

Testimony of Ron Rivers
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Energy Master Plan Stakeholder Meeting
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Good afternoon, President Fiordaliso and Commissioners my name is Ron Rivers. I'm here as a citizen stakeholder to offer feedback on the proposed EMP.

First, I'll mention that I believe the overall plan was well done and commend the Governor and Board of Public Utilities on their efforts in constructing the document. I've come prepared with feedback regarding omissions from the report as well as suggestions to questions proposed in the paper.

I want to begin with a recent quote from Harvard professor of atmospheric chemistry James Anderson that I believe will set the framework for the comments I offer. "People have the misapprehension that we can recover from this state just by reducing carbon emissions" He argues that recovery is impossible without a World War II-style transformation of industry. [1]

It is with this understanding that I approach the solutions presented herein. Bold action requires bold vision beyond the immediate present. New Jersey has a rare opportunity to be a national leader if we're willing to experiment with new ideas and procedures in accomplishing our goals.

Fossil Fuel Moratorium

The EMP omits the foundational requirement of a successful Green Energy Plan - placing a moratorium on all new fossil fuel projects. It is unreasonable to claim a genuine effort in moving New Jersey to 100% clean energy while simultaneously leaving the door open for new fossil fuel projects. Also, fossil fuel technologies are heading towards obsolescence, and new investments would likely be abandoned before 2050 if NJ continues to push for 100% clean energy as is required by the plan. The climate crisis presents us with a deep hole to climb out of, our first step is to stop digging.

Racial and Environmental Justice

The EMP indicates New Jersey's desire to ensure racial and environmental justice imbued into our approach towards recognizing 100% clean energy. This is an admirable and achievable goal, but only if the Board is willing to consider alternatives to its primarily market-based solutions presented in the document. Market-based solutions will consistently fail to create equity for our most disenfranchised as they are the least likely to take advantage of "incentives." Throughout the document, I will argue for alternatives to increase racial and environmental justice in New Jersey's EMP.

Strategy 1 Question 4: *How can the state work with the private sector to increase publicly-accessible EV charging infrastructure?*

I recommend that the legislatures review Assembly Bill #A5097 and Senate Bill #S3493. The bills attempt to increase the number of electric Car dealerships. My suggestion is to amend the bill to require Tesla (or another electric car manufacturer of choice) to fund the installation of charger stations in exchange for expanded market access.

We can tie this into EMP Goal 1.1.7 which wants to prioritize providing clean energy and clean air to low-and-moderate-income areas by requiring a percentage of the new chargers be installed in LMI areas. I would also recommend including language, ensuring that the charger stations become public property once installed, avoiding any long-term leasing or private ownership option.

Question: How would the state and municipal governments fund maintenance of the EV stations? My experience with speaking with local leadership is that staffs are tight and budgets are small.

Strategy 1 Question 5: *How can the state work with the private sector to advance the technology for medium- and heavy-duty vehicles and incentivize private sector adoption of alternative fuel vehicles?*

I would argue that the question itself is framed incorrectly, relying too heavily on market-based participation. The suggestion I put forth is to require, not incentivize. We could imagine a required transition schedule for corporations operating medium and heavy-duty vehicles, requiring fleets entering to NJ or using our ports to be converted within specific time frames or suffer from fiscal penalties.

If you want to combine incentives with a required program, you could offer bonuses for organizations that convert fleets ahead of schedule. We could also create separate regulations for small business owner truckers and independent contractors allowing their fleets to phase out naturally but requiring alternative fuel vehicles afterwards.

Several passages of the EMP call for racial and environmental justice to be integrated into the program. LMI areas suffer disproportionately from corporate freight transportation as low-income housing is more likely to be located too high pollution areas. If we refuse to put real pressure on corporations to transition, the poor will suffer most.

Strategy 1 Question 11: *What policy, legislative, or regulatory mechanisms can New Jersey develop to ensure that it can most cost-effectively pursue a 100% carbon neutral power sector?*

The necessary action for crisis avoidance here in New Jersey requires us to think outside of standard procedure to succeed. Below I will argue several proposals that would drive transformation here in New Jersey.

