

Dear NJ Board of Public Utilities Commissioners

President Joseph L. Fiordaliso, Commissioner Mary-Anna Holden, Commissioner Dr. Zenon Christodoulou ,
Commissioner Christine Guhl-Sadovy and Commissioner Marian Abdou;

In this comment, I created a shortened snapshot for each of the sections of EO317. I insert a table box where I provide my thoughts and suggestions for NJBPU to review. I try to keep it thoughtful and considerate. I am not sure if the take your stovetop comment qualifies, but since I heard it at the technical conference and it is a big misinformation campaign at this point, I included it in. Please do not take any offense by it.

EO317 directs NJBPU to (abbreviated form):

1. Engage the public (stakeholders) immediately concerning developing plans to reduce emissions from the natural gas sector. Within 18 months, develop recommendations for how the natural gas industry can best meet these goals.

NJBPU Recommendations Report is due: August 15, 2024.

As the NJBPU Technical Conference speakers stated on August 2 several times, this is the initiation of this reduced emissions discussion to produce a plan for natural gas. That NJBPU and stakeholders need to formulate; collaborate; discuss; vet; and explore how others have approached this, what technical advancements might disrupt the natural gas demand and emissions, how to repurpose natural gas infrastructure and how to ensure the long-term viability for New Jersey utility companies to provide the mission critical energy services for New Jersey residents and businesses.

EO317 states: "Conduct a thoughtful and thorough assessment and planning process that takes into account the implications of New Jersey's decarbonization goals and future changes to energy needs on the State's natural gas industry, operations, infrastructure, and customers." This is not a small task, but it is mission critical for NJ's future energy well-being.

Suggestions for NJBPU to consider:

- Create multiple dockets and technical conference sessions over the next 5 months.
 - a. One session allocated for each of the subsections of 2 (a through g).
 - b. Three sessions focused on joint agency collaboration and update workshops for months September, November and January where NJBPU invites the Governor's Office of Climate Action and the Green Economy, the Clean Buildings Working Group, the DEP, the DCA, the Economic Development Authority, and any other implicated State agencies present their input and discussion with NJBPU.
 - c. Four sessions allocated as public status update and input forums for stakeholders for the months of October, December 2023, February 2024 and April. NJBPU staff can provide updates on what other countries, states and jurisdictions are being consulted, what NJBPU findings are, what technical innovations are being considered, what policy and mandate recommendations are being reviewed and what other updates, exploration and findings are being pursued.
- The EO317 mandate to NJBPU is a Program Project Management assignment that has a is broad in scope, but has a very short timeframe for completion. It needs to be managed as a fast-tracked program with the several focus areas identified in EO317 identified as parallel project tracks that have project managers, business analyst, business partner (assigned to engage other NJ agencies) and technical experts facilitating each track. In reality, there are only 6 months remaining for the research and analysis phase, since there needs to be time allotted for building an agreed upon report that includes review, signoffs and interagency buy-in to the recommendations within the report.
- We need representatives from each New Jersey Public Utility 'at the table' working through ideas.
- Monthly dashboard on progress in each EO317 section.

2. Consideration and constraints (my interpretation of this section):

- a. Utilize competitive market mechanisms to drive the lowest cost methods for reducing greenhouse gas emissions. Define “clean heat” standard that enables NJ utilities to select from suite of measures to meet emission reduction standards such as energy efficiency and peak demand reduction targets; enhanced building electrification targets; leak minimization; or other similar measures.

I have apprehension regarding this section as to what it might be implying (if I am reading this correctly) to ‘go the cheapest route for reducing greenhouse gas emissions.’ This is very much akin to buying the cheapest washer machine and discovering that you have to hand wash your clothes before putting them into the washer machine if you really want them clean. Which only means the operation of the washer machine costs more in the long run not only from excess human labor requirement, but also from unnecessary electricity consumption and water consumption. All for a device (or method as referenced in this section) that has limited life horizon and excessive high maintenance cost burdens. We don’t want that. An example would be leaving up natural gas emissions reduction to the facility owners responsible for delivering the gas to the Public Utility when already know they grossly underreport emissions today (as I detailed in my previous comment).

What Public Utility Framework do we want?

1. Fossil fuel energy **disruptors** that break the traditional energy plans that call for large excessive power plants. That disrupts the fossil fuel industry’s past 80 years of programming that we need large transmission infrastructure crisscrossing the US in order to have energy.
2. A Public Utility that no longer is just a ‘push and distribute’ energy and fuels to homes and businesses. A Public Utility that has roots (**grid-edge**) in every willing home and business that enables renewable hydrogen electric energy storage and maximizes renewable energy generation.
3. A Public Utility that is enabled to redefine grid services from ‘push and distribute’ to **‘Community Connected’** that forms the bedrock of the new locally produced and locally provided energy electric services with ties into regional electric transmissions and regional renewable energy suppliers.

