Testimony of the Green Education and Legal Fund
To the New York State Legislature Joint Budget Hearing on the
2016-17 Executive Budget Proposal on Environmental Conservation
Albany, NY
January 28, 2016

Good afternoon. My name is Steve Breyman and I serve as Secretary of the Board of the Green
Education and Legal Fund, which promotes the values of the green movement particularly in the
area of ecology. I am an Associate Professor of Science and Technology Studies at RPI, a former
executive director of Citizens Environmental Coalition, and a former staff member of the NYS
Climate Change Office at DEC.

The state budget is where lawmakers lay out their priorities for the coming year. At the top of the
list needs to investing in the rapid transition to a 100% renewable clean energy system with net
zero carbon emissions. The Governor’s proposed budget falls far short of that mark.

We agree with the Governor’s statement in his State of the State address that “New York State has a
business and an environmental opportunity. Let’s become the international capital for clean and
green energy products.”

Unfortunately, the Governor’s actual proposals do not reflect that bold vision. He “proposes
installing solar in over 150,000 homes and businesses and converting SUNY facilities to renewable
energy by the year 2020. We can do it and we should.” Why shouldn’t we convert all government
buildings to renewable energy by 2020? And why not try to install solar (or other renewable
energy) in all homes and businesses where it is feasible? After all, SolarCity’s business model is
based on installing rooftop solar with no upfront costs to the homeowner. Projects recover costs in
7 years and then turn a profit for the rest of a 20-year lease.

Why can’t the NY Power Authority initiate a similar effort, utilizing some form of public, shared
renewable or cooperative ownership? The state could provide upfront financing to develop
community renewable projects statewide now that they are approved by the PSC (though the
number of minimum subscribers should be reduced from 10 to 2, as California and Vermont does).

100% Clean Green Energy in NYS by 2030 – Fund a Plan to Make that Happen

We urge the state legislature to pass legislation (S5827/A7497) adopting the goal of 100% clean
energy by 2030. The goal is for all energy use – electricity, transportation, heating, cooling, the
whole works. The state should begin to make the significant investment needed to accomplish such
goals (e.g., building out the electric charging stations for electric vehicles).

As an initial step, we urge the state legislature to include funding in the state budget for a study on
how to achieve such goals, with clear timelines and benchmarks.

Scientists say we have to begin now to rapidly reduce carbon emissions to zero over the next 14
years in order to avert catastrophic global warming.

A study1 by Stanford (Jacobson) and Cornell professors several years ago as part of the effort to
prevent fracking for natural gas in New York showed that it is technologically feasible (but
challenging) for New York to transition to 100% clean renewable energy by 2030—without any

1 https://web.stanford.edu/group/cfmh/jacobson/Articles/1NewYorkWWSEnPolicy.pdf
fossil fuels or nuclear power. The study found that 4.5 million jobs would be created through the build out, and the resulting cost of electricity would be half that of a fossil fuel energy system.

The Paris Climate Agreement set 1.5°C as the new global warming limit. The greenhouse gas reduction goals adopted first under Governor Paterson in 2009 and more recently by Governor Cuomo were based on the old 2 degree target.

Food and Water Watch recently released a paper\(^2\) saying that we have to achieve this goal by 2035. The United States could slash greenhouse gas emissions from power production by up to 78 percent below 1990 levels within 15 years while meeting increased demand, according to a new study by NOAA and University of Colorado Boulder researchers. \(^3\)

Professor Jacobson estimates that it will cost $480 billion to fund the transition to 100% clean energy in New York. Fortunately most of this money would be from private investment that would normally be spent anyway to maintain and upgrade the energy system. We need to increase the investments in renewable energy and conservation.

We need to immediately halt any investments in fossil fuel related infrastructure, starting with the elaborate network of natural gas and oil pipelines, storage facilities, compressor stations, etc., being built in the state. Natural gas is not clean energy. Methane is 87 times more potent short term as a greenhouse gas than carbon dioxide over the relevant 20-year timeframe, and if just a few percent of mined gas leaks—think Porter Ranch in California—it’s actually worse for the climate than burning coal.