Change Question 11. “100% Carbon Neutral” should not be the goal, 100% Clean Energy should be our focus. If we’re thinking about Carbon Neutrality as the goal than we are likely considering market-based solutions such as carbon/pollution credits that can be purchased and sold. Market economics brought us to the crisis, it is unrealistic to believe that they will resolve it.

Redefine the laws of property and contract surrounding energy generation, distribution, and investment. In the EMP the Board recognized the possibility of having to reimagine regulation and legislation surrounding energy in the state. I argue that the most effective policy, legislative, and regulatory mechanisms begin first with this.

Energy is a fundamental aspect of nearly all life here in New Jersey and will only continue to be more deeply integrated into the lives of every resident as time and technology progress. Access to reliable and affordable energy is a requirement to live a life of opportunity here in New Jersey. The state should begin the work of making energy investment and ownership public.

We have a proven success here in the United States. Nebraska has had 100% public ownership of the utilities for over 100 years and it operates at surplus that is reinvested into community programs. The state has averaged net position gains of approximately 79 Million per year over the last three years.

As energy advancements become more efficient and the transition timeline shortens we will need mobilized effort to meet our targets for green energy. Public ownership of this specific vertical makes sense as it is completely integrated into all of our lives. Let us not forget that the losses of PSE&G are already socialized, with taxpayers funding the bailout of aging nuclear infrastructure.

The legislative pathway to creating this change happens through the creation of separate but simultaneously operating laws of property and contract in regards to energy production, distribution, and infrastructure.

Public ownership of our energy verticals is a necessary step for transitioning under the ideal timeframes and would set New Jersey towards a new path of innovative democracy. The biggest challenge will be political, which is why I would recommend a public vote on the topic. The climate crisis impacts all of us, everyone deserves a vote.

Question: How would our legislatures prevent corporations from aggressively spending on ad campaigns to influence a public vote? Alternatively, how can legislatures remove and prevent the influence of energy companies on our elections?

We could also explore new corporate models to reflect the public interest better when investing tax dollars in subsidizing and incentivizing specific verticals. New Jersey could create structures that extend credit in the form of capital, resources, and technology to organizations in exchange for more profound social responsibility through a tiered structure tied to income. A more in-

depth explanation of this concept may be found here:

<https://www.ronrivers.com/2018/10/22/introducing-the-p-corp-a-progressive-alternative/>

Raise the aggregate tax take. What is likely to be the most unpopular suggestion in these recommendations may also be the most vital. One of the biggest challenges outlined in the EMP is the fact that some of the technologies associated with Green Energy do not yet exist in a state that provides an ideal return on investment. We need a more aggressive approach than laid out in the EMP if we are to avoid a crisis, to do that we need more money.

Of course, this is going to be a political non-starter because so many legislatures have made their careers off the promise of no-new-taxes. Therefore I recommend a public forum for the demonstration. We could imagine a two versus two moderated debate with a public audience, live streamed and recorded for future viewing, and a ban on all advertising about the discussion outside of official channels to advertise an official, data-driven, informational website.

One distinct method for increasing the tax-take is the increasingly popular millionaires' tax. Other alternatives outside of a purely progressive taxation system are to introduce a European VAT Tax or the Kaldor Tax, which would tax the difference between a person's total income and investment savings. [2]

Swaying public support for the tax increases is important, but what we're asking for is public investment. In more aggressively funding a publicly owned energy infrastructure we are creating significant long-term dividends that will lower energy bills, improve community health, and fund social projects.

Require those most responsible for creating the impacts that arise from climate change to bear the cost of responding to the resulting economic, social, and environmental crisis. In setting the proportionate cost of climate-impacting activity, the full environmental, health, social and economic cost of energy use from extraction to disposal must be included to accurately reflect the cost that energy use has on our environment, our health and our communities. We know that certain energy corporations have a high degree of responsibility for the crisis at hand. For example, ExxonMobil knew about climate change since 1977 and spend decades denying and even worse, millions spreading misinformation about the now present crisis. [3]

The state must question why the residents of New Jersey bear the sole responsibility for a crisis that has arisen from the actions of global conglomerates. New Jersey should be a national leader in demanding that these destructive practices are penalized and prohibited.