I would suggest that NJBPU hold at least one technical session that discusses this very topic: What is it that we want the public utility framework to become? When I listen to different people at the technical conference or even presentations from organizations, NGOs and energy companies; every proponent of something is pushing ideas that do not necessarily look at **how do we reshape the Critical Public Utility Framework so that it can decouple from all fossil fuels including natural gas.**

There is quite a bit of misinformation from all vantage points in this, probably from me too. I believe we need to take a step back and really work out what the common ground is for what do we **want** and then look at **what does it take**. Let’s not allow each side to present distorted rhetoric without facts to shutdown viable options that are necessary to get us away from fossil fuels. An example is ‘Environmentalists’ claim hydrogen is a pipedream and ‘Energy companies’ claim natural gas methane steam reformation produced hydrogen will reduce emissions. Both statements are misleading and inaccurate.

Let’s not allow specific interests to overrule options by stating it isn’t practical such as hydrogen single point turnkey electric storage. It is practical and you can easily see European countries are approaching this in a much more holistic manner. We need this approach too. New Jersey needs to seek out fossil fuel energy disruptor mechanisms such as hydrogen endpoint electric storage solutions and drive costs reduction by enabling grants, subsidies and sponsoring market competition.

I am hoping that you might see my three suggested framework goals as a possible vision template that can enable a viable pathway for Public Utilities to shift away from all fossil fuels to renewable electric grid.

Construct for incentivizing homes and business to transition away from Fossil Fuels

We don't want energy police to come and take a person's gas stove away. No, we want incentives that drive people to want to replace their gas stoves as soon as possible. We want compelling energy incentives that drive the consumer to adopt 'clean heat' paths that also enable the utility companies to re-engineer their energy services that cater to a new community connected grid enabled to dynamically load balance distributed renewables, regional renewable providers with home and business distributed renewable electric storage controlled and managed by the utility companies.

A framework that informs a homeowner or business that if you are willing to provide PSEG (for example) space and connection for renewable hydrogen electric storage, you will be provided the means to electrify your home or building and eliminate fossil fuels to that home or business. This agreement would include allocated dedicated electric storage for the home or business during power outages. As a willing home or business, they would be financed to fully switch from fossil fuel sources to complete electric and clean heat. In return, PSEG has rent free grid-edge controlled storage and grid-edge renewables that PSEG controls and can be used for offsetting peak demand or for facilitating local energy during outages.

The incentives enable the new extension business model for Public Utilities as the rebuild towards community connected grid down to each transformer supplied area.

What do we need to offset natural gas (in New Jersey) in our energy infrastructure?

- **Distributed renewable storage everywhere possible as soon as possible.**
At any home and business that is incentivized to enable the utility company to own and manage a major portion of that storage rent free.
- **Distributed renewable energy generation everywhere possible *that is environmentally integrated.***
Use the IRA many grants, especially the solar everywhere that just came through. We need to maximize funding enabled in the IRA bill to help make this real.

Fossil fuel energy sources *can* be replaced with renewables
only if it is directly coupled with utility controlled distributed renewable storage.

What is renewable storage (my perspective that I hope you consider to adopt)

- Storage that comes from abundant sources that doesn't require excessive land and mining destruction to our environment.
- Storage that doesn't require resources produced and shipped from large footprint mining or fracturing production.
- Storage elements that are easily re-absorbed into the environmental cycle
- Storage elements that can be produced anywhere and that do not have any toxicity to the environment or humans. Single point hydrogen electric storage has little to no hydrogen emissions and can be produced anywhere in New Jersey and the US.

The only renewable electric energy storage that I am aware of that is locally and renewably produced is hydrogen. This type of solution is fully contained and turn-key. It is currently being deployed overseas at homes and business. These systems fit in a size around 100 square feet that includes the hydrogen production, storage and the fuel cell. The New Jersey Fuel Cell Task Force quickly ruled this option out when I suggested it to them. Not practical, inefficient, costly (we are not there yet). Environmental groups quickly react stating hydrogen is a pipedream and causes climate change. Energy companies rule this out because it threatens natural gas production. Then why are there numerous companies now in the US with actual installations and that this approach is being built out in Europe?

Naturally, with everything, there is a little truth in each of the positions. However, standalone turnkey hydrogen solutions are the least likely hydrogen solution to emit large amounts of hydrogen to cause atmospheric warming. My previous comment mentioned the methane atmospheric feedback loop which I believe can be also be impacted by large amounts of hydrogen emissions.

I am seeing other countries and communities pursue this and I ask NJBPU to put it on a serious consideration track because we need renewable electric storage. H2 Electric Storage companies in the US include Plug Power, Elektrik Green, Oncore Energy and GKN Hydrogen.