Additional capital investments are needed to help improve the ability of the state’s infrastructure (subway lines, housing, sewer and water treatment plants, power plants, etc.) to survive the impact of increasing severe weather, starting with storm surges. Current state funding is simply not meeting our climate change needs.

While NYS has shown some important leadership on climate change, progress has been much too slow. The state’s Renewable Portfolio Standard aimed in 2005 to supply 30% of the state’s electricity by renewables by 2015. It failed. 22% of the state’s electricity today comes from renewable sources, 19% of that from large hydro facilities. This means the state added only 3 to 4% of generation capacity from wind and solar over the last decade, a rather pitiful record given what’s happened in other states like Texas and other countries like Germany.

The Governor recently announced that he wants the state to get 50% of its electricity from renewable energy by 2030. Again, we argue the goal ought to be 100% by the same date, but even with the less ambitious target the Governor does not provide sufficient funding to meet it. His proposal for $5 billion in funding over 10 years for the PSC’s Clean Energy Fund combined with the Large Scale Renewables program is far short of what is needed to accomplish this. The Clean Energy Fund approved last week by the PSC contains a significant decrease in funding collected from ratepayers of about $1.5 billion over the next decade. The State legislature should consider


how to make up the difference (and increase overall funding). In light of the minimal progress so far in increasing solar as a source of electricity in NYS, it is also a serious mistake for the state to establish a goal to eliminate subsidies for solar.

We recommend that the state’s goals for reducing its greenhouse gas emissions be put into law, with clear timelines and benchmarks set through a detailed climate action plan. All state agencies and authorities should be required to ensure that their actions are in compliance with the climate action plan. Local governments should be directed to adopt their own climate action plans as well. Community residents need to be able to participate in the development of such plans.

Evaluating the climate and environmental justice impacts of proposed projects should be made part of SEQRA.

We oppose the Governor’s efforts to provide subsidies to coal and nuclear plants. Nuclear power is not a bridge to a clean energy future. Nuclear power plants are not “carbon free.” They do not emit carbon or other greenhouse gases during normal operations, but their carbon footprint must be assessed on the basis of the complete nuclear fuel life cycle. Significant amounts of fossil fuel are used in mining, milling, fuel enrichment, plant and waste storage construction, decommissioning, and ultimately transportation and millennia-long storage of waste. This is in addition to the serious financial, environmental and health risks associated with nuclear power, including the problem of long-term storage of the radioactive waste.

**NYS Should Commit to a Power Purchase Agreement of 5,000 MW of Offshore Wind by 2025, 10,000 MW by 2030**

The greatest opportunity for the clean energy transition in New York lies offshore. Climate scientists agree that we cannot avoid catastrophic climate change without a major offshore wind (OSW) program on the East coast. We urge the state legislature to direct the PSC and Governor to make a major commitment to a Power Purchase Agreement of 5,000 MW of OSW by 2025 and 10,000 by 2030.

The University of Delaware, which authored NYSERDA’s report on OSW, recently said that the United States has moved backwards in the last decade with respect to wind due to overreliance on market forces. We agree with their assessment.

The NYSERDA report found that the best way to lower costs for offshore wind was to commit to OSW development at scale, rather than on a project-by-project basis. It concluded that costs could be lowered as much as 30%. Taking advantage of wind turbine innovations and other technology and industry advances could lower costs by about an additional 20 percent. According to the report, "well-designed policies and actions taken by New York, as well as by other states, can play an essential role in helping New York City and other U.S. East Coast population centers benefit from gigawatts of clean energy that could be generated by deploying wind turbines off the Atlantic coast."