In alignment with Goal 3.3.1, New Jersey should require all new building construction to utilize solar panels, including existing construction immediately. If the Board is required to wait until 2024 to revise the code then perhaps a bill requiring all new buildings to have solar panels installed to generate a percentage of energy (ideally 100%) can be incorporated. New Jersey continues to develop, forcing developers to install panels now will save both time and effort in the future of having them retroactively add panels.

Long term New Jersey should be focusing on decentralized Microgrid technologies. As the EMP mentioned, the technology is not available at this time for self-sustaining microgrids, however, it is more than likely that shortly it will be. Microgrid technologies allow every building, or group of buildings, to become a power generating node in a more extensive network where excess energy is stored and disseminated as needed.

SIDE SYSTEM TECHNOLOGIES



- Solar PV panels
- Solar thermal panels
- Heat pumps
- Combined Heat & Power
- Wind turbines
- Electric Vehicles
- District Heating
- Batteries
- Hot water tanks
- Hydrogen (fuel cell, electrolyser, tank)
- Electric boilers
- Wood stoves
- Electric heating
- Biodigester
- Seasonal thermal aquifer storage
- Cooling systems
- Heat recovery (ventilation, DHW)

Controlled through a Local Energy Management System (LEMS)

Microgrids also provide enhanced security and safety for all New Jersey residents. By decentralizing our energy infrastructure we insulate ourselves to systemic attacks from ill intentioned parties.

Strategy 7 Question 26 *What industry sectors or job occupations are expected to see growth? Which industry sectors and job occupations are expected to need job training support to ensure an appropriate workforce is available to meet the needs of a growing economy?*

If NJ is thinking long-term about technologies that will drive the future of energy and beyond it would invest in Nanotechnology. Nanotechnology is one of the three defining technology verticals of the future (alongside Robotics and Genetics) according to renowned inventor and author Ray Kurzweil. While I will keep my arguments focused on energy the implications of building a nanotechnology hub now are profound as the tech will bleed into other verticals that New Jersey is already dominant in such as medical development and delivery.

Nanotechnology will improve efficiency and reduce the cost of fuel cells. Specifically, it's used to reduce the cost of catalysts used in fuel cells. These catalysts produce hydrogen ions from fuel such as methanol. Nanotechnology is also being used to improve the efficiency of membranes used in fuel cells to separate hydrogen ions from other gases, such as oxygen.

It will also improve the performance of green energy battery storage technologies. It will enhance battery longevity as well as charging speeds. There is an extensive list of other benefits including increased efficiencies of windmills, lightbulbs, cleaning up organic pollutant compounds in water, and more. Nanotechnology will be one of the most profound technologies of this century, and proactive investment now would create a powerful economic engine for NJ.

On pages 38/39, the EMP outlines a desire to reduce vehicle dependence for NJ residents. One possible pathway for success would be networked cities (ideally the state) with fleets of autonomous electric vehicles. Presently we cannot achieve this without a 5G network. The best 5G network infrastructure producer today is China, but their equipment presents genuine security concerns as well as the tech itself is large and requires a significant footprint. Nanotechnology could, in theory, miniaturize this technology and allow it to be infused into every building and structure rather than concentrated to specific areas. Publicly owned EV fleets connect the gap between increasing mass transit and reducing total vehicles on the road. This option also coincides with the existing Rutgers co-investment project as outlined in the EMP.

[1] We Have Five Years To Save Ourselves From Climate Change, Harvard Scientist Says by Jeff McMahon *Forbes* <https://www.forbes.com/sites/jeffmcmahon/2018/01/15/carbon-pollution-has-shoved-the-climate-backward-at-least-12-million-years-harvard-scientist-says/#407de7c2963e>

[2] An Expenditure Tax by Nicholas Kaldor (p. 53) <https://www.amazon.com/Expenditure-Tax-Nicholas-Kaldor/dp/0415314003>

[3] Exxon Knew about Climate Change almost 40 years ago by Shannon Hall *Scientific American* <https://www.scientificamerican.com/article/exxon-knew-about-climate-change-almost-40-years-ago/>