Let's engage them and ask the 'tough questions' from each of the vantage points.

There is also something right about this approach that other countries recognize (that we haven't yet recognized). We need to explore this and not allow loud vantage points shut it down (Environmentalists, NJ Fuel Cell Task Force and energy companies). We can ask the loud vantage points to present the tough questions to ask these companies, but let's have NJBPU being the point asking the questions. Let's have a dedicated session just for this vetting process.

- b. Ensure reliable operation and long-term financial viability for NJ Utilities. The business model needed to keep the gas system intact while NJ reduces natural gas demand and minimize investment in new infrastructure to reduce the risk of stranded asset costs.

Writing comments to NJBPU and also from my experience with PSEG technical staff and managers have educated me how critical the Public Utility companies are for New Jersey residents and businesses. They do have help and support from NJBPU, but they carry quite a bit of burden and increased risk associated with climate change events.

Public Utilities currently includes fossil fuels and nuclear as a part of their framework for enabling energy services to businesses and homes. With the Community Connected Framework via grid-edge extension services such as renewable electric storage, it offers many different opportunities for how to create viable business pathways for the utilities and incentivize customers working with the Public Utility. That is what Community Connected Grid Services is all about.

NJ Clean Energy working with NJ Public Utilities created a marketplace that has been a great stepping stone into how this needs to evolve. I purchased a smart thermostat through the marketplace for \$0, which enables me to better control my home heating and cooling and monitor it. We need to drive the community connected concept further. I would suggest holding a conference that focuses on building out community connected initiatives that:

- Help NJ Public Utilities expand their role in the grid-edge services (especially electric storage).
- Provide gains for the residents and business that are willing to shift away from fossil fuels and increase building efficiencies, clean heating and other mechanisms that mitigate increased electric demand.
- I ask NJBPU to please look at 'renewable everywhere' options that are environmentally integrated. I provided feedback about sun tracking arrays for homes and businesses that are at least five feet above the ground and where those arrays can house up to 30 kilowatts of solar panels and maximize solar generation even on days where the sun is only available in the morning or evening. We cannot just plaster solar panels on the ground like I see going south on Route 1 towards Princeton. That is a mistake and doing that everywhere will have detrimental impact on our environment, runoff, etc. In our planning against climate change events, this is a critical must.

- c. Alternative investments to enable new revenue streams for NJ Utilities. Including considering reuse of existing utility pipelines possibly reused for carbon capture.

I am not a proponent of pipeline carbon dioxide capture. In a way, it is similar to how environmental groups are not proponents of hydrogen. All I see is extensive risk, increased pollution and methane emissions.

Other possible repurpose options for existing pipelines in transmission and endpoints such as utility infrastructure:

- geothermal energy
- flood water offset
- Communications piping
- Community distributed energy and storage solutions

When the White House Council on Environmental Quality provided a Carbon Capture roadmap, I was astounded how contradictory the purpose of the CEQ mission versus what the CEQ was promoting. I don't remember the details, but they proposed something like 70,000 miles of carbon dioxide capture pipelines and which communities do you think those pipelines would run through? Disadvantaged communities. No wealthy community is going to allow that threat to go through their community. If you have not seen the explosion and kill zone of a ruptured carbon dioxide capture pipeline, I urge you to please review that.

I believe in carbon capture, especially natural carbon capture. I am sure there will come technologies that may be able to transform the carbon in the air into reusable products. That is another form of carbon capture I believe we should sponsor.

But Carbon dioxide Pipelines? That started from the energy companies, much like natural gas hydrogen mixed pipelines (that I initially bought into not knowing the real threats). Both are dangerous and pose more threat to the communities and contamination to the locations where it is pumped into the ground.

- d. Elimination of subsidies that encourage unnecessary investment in natural gas infrastructure.

I urge NJBPU to identify all subsidies and loopholes that enable natural gas expansion. Very much like the blowdown loophole where if it isn't over 2,000 pounds of VOC (which in my previous comment submitted I detail how that means it includes 505 tons of methane and many other toxic pollutant emissions), no need to report the blowdown and don't add the emissions to the annual estimate of emissions.

New Jersey is a major thoroughfare for natural gas transmission and the capacity is continually being pushed to expand for use cases and end points outside of New Jersey homes and businesses.

There should be investment into natural gas leak and facility emissions investigation. But not investment into expanded capacity. We need to draw the line and push to not allow further expansion through or within New Jersey. No subsidies, no grandfather clauses, no other loopholes. We need to stop further expansion investment in pipelines that traverse through and within New Jersey.

I wish I was better able to articulate to the NJ BPU Commissioners how much of a threat further expansion poses to New Jersey.

