facility decommissioning. Notifying the NRC of a permanent shutdown is a two-part process. First, once an NRC licensee decides to "permanently cease operations," it must submit a written certification to the NRC within 30 days of making this determination, and inform the NRC of the expected shutdown date. On March 28, 2018, FES notified PJM on behalf of NG regarding the Debtors' decision to permanently cease operations and deactivate their four nuclear power units. On April 25, 2018, FENOC submitted its written certification to the NRC that FES has decided to permanently cease operations at the Davis-Besse Nuclear Power Station by May 31, 2020, Beaver Valley Power Station Unit 1 and the Perry Nuclear Power Plan by May 31, 2021, and the Beaver Valley Power Station, Unit 2 by October 31, 2021.
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> Second, when nuclear fuel is permanently removed from the reactor vessel after permanent shutdown, an NRC licensee must submit another written certification to the NRC that the reactor has been permanently defueled. Under the NRC's regulation in 10 C.F.R. 50.82, after both certifications have been docketed by the NRC, the license of the shutdown unit no longer authorizes operation of the reactor or loading of fuel into the reactor.

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[7] Ohio Senate, 133rd General Assembly, Energy and Public Utilities Committee, *Remarks of Charles Moore* (June 12, 2019), available at: http://www.ohiosenate.gov/committees/energy-and-public-utilities/document-archive

[8] *In re FirstEnergy Solutions Corp. Bankruptcy, Disclosure Statement for the Fifth Amended Joint Plan of Reorganization of FirstEnergy Solutions Corp., et al., Pursuant to Chapter 11 of the Bankruptcy Code* at 50, Docket No. 2661 (May 17, 2019), available at: https://cases.primeclerk.com/FES/Home-DocketInfo

> Accordingly, when all of the nuclear fuel is permanently removed from each of the four nuclear power units' reactor vessels, FENOC will submit the second written certification to the NRC for each unit, terminating each unit's operating authority
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> *Prior to filing the second certification, FENOC maintains the ability to withdraw the first certification of permanent shutdown if circumstances change*. In addition, the first certification does not by itself affect FENOC's or NG's NRC licenses or NRC requirements relating to safe operation of the nuclear power units (Emphasis added).

Reading Mr. Moore's testimony closely, he simply states that the June 30th "deadline" only serves to keep the refueling outage as short as possible. What he doesn't say is that FirstEnergy has the option to delay ordering the new fuel, and simply extend the length of the refueling outage. The shutdown doesn't become permanent until FirstEnergy notifies the NRC of a permanent shutdown *after* permanent removal of the fuel. FirstEnergy can start the refueling process within the normal 24-month cycle, remove the spent fuel and install the new fuel at any later date, whenever it chooses to do so. A refueling outage usually lasts for 30-60 days,[9] but FirstEnergy could delay ordering and installing the new fuel for as long as it chooses.

FirstEnergy has closed Davis-Besse for long periods of time before, including a two-year shutdown from 2002-2004 when it found a large hole in a reactor vessel caused by corrosion.[10] Davis-Besse has experienced many long shutdowns due to its questionable safety culture. Since 1979, two of the top five most critical nuclear safety threats in the U.S. (euphemistically called "incidents") occurred at Davis-Besse and led to extended outages (Three Mile Island ranks #1 on the list).[11]

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[9] FirstEnergy Press Release, *Davis-Bessie Nuclear Power Station Returns to Service Following Refueling and Maintenance Outage* (March 27, 2018), available at: https://www.firstenergycorp.com/content/fecorp/newsroom/news_articles/davis-besse-nuclear-power-station-returns-to-service-following-r.html

[10] NRC, *Backgrounder on Improvements Resulting From Davis-Besse Incident,* available at: https://web.archive.org/web/20061003054919/http://www.nrc.gov/reading-rm/doc-collections/news/2004/04-117.html

[11] NRC Press Release, *NRC Issues Preliminary Risk Analysis of the Combined Safety Issues at Davis-Besse* (September 29, 2004), available at: https://web.archive.org/web/20061003054919/http://www.nrc.gov/reading-rm/doc-collections/news/2004/04-117.html

It is highly unlikely that FirstEnergy would send in the second permanent shutdown notice to the NRC if a possibility still exists for the General Assembly to approve a bailout. FirstEnergy has been discussing an imminent threat of shutdown for the nuclear plants since 2014, when it filed its first bailout request at the PUCO.[12] FirstEnergy issued similar "urgent warnings of imminent shutdown" in March 2017[13] and March 2018.[14] Even if FirstEnergy would send in the second permanent shutdown notice, it could later withdraw it. So the Senate should not be bullied by yet another FirstEnergy false alarm.

