



Shoreline Energy Advisors, LLC

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EMP Committee
The Board of Public Utilities
44 South Clinton Avenue
Trenton, NJ 08625

Committee Members:

I appreciate the opportunity to present my comments on the Draft 2019 Energy Master Plan (EMP). The draft articulates seven “strategies” for achieving 100% clean energy by 2050 but does not provide the specificity or direction of an attainable blueprint or roadmap for New Jersey’s energy future. Rather it is more appropriately a “Policy Vision to 2050” as its subtitle suggests.

A long-term vision can be part of a strategic plan but isn’t a substitute. If in 2050 a newspaper or magazine were to write an article on the admirable conditions of the energy markets in New Jersey in 2050, what would it say? That is a vision. Visions and strategic plans are two different things and historically, as in today’s, Energy Master Plans have been visioning statements without the nuts and bolts of a true strategic plan to successfully attain that vision.

A strategic plan would provide external analysis on which target customers to serve, the competition to reaching those customers, the current state of the industry that provides products and services to achieve the vision, and the economic, market and technical factors shaping the current environment. It would also provide an internal analysis on performance and capability of the organization tasked with achieving the vision and implementing the plan, including an organization assessment, a description of the product or services offered, how to promote them effectively, how to deliver them to the targeted customer, and the cost to market and deliver them. It would articulate the mission and vision of the organization to which it applies, offer alternatives, evaluate choices and lay the groundwork for implementation of selected strategies. Perhaps we expect too much from the EMP, but I believe its value, if it provided a roadmap for strategic planning would have been greater and would have uncovered some of the impediments to achieving the worthy vision that has been articulated in the EMP.

The Changing Nature of Energy Master Plans

We have had at least three energy master plans that I am immediately aware of, which were developed by the Corzine, Christie and now the Murphy administrations. I’m sure there were

similar efforts either completed or underway during the Kean, Florio, Whitman, and McGreevey, administrations. These master plans changed significantly from Governor to Governor since they reflected both the preferences of whoever happens to be sitting in the governor's chair and the current state of technology at that point in time. The stark differences between the visions of Governor's Christie and Murphy illustrate my point. And I am certain that whoever is sitting in the governor's chair in 2022, if it isn't Governor Murphy, will have their own vision for what the energy future of New Jersey should look like, perhaps bearing little resemblance to today's. Point is that we tend to look at these documents as if they were the U.S. constitution, wise, universal in their application and with inflexible tenets since they reflect time-tested, rock-solid values that don't lend themselves to adulteration from fads, trends, changes in opinion or technology.

Unfortunately, each new version of the Energy Master Plan isn't a Rosetta Stone, unlocking the values and goals of our energy future with unshakable clarity. We should avoid proceeding with false confidence, setting objectives and goals, and developing implementation programs which reflect utopian, but premature vision. Trying to do this in a two year window before the next election cycle, will lead to extreme corner-cutting and blind groping where we reach decisions that cost millions in ratepayer dollars, funding the latest technology whose longevity is dangerously dependent on the moods and views of the next governor. The unpleasant truth is that many of the suggested programs can be characterized as a hidden tax or massive transfer of wealth. The funds collected in Societal Benefit Charges or other tariff-adders often have nothing to do with consideration for something received or used by the ratepayer (i.e.: BTU's of KWH's) and instead may only fund the parochial interests of politicians or special interests. Most would have no problem providing assistance to help pay for utility bills for those who need help but when SBC's expand to fund development of commercially immature technology, that may be asking a little much.

Consumer Preferences and Resistance are Ignored

Greenhouse Gas reduction through strategic electrification figures prominently in the latest EMP. Many assume that "electric" equals "cleaner environment" and in many instances it may however, the practicality of attaining the environmental goals represented by strategic electrification, even over a period of thirty years, has not been adequately addressed.

Let's walk through an example. I'd like to think of myself as a typical energy consumer. I've lived in over a dozen places in my 60+ years, all of them had gas service and during that time, I have never had a minute's worth of interruption in gas service due to natural events or other causes. In contrast, during Hurricane Sandy, I was without electric service for thirteen days and unlike my gas service, periodic electric interruptions, are a monthly event. My home is fifty years old. I heat it with hot water baseboard that is supplied from a gas boiler, I heat my domestic hot water in a gas-fired hot water heater, we cook both in our kitchen and on our grill on the deck with gas, and dry our laundry with gas. My next-door neighbor previously had electric heat and about ten years ago

his fellow ratepayers who had been subsidizing his electric heating ultimately funded part of his switch to gas heat because his electric heat had become so expensive.

From one consumer's perspective (me) the reality is that if one of my appliances that converts energy to heat, hot water, cooking or laundry functions were to need replacement tomorrow, I would replace it with a natural gas appliance and not an electric one regardless of what the EMP says. This is true even though I consider myself a progressive environmentalist with almost thirty years in the energy efficiency industry. Gas is indisputably cheaper, more reliable and provides better functionality (e.g.: baseboard hot water heat is much more consistent and longer lasting than forced hot air from an electric furnace or heat pump). With a trend towards electrification, how do we intend to deal with this type of customer resistance and preference which originates from the superior functional efficiency and favorable economics of natural gas?