- e. Long-term impacts on residential and industrial customers who fail to or are unable to switch away from natural gas. Especially focusing on the needs of and barriers faced by low-income customers. Identify ways to reduce barriers to transition, including rate design, incentive structuring, and pilot programs to accelerate infrastructure conversion.

We can't fail. This is a team effort. We must develop incentives (both carrots and sticks) that drive all of New Jersey off of fossil fuels as soon as possible.

Natural gas is a fossil fuel and over the past 20 years, the emissions have gone unmonitored except for slight remnants notable such as Cape May NOAA methane monitoring site.

We have to create tiered incentives that enable low-income complete switchover.

We have to develop long term incentives that drive businesses and industrial locations to develop renewable alternative approaches. Not all the answers are there yet, but I believe that if NJBPU puts this on a program track that prioritizes the disadvantaged conversions, fast tracks the willing home and business locations, and strategies with the industrial owners to transition away from fossil fuels. We will get there.

I would love to add more in this area, but I think it is a whole separate comment focus that I ask NJBPU to consider opening up a session and docket for hashing out all the various ways to engage all NJ residents and businesses. This won't happen overnight, but we need to report back to the Governor that we will reap the easy conversions first while always including disadvantaged sites as a core component.

- f. Electric grid readiness to handle electrification of building heating and cooling, as well as transportation, including recommendations for shifting investment funding from natural gas to electric system infrastructure upgrades.

I believe this topic should build on the community connected grid-edge concept that I suggested above.

The extension of Public Utilities connections can help facilitate electrification of buildings heating and cooling.

Transportation is a whole other area that hasn't come up yet. We need a special focused track on gas station conversion that enables utility controlled electric storage and builds all of the above renewables (micro-wind, solar arrays and even geothermal). When I look at Tesla's recharging stations across the US, I feel this threatens businesses in New Jersey who don't have the ability to build the charging station. Tesla is not a Public Utility and we need to drive competition by focusing on the gas stations in New Jersey. Many locations have ideal wind flow. I would encourage NJBPU to consider micro wind solutions for those locations coupled with lease free benefits for the Public Utilities to have electric storage at those facilities.

I agree that we need to shift investment funding from natural gas to electric system infrastructure and this needs to include all the gas stations. If done properly using turnkey hydrogen electric storage, it can build the way to include hydrogen refueling as a follow-on implementation phase.

g. Any other issues the BPU deems relevant to the central purpose of the proceeding.

- Community Engagement via towns and counties
- Community awareness and education on climate change and impacts of natural gas
- Bringing communities together in developing plans that allow New Jersey to not just survive, but to thrive in a new climate crisis. Yes, this is a bit of an irony, but it is urgent and often urgent issues offer a way for people coming together, unifying and solidifying our determination. We just have to be wary of misinformation and people who just seek to divide and disrupt any progress.

3. BPU shall consult with the Governor's Office of Climate Action and the Green Economy, the Clean Buildings Working Group, the DEP, the DCA, the Economic Development Authority, and any other implicated State agencies.

As mentioned above, I would suggest that NJBPU create an interagency track that drives agency engagement and signoff that they are engaged. This track should include a dedicated project manager, business analyst and agency business partner at the least.

When I think about it, this EO317 will shift the roles within NJBPU and perhaps it is an evolution that creates a better-connected interagency operation? EO317 is very specific that NJBPU holds this responsibility. This can be used to redefine NJ Government Agencies Energy Infrastructure and climate crisis readiness.

Topics could include: what each agency is doing to conserve energy; encourage energy efficiency practices for each agency with their services for residents and businesses; and help shape the transformation that all agencies need to take to transition from fossil fuels.

The first thing to do is create a conference session for all New Jersey Agencies to draw up an agenda that tackles agency current fossil fuel footprint, building efficiency, business and resident services. Then map transformation of each agency to fit into New Jersey renewable Energy infrastructure and climate crisis readiness.

Sign off stipulations implied in EO317 and what their contribution can be to enabling EO317.

4. BPU shall prepare a report by August 15, 2024 summarizing the findings from the proceeding, as well as recommendations to address issues surfaced in the proceeding and advance the goal of reducing greenhouse gas emissions while keeping costs to ratepayers in check. EO317 was signed on 2/15/2023 and the order mandates a report by 18 months.

NJ BPU should allocate at least two months reviewing the findings and recommendations before the report is due. There should be at least two public sessions.

One of the main focus areas that I encourage NJBPU to consider over the next five months is that NJBPU should recognize that Natural Gas should not be here to stay. And that this should be communicated as the top headline to the Governor. That we have a viable path to transition away from natural gas while ensuring our mission critical Public Utilities have a financially viable growth segments to offset the transition away from the natural gas infrastructure services.

We may get some areas of focus wrong, but as a part of the report, I would encourage NJBPU to stipulate that NJBPU must keep this plan a living plan and hence driven using project managers.