HB 6 Gives Free Handouts to Dirty Coal Plants

EDF also opposes HB 6 because it bails out the two Ohio Valley Electric Corporation (OVEC) coal plants – the Kyger Creek plant in Cheshire, Ohio and the Clifty Creek plant in Madison, Indiana – under the guise of a "national security generation resource." This sounds like a noble purpose but the reality is quite ignoble. The only reason these plants are in HB 6 was to enlist support for HB 6 from the other Ohio utilities, because the bailout for the nuclear plants would only benefit FirstEnergy.

HB 6 is labeled as the "Ohio Clean Air Program." Bailing out an old coal plant in Indiana does not reduce Ohio's carbon emissions or retain Ohio jobs and is a pure waste of Ohio taxpayer resources.

The plants served a national security purpose when built because they provided electricity for the uranium enrichment plant in Piketon, Ohio. The Piketon plant is closed now so the OVEC plants serve no useful purpose. Calling these plants a "national security generation resource" makes it sound as if we have some obligation to bail out the plants because they helped provide for our national security in the past. The utilities, however, were fully compensated for

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[12] *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan,* PUCO Case No. 14-1297-EL-SSO) (Testimony of Donald Moul), available at: http://dis.puc.state.oh.us/TiffToPDf/A1001001A14H04B61449B97661.pdf

[13] The Blade, *FirstEnergy Exec Calls for 'Urgent' Aid* (March 25, 2017), available at: https://www.toledoblade.com/Energy/2017/03/25/FirstEnergy-exec-calls-for-urgent-aid.html

[14] Letter from Rick C. Giannantonio, General Counsel for FirstEnergy Solutions Corp., to Energy Secretary Rick Perry (March 29, 2018), available at: https://statepowerproject.files.wordpress.com/2018/03/fes-202c-application.pdf

these plants when they received billions of dollars in "stranded asset" payments when Ohio's retail electricity market was restructured under SB 3 in 1999. Today the utilities receive additional bailouts for these plants via PUCO orders, so HB 6 would give the utilities an overly generous triple dip helping of bailouts for these plants.

The OVEC plants certainly are not "clean." The Clifty Creek plant's water emissions violated the Clean Water Act throughout most of 2017, the latest year for which data is available. The plant spewed three million pounds of hazardous carcinogens into the air (including arsenic, barium, chromium, dioxides, hydrochloric acid, lead, mercury and sulfuric acid) during that year, according to the EPA's Toxic Release Inventory report.[15] The Kyger Creek plant belched out nearly two million pounds of these carcinogens in 2017.[16]

They are among the oldest, dirtiest coal plants in the country. Other utilities are shutting down their old coal plants because it is cheaper to build a new wind plant than to produce electricity from old, inefficient coal plants. The plants lose money and they emit five tons of hazardous carcinogens every year. Utility ratepayers have already overpaid for these plants. There is no conceivable reason why Ohio taxpayers should bail out these plants once more.

HB 6 Gives Free Handouts to Nuclear Plants

The first question on the nuclear bailout is – how much of a bailout does FirstEnergy need? When FirstEnergy initially requested a bailout at the PUCO in 2014, it claimed the plants would provide an annual profit of $107 million beginning in 2019; that the plants would continue to be profitable through 2031 and that the plants would have a net profit of $2 billion through 2031.[17] In February 2016, FirstEnergy claimed the plants would generate a net profit of $561

[15] EPA, Toxic Release Inventory Report for Clifty Creek Station (April 2019), available at: https://www3.epa.gov/enviro/facts/tri/ef-facilities/#/Release/47250CLFTY1335C

[16] EPA, Toxic Release Inventory Report for Kyger Creek Station (April 2019), available at: https://www3.epa.gov/enviro/facts/tri/ef-facilities/#/Release/45631HVLLY5758O

[17] *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan,* PUCO Case No. 14-1297-EL-SSO) (Testimony of Jay Roberto at 6), available at: http://dis.puc.state.oh.us/TiffToPDf/A1001001A14H04B61449B97661.pdf

million from 2016 to 2024.[18] Five months later, FirstEnergy changed course and asked for an annual $561 million subsidy for eight years.[19] FirstEnergy stated in June 12th testimony that it now needs an annual subsidy of $150 million.[20] Like the artificial June 30th deadline for shutdown, FirstEnergy has been all over the map regarding the plants' financial performance and the amount of a bailout needed. The Senate should proceed cautiously and not rely on FirstEnergy's shaky numbers. Get solid facts. Protect taxpayers by having an independent accounting firm audit FirstEnergy's books to determine whether the nuclear plants really need any financial aid at all and, if so, how much aid is really needed.