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Whatever state builds the first major offshore wind project is likely to attract the infrastructure investment in manufacturing, shipping, ports, and supply chain that will position it to be the center of the offshore wind build out along the East coast. New York Power Authority funded studies show that a single OSW project could generate total economic activity of $1 billion in sales, 8,700 job-years and $610 million in wages for New York State. A 2014 study by Stony Brook University found that if 2,500 MWs of projects were developed, Long Island would get 58,457 construction and operations phase jobs, as well as approximately $12.9 billion in local economic output.

With the need to avoid catastrophic events like Hurricane Sandy, there is evidence that an array of windmills off the coast of Long Island can mitigate the incoming force of future hurricanes. Because of the extended shallow shelf off the Long Island coast, the windmills could actually be sited beyond view from the beach avoiding the opposition offshore wind placement faced in the past.

The federal government says its top priority for the development for OSW is off Long Island. The Governor’s veto of the Port Ambrose liquefied natural gas facility now opens this area up to development. The state did get a grant from the Department of Energy to work with other northeastern states to spur the development of OSW. But NYS continues to lag behind other neighboring states such as New Jersey and Massachusetts, which recently had a 1,000 MW OSW project proposed by DONG (Danish Oil and Natural Gas), the largest OSW company in the world. New York needs to catch up.

If the PSC and NYSERDA fail to agree to a Power Purchase Agreement for OSW (and unfortunately state energy czar Richard Kauffman has stated his opposition), the legislature should enact and fund a Feed in Tariff (FIT) program to further promote the development of renewable energy. This approach has proven critical in Germany and other countries that have been world leaders in this area. China is also using FIT to support OSW development.

**Increase State Funding for Mass Transit**

One area where the state is lagging in reducing its carbon footprint is transportation. Transportation remains a major contributor to climate change. A simple but critical step to take in the 2016 budget would be to significantly increase investment in the recharging infrastructure to support the rapid transition to electric vehicles. The state should immediately begin to electrify its own fleet and provide financial incentives to individuals to purchase similar to California’s.

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8 http://e360.yale.edu/feature/will_offshore_wind_finally_take_off_on_us_east_coast/2693/


10 http://www.offshorewind.biz/2015/01/19/offshore-wind-support-schemes-current-status-of-european-support-schemes/

11 http://www.gwec.net/china-introduces-offshore-wind-feed-in-tariffs/
The environmental jewel of the state is of course the NYC mass transit system. There is an estimated $32 billion in NYC capital needs over the next five years, with nearly a $100 billion needed over the next 20 years. The recent deal announced by the Governor and Mayor falls far short of meeting the MTAs need, let alone the need for more funding for mass transit upstate. Funding needs to be substantially increased. We cannot build a resilient future on the cheap.

**Fund $300 Million for Environmental Protection Fund – Without raiding RGGI**

We applaud Governor Cuomo’s proposal to provide $300 million to the critical Environmental Protection Fund. However, we oppose the diversion of Regional Greenhouse Gas Initiative funds to the Environmental Protection Fund as was done last year and hope it will be discontinued in 2016-17. We also support the $100 million in proposed funding to help communities deal with their drinking and waste water infrastructure needs, though this falls considerably short of the estimated $600 million needed annually. Let’s avoid in New York the drinking water crisis in Flint, Michigan.

The proposed budget does include $32.5 million in new funding in the Environmental Protection Fund for climate change mitigation and adaptation, to provide funding for adaptive infrastructure, greenhouse gas management, and resiliency planning programs. We hope that this fund will include a build out of electric recharging stations. It is also important that adaption efforts address how climate change will continue to progress rather than wasting money in just responding to the “last storm” which will continually be exceeded in size and intensity in the future. Adaptation and resiliency should also focus on restoring natural barriers such as rebuilding wetlands and marshes in flood prone areas.

The Governor has proposed significant investment in infrastructure. The provisions of the 2006 Diesel Emissions Reduction Act passed by the legislature need to be implemented immediately.

**Enact a State Carbon Tax; Include Funding in State Budget for a Study**

New York needs to adequately price carbon-based fuels to reflect the true economic, health and environmental costs associated with this use. New York should enact a carbon (greenhouse gas) tax or fee to accomplish this purpose (this needs to include methane).

Not just economists but climate advocates from all backgrounds—including Republicans—are increasingly calling on lawmakers to enact a clear and rising price on carbon emissions. Reflecting the widespread health and environmental damages from carbon pollution in the prices of fossil fuels will help achieve deep cuts in the use of carbon fuels and add to the effectiveness of the state’s myriad allied policies to advance energy efficiency and renewable power.

The *New York Times* recently editorialized in favor of carbon pricing.\(^{12}\) This follows up on their prior editorial calls for a carbon tax. After COP21 in Paris, they wrote “Much was said about how the agreement sent a strong ‘signal’ to investors... But the strength of that signal will depend heavily on whether governments are willing to promote such investments while removing the tax

\(^{12}\) [http://www.nytimes.com/2016/01/19/opinion/proof-that-a-price-on-carbon-works.html](http://www.nytimes.com/2016/01/19/opinion/proof-that-a-price-on-carbon-works.html)
subsidies that favor dirtier fossil fuels perhaps to the point of embracing carbon taxes." See also their Case for a Carbon Tax (June 2015).

Many of the world's leading fossil fuel companies and financiers now support a carbon tax internationally.

The biggest obstacle to clean energy is that the market prices of coal, oil and gas don't include the true costs of carbon pollution. A robust and briskly rising U.S. carbon tax will transform energy investment, re-shape consumption, and sharply reduce the carbon emissions that are driving global warming.

A carbon tax is an "upstream" tax on the carbon content of fossil fuels (coal, oil and natural gas) and biofuels. A carbon tax is the most efficient means to instill crucial price signals that spur carbon-reducing investment. A carbon tax can also be used to recapture some of the costs pushed on to taxpayers and consumers from burning fossil fuels.

The International Monetary Fund reported last year that worldwide we provide $5.3 trillion in annual subsidies to the fossil fuel industry, mostly in the form of climate pollution and air pollution from burning fossil fuels. We need to stop paying to make the world inhabitable for humans. In New York, it is estimated that allowing the burning of fossil fuels increases health care costs by $30 billion or more while leading to at least 3,000 annual deaths from air pollution.

It would be better to enact a robust national carbon tax. However, since the present Congressional gridlock on climate change makes this unlikely, New York should take the lead and enact a state carbon tax. In Canada, British Columbia has successfully implemented a provincial carbon tax. The tax has helped BC reduce its carbon emissions 3.5 times more than the rest of Canada while their economy performed slightly better than the rest of the country.

There are presently two carbon tax bills pending before the state legislature. We actively support A8372 (Cahill) / S6076 (Parker). The options that were included in the bill (e.g., initial level of tax, amount of annual increase, distribution of revenues) were chosen based on surveying several hundred climate change activists.

The proposed carbon tax would start at $35 a ton and then increase in annual increments of $15 a ton. 60% of the revenues would be rebated to low and moderate-income consumers. The remaining forty percent would support the transition to one hundred percent clean energy in the state, to support mass transit to reduce carbon emissions, and to improve climate change adaptation. Such funds shall include payments and subsidies for renewable energy, energy conservation and efficiency measures, improvements in infrastructure, improvements in mass transit capacity,

14 http://www.nytimes.com/2015/06/07/opinion/the-case-for-a-carbon-tax.html
agricultural adaptation measures, protection of low-lying areas including coastlines, and emergency responses to extreme weather events.

At the base rate of $35 a ton, the revenues from the carbon tax would be $3.5 billion according to Prof. Sara Hsu of SUNY New Paltz. In Year Two of the carbon tax, based on the annual increase of $15 per ton, the revenue would be $6.2 billion; in Year Three, $7.9 billion; in Year Four, $9.5 billion, and in Year Five, $11 billion. At the end point of $180 a ton, annual revenue would amount to $14.3 billion.

It is estimated that the initial carbon price of $35 a ton would increase the cost of gasoline by 35 cents a gallon. At $180 a ton, the cost would rise by $1.58 per gallon.