Both FERC and PJM are considering rule changes that would give new revenue to baseload plants, yet HB 6 contains no provision to offset bailout revenue by the amount of new revenue the nuclear plants would earn through any such rule changes, or through any new PUCO orders.

HB 6 is a free handout for the nuclear plants and will not lead to any new technology, innovation or new jobs, but a carbon market would do all these things. At the end of the bailout period in 2026, the plants will be retired and we'll be right where we are today – facing the same question of how to replace the carbon-free electricity from the nuclear plants and the jobs will be lost for good. A carbon market would create permanent, high-paying jobs and would solve the question now, rather than kicking the can down the road for someone else to deal with.

For all of these reasons, EDF opposes free handouts for the nuclear plants.

Repeal of Renewable Energy, Energy Efficiency and Peak Demand Reduction Standards

EDF also opposes HB 6 because it would repeal Ohio's renewable energy, energy efficiency and peak demand reduction standards. HB 6 proponents claim that the costs for implementing these standards exceed the benefits, but this is wrong. A recent MIT study

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[18] *Id.* (FirstEnergy Application for Rehearing at 10-22) (May 2, 2016), available at: http://dis.puc.state.oh.us/TiffToPDf/A1001001A16E02B64659C00268.pdf

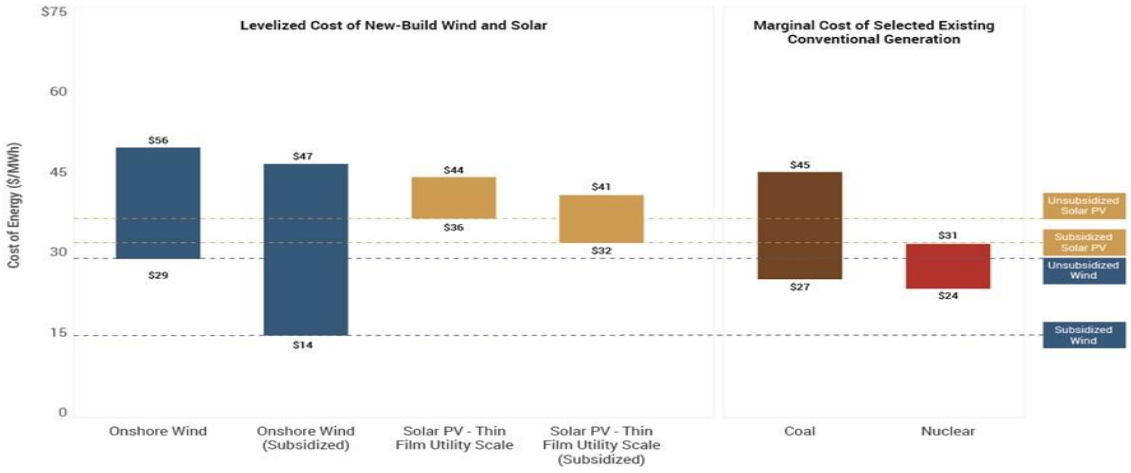
[19] *Id.* (FirstEnergy Rehearing Rebuttal Testimony of Eileen Mikkelsen at 12) (July 25, 2016), available at: http://dis.puc.state.oh.us/TiffToPDf/A1001001A16G25B60204C00760.pdf

[20] Ohio Senate, 133rd General Assembly, Energy and Public Utilities Committee, *Remarks of Charles Moore* (June 12, 2019), available at: http://www.ohiosenate.gov/committees/energy-and-public-utilities/document-archive

concluded that the health benefits alone from Ohio's RPS standards will exceed the RPS costs by increasing levels, rising to $470 million annually in 2030.[21] We don't even need to rely any expert reports to resolve this issue. Plain logic tells us that FirstEnergy filed for bankruptcy and is seeking a bailout for its nuclear plants because the plants are losing money – other forms of electricity are cheaper.