We recognize there are differences of opinions as to how to best invest the revenues: offset the regressive nature of any energy tax; do a 100% rebate of the tax to consumers (e.g., 100% fee and dividend); invest in the transition to renewable energy; and to meet other social needs such as job creation. The revenue option the legislature agrees to is less important than adopting a carbon price high enough to effectively reduce the amount of greenhouse gases emitted.

As an interim step, we urge the legislature to include funding in the state budget for a study of the impact and potential of the various levels and variables for a state carbon tax. Oregon and Massachusetts have conducted such studies.

The Oregon study examined a carbon tax based on British Columbia’s model. Like BC’s, the carbon tax examined for Oregon would be (largely) revenue-neutral. Governor Cuomo has indicated that he intends to take action in the near term to increase carbon pricing. New York already has a limited carbon pricing scheme through the Regional Greenhouse Gas Initiative for electrical production. However, the Congressional Research Service recently concluded that the price of discharge permits was too low to have any significant impact on reducing carbon emissions. The emission reductions achieved thus far resulted from investing the proceeds from auctioning emission permits into NYSERDA's renewable energy programs.

In November, the Governor said he would help create a national market for carbon, based on the state’s existing RGGI program. Pope Francis rejected such markets as subject to Wall St. speculation and schemes. “The strategy of buying and selling “carbon credits” can lead to a new form of speculation which would not help reduce the emission of polluting gases worldwide. ... In no way does it allow for the radical change which present circumstances require. Rather, it may simply become a ploy which permits maintaining the excessive consumption of some countries and sectors,” wrote the Pope in Laudato Si’, On Care For Our Common Home.

In December, the Governor announced that New York and four other states are exploring ways to put a price on the air pollution spewing from cars, trucks, trains and other vehicles -- the source of more than a third of greenhouse-gas emissions in the northeastern U.S. The result may eventually

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20 http://www.carbontax.org/blogarchives/2015/10/14/crs-underwhelmed-by-rGGI/
be new taxes, tolls or a pollution-trading system that could raise $3 billion a year or more for mass transit, electric-vehicle rebates and other projects.

**Need to Fund a Just Transition**

The transition to 100% clean energy will be a tremendous job creator for New York State. We need to ensure however that the workers and communities most impacted by climate change and the transition to renewables have their economic needs met. For instance, workers laid off due to the closing of fossil fuel plants should have their salaries guaranteed during the transition and be given top priority for job training and new jobs.

A good start is the Governor’s proposal for $15 million in funding for the Clean Energy Workforce Opportunity Program. In order to educate the next generation of clean energy workers, this fund will expand clean technology and renewable energy programs offered by SUNY. In partnership with clean energy businesses located on or near SUNY campuses, we support additional funding for job training programs related to renewable energy.

Labor and environmental justice advocates are developing a set of climate change jobs, just transition and environmental justice proposals that we hope will be released shortly. Below are some points that they are developing that are critical.

A. New York State should dedicate 30% or more of climate investment into environmental justice and low-income communities.

B. The state needs to create good local jobs in clean energy and protections for workers impacted by the current transition. Set in law:
   - A “Build the Future” working group that brings together labor, community, business, and other leaders to propose and implement large-scale projects.
   - Good job standards (prevailing wage and/or project labor agreements and/or labor peace agreements) and targeted local hiring commitments on climate investments at or above $1,000,000.
   - A “Just Transition” fund to support worker training in new clean energy industries, retirement support for workers in transitioning industries, and short-term local tax revenue losses where energy industry is in transition.