Other states are increasing their RPS targets because they see the benefits from renewable energy. Today 29 states have RPS targets, and about half of these states have increased their RPS targets or increased a carve-out for a particular technology in recent years.[22] The cost for renewable energy has dropped rapidly in recent years. It is now cheaper to build a new wind plant than to obtain energy from an existing coal or nuclear plant, as shown in the table below. The table also shows that the cost for energy from a new wind plant without subsidies is nearly the same as the cost to obtain energy from an existing coal or nuclear plant.[23]

Table 2 – Levelized Cost of Energy from New Renewables vs. Existing Coal and Nuclear Plants



[21] MIT Joint Program on the Science and Policy of Global Change, *Health Co-Benefits of Sub-National Renewable Energy Policy in the U.S.* (June 2019), available at: https://globalchange.mit.edu/sites/default/files/MITJPSPGC_Rpt337.pdf

[22] G. Barbose, Lawrence Berkeley National Laboratory, *U.S. Renewable Portfolio Standards: 2018 Annual Status Report* (November 2018), available at: http://eta-publications.lbl.gov/sites/default/files/2018_annual_rps_summary_report.pdf

[23] Lazard, *Lazard's Levelized Cost of Energy Analysis, Version 12.0* (November 8, 2018), available at: https://www.lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2018/

Ten years ago, the average cost of wind energy from a power purchase agreement was 7¢ per kWh. Today, the cost is about 2¢ per kWh and existing wind plants are the cheapest form of electricity. The largest users of wind energy are Iowa, Kansas, Oklahoma and South Dakota – over 30% of their total energy comes from wind. Taken together, the average retail price for electricity in these four states is below the national average.

The cost of solar has also declined in recent years due to more efficient technology. The average cost is about 4¢ per kWh.[24] States with the most electricity from solar plants include North Carolina, Utah, Arizona and Nevada, and their retail prices for electricity is below the national average.

Renewable energy is also a source of revenue for Ohio's farmers, local governments and school districts, especially rural areas strapped for revenue. Ohio is one of the leading agricultural states in the country and this revenue could help stabilize our farmers' income. Today's international tariff wars are hurting our farmers and we need to help them.

Instead of free handouts for old coal and nuclear plants and killing the clean energy standards, the Senate should fix the wind setback rule that was adopted in 2014. Ohio has one of the most restrictive wind setback laws in the country and this is killing new investment in new wind farms. A number of lawmakers have expressed support for fixing this on a bipartisan basis. But it's like Mark Twain said about the weather – "Everybody talks about the weather but no one does anything about it."

Ohio's wind farms provide tremendous benefits. For example, the Blue Creek Wind Farm in Van Wert County provides about $3 million/year in tax revenues to local governments and school districts and $2 million/year in lease payments to farmers.

The wind setback rule was adopted by stealth in 2014. Someone mysteriously buried it into the budget bill at the last minute. No one would sponsor it and no one wanted to vote on it as a stand-alone bill because they knew it would attract a lot of opposition.

Since that time, the setback rule has choked off new wind farm projects. When the setback rule was changed in 2014, developers had wind projects on the books that would have provided over $4 billion in benefits, including $2 billion in new direct capital spending, $660 million in tax revenues to local governments and schools and $440 million in lease payments to

[24] Lawrence Berkeley National Lab, *Utility-Scale Solar*, available at: https://emp.lbl.gov/utility-scale-solar

farmers, and would have created thousands of new, high-quality jobs. These projects did not go forward because the wind setback rule killed the projects.

Ohio has good conditions for wind development. We live in a windy part of the country, especially in the northern half of our state. We have a lot of transmission lines that can accommodate wind farms. Neighboring states like Illinois, Michigan and Pennsylvania each have over 20 wind farms, but Ohio only has three – thanks to the wind setback rule. These other states are eating our lunch and we're losing out on billions in new investment, tax revenue, income for our farmers and thousands of new jobs.

Last year, HB 114 and SB 238 were introduced to fix the wind setback rule, but these bills did not pass. Let's get the job done and unleash billions of dollars in new investment in Ohio and create thousands of new Ohio jobs instead of squandering taxpayer resources by giving free handouts to old coal and nuclear plants that produce zero new investment in Ohio and zero new jobs.

Finally, the Senate should also preserve and fix the energy efficiency and peak demand reduction standards. These programs do not cause higher utility bills for taxpayers, because existing law requires that the PUCO can approve these programs only if the PUCO Staff and the utilities certify that the benefits exceed the costs. EDF supports the explanation for keeping and fixing these standards as set forth in the testimony of our esteemed and learned colleague, Rob Kelter, Senior Attorney for the Environmental Law & Policy Center.

Thanks you for your time and consideration today, and I will try to answer any questions you might have.