C. New York needs to create an ambitious program to transition the state to a 100% clean energy economy backed by significant funding. Set in law:
   - A community-planned Just Transition fund to support workers displaced from transitioning industries, as well as a planned transition from the current reliance on dirty energy to a new clean energy economy that is supportive of localized economies, ecologically grounded, produces community wellbeing, democratizes decision-making, and promotes local control of resources (including land, water, and food systems).
   - Programs to ensure the state meets its climate and clean energy goals and does so by prioritizing disadvantaged and impacted communities.
The State Legislature should also correct the problems that have resulted in the underperformance of the Greens Jobs Green NY program. This legislative initiative seeks to create good jobs while energy retrofitting hundreds of thousands of homes. We need stronger legislation to finance these projects out of utility bills and the issue of credit for residents should not be allowed to be a barrier to financing. See the recommendations of the low and moderate income working group.²²

We support providing funding to enable low and moderate income community groups to intervene in the Reforming Energy Vision proceedings. It is critical that such individuals are able to fully participate in and benefit from the renewable energy future.

**Divest Public Funds from Fossil Fuels (A8011 / S5873)**

New York State’s pension funds should cease making any new investments in fossil fuel companies and completely divest from them within 5 years. It should immediately divest from coal and from Exxon, which is being investigated by the State Attorney General for allegedly deceiving the public and investors about the reality of climate change. Both Mayor De Blasio and Vermont Governor Shumlin has recently called to divest public pension funds from coal, the latter also proposed divestment from Exxon. The California State legislature voted earlier this year to divest from coal after it was disclosed that the state pension program had lost $5 billion²³ last year from its investment in fossil fuels.

Hurricane Sandy decimated the New York City and Long Island areas, causing $65 billion in damage. Sandy was fueled in part by Atlantic waters that were 5 degrees warmer than average, a result of human-induced climate change. And yet, New York City’s and State’s pension funds for public employees are all invested in coal, oil and gas companies that dump carbon into the atmosphere for free, and rig the political system so that they can continue to do so.

As Bill McKibben of 350.org noted, if it is wrong to wreck the climate, then it is wrong to profit from that wreckage. After Hurricane Sandy, New York City should be a shining light in the fight to combat climate change — to do that, it’s pension funds must freeze and divest from fossil fuels. As of March 2013, almost $5 billion of New York State pension funds are invested in coal, oil, and gas out of a total of $160.7 billion.

Divesting all fossil fuels from the New York State pension fund is an act of long-term fiduciary responsibility that will protect the well-being of New York State’s pensioners and citizens. We should require SUNY and CUNY to divest from the top 200 fossil fuel companies in the university’s college portfolios.

Financial analysts and experts are increasingly worried about the risk of a carbon bubble that will arise if coal, oil and gas reserves become stranded assets. If governments meet their commitment to keep global warming below 1.5°C, they will need to pass regulations that force fossil fuel companies to keep 80% of their fossil fuel reserves underground. The accessibility of those reserves are a major factor in determining these companies’ share price. Once the reserves are marked as unburnable, the value of the fossil fuel industry could plummet, to the tune of trillions of dollars.


The State has a fiduciary responsibility to protect the retirement funds of public workers from risky investments. Investing in fossil fuels poses increasing financial risk and loss. Falling coal and oil prices, along with renewables becoming cheaper than burning greenhouse gases, highlights the financial case for rapid divestment. Investors are increasingly voicing their concerns about the fossil fuel industry's long term financial viability, and opposing new capital expenditures aimed at discovering new coal, oil and gas reserves. Investors are concerned about the increasing action by governments' worldwide to restrict and tax the use of fossil fuels.

The State Comptroller has resisted divestment, arguing for shareholder advocacy instead. Certainly it is helpful to use the voting rights of pension to move companies to adopt more environmentally responsible practices. The comptroller should continue to lead shareholder advocacy campaigns to set greenhouse gas emission goals, improve energy efficiency across operations and source more renewable energy. But it is extremely unlikely that a board of a fossil fuel company will agree to stop the production of fossil fuels given that it is their core business. Shareholder advocacy is not an effective tool for changing the overall orientation of industries whose business models depend on producing fossil fuels.

In closing, we call upon state legislators to think about the future and about their legacies as public servants. Legislators have special responsibility to leave a cleaner, healthier, more resilient New York to our grandchildren.