Effects on New Jersey Jobs and Businesses

Another example; I am a self-employed consultant who is on the road constantly making sales calls or meeting with clients. I drive over 35,000 miles in an average year and last year I filled up around eighty times. I fill up around the corner from my home about half the time, and the other half I fill elsewhere in New Jersey or anywhere between New Hampshire and Virginia. Each fill-up takes around ten minutes. There are always dozens of gas stations within a few miles of wherever I happen to be. I am never in fear of running out of gas and when my car needs servicing, I have loads of options.

Regarding plans for electric vehicles, have we given any realistic thought to how people are going to charge (i.e.: refuel), when and where? My guess is that only the wealthiest are going to install the infrastructure for fast charging at their home and the rest of us are not going to schedule our working day around a four-hour charge for a hundred miles of driving range. Most will charge on Level 2 chargers at home between 4 PM and 12 midnight. The first five or six hours of this time frame are the peak usage period for residential electric demand. The addition of a charging station at a single home will more the double the peak demand from that residence. As the homeowner or his neighbors add additional EV's and charging stations, the demands on the local distributions system will indisputably require upgrades. Have we considered that cost in our vision?

How about our New Jersey gas distribution companies? South Jersey Industries, New Jersey Natural Gas and PSE&G have at minimum four-thousand people who work in well-paying jobs directly related to servicing their gas distribution businesses. Add the thousands of people who work in gas stations or maintain gasoline vehicles and it becomes clear that the natural gas and fossil-fueled transportation sectors in New Jersey are significant economic engines. Looking at the EMP's Policy vision to 2050 with regard to fossil fuels, if you were to read it as written one of its effects, though not stated, or perhaps not even recognized, will be to put South Jersey Industries, New Jersey Natural Gas and the gas portion of PSE&G out of business in thirty short years as well as

the thousands of filling station personnel and auto mechanics who would no longer be needed. Has this consequential economic transition been accounted for or even recognized in the EMP?

My point is, the problem with building strategy on quixotic visions at a point in time ignores practicality. We often assume that transition items are trivial details that will work themselves out in time with the belief that “if you build it, they will come”. The reality is we are often putting the cart before the horse.

Maybe a Different Approach?

The EMP is a solid visioning document reflecting the admirable environmentalist values of Governor Murphy, his very capable staff and the Board of Public Utilities. But, if we confuse visions with strategic plans, we waste time and money before planning, technology and market forces converge to alleviate implementation issues that lurk beneath good intentions.

The good news is that there are plenty of less intriguing, but perfectly serviceable strategies that can be pursued in bite-sized chunks today, that can move environmental stewardship, efficiency and an energy user’s economy forward. These initiatives should be universally acceptable to future Governor “Jones” or “Smith” because they build on commercially proven technologies which are underutilized and address issues that even the most environmentally indifferent person would have trouble arguing against. Simple things that can be accomplished in the next two years include:

1. Increase efficiency in all homes by promoting the use of LED lights throughout. The payoff is immediate in reduced energy demand and usage, and savings for homeowners. While many are gradually switching to LED’s there are those who don’t want to, or can’t, pay their higher upfront cost versus incandescents or fluorescents. Why not use some of the efficiency program budgets to push the late adapters over the edge so that LED’s become standard in every home?
2. Promote and facilitate with grants, the installation of smart thermostats in all residential buildings to control both cooling and heating. As people come to understand that these controls will not noticeably affect their level of comfort, existing consumer resistance should be reduced. Their ability to significantly control both demand and usage is still underutilized despite being an inexpensive and very effective conservation measure.
3. Codify building codes that specify what the energy infrastructure in new construction should be. With the amount of new building going on, this will take a sizable chunk from future electric demand and can steer architects and building owners toward developing incremental building stock that will not exasperate problems while providing an ever growing critical mass that will work to lower pricing on new technologies for everyone.
4. While battery technology is exciting, it is also underdeveloped and expensive. Incenting the use of thermal storage in commercial buildings rather than spending or waiting on battery technology is a more efficient use of funding.

5. Implement a program requiring mandatory replacement of gasoline or diesel public transportation vehicles (buses) with electric or even natural gas vehicles as they come up for replacement.
6. Implement a program requiring mandatory replacement of diesel or gasoline municipal, county and state cars, trucks or specialty vehicles with electric or natural gas as they come up for replacement.
7. Reduce the utilization of liquid fossil-fueled landscaping equipment (mowers, blowers, edger, trimmers, etc.) with incentives or regulations, hastening a transition to battery powered equipment.
8. Implement a gradually increasing surcharge on diesel trucks or buses that use state toll roads as an incentive to switch to non-diesel vehicles. Perhaps this could be phased in over a ten-year period with annual increases. This would have a favorable effect on particulate emissions, the primary cause of respiratory ailments which affect NJ citizens, particularly in cities.
9. Rework residential electric tariffs to include a capacity component. As currently structured residential tariffs are regressive in that less affluent electric users are subsidizing more affluent who use a much greater portion of generation, transmission and distribution capacity but pay the same rates as the less affluent. This will become even worse with the future growth of electric vehicles. Transparent pricing on capacity, currently invisible to electric users, will alter behavior by putting the cost of capacity on those who are using it.
10. Facilitate and require the periodic recommissioning of commercial and institutional buildings with an incentive program. The number of buildings who have existing control systems that have been by-passed or have remained constant despite changing building use, tenancy, etc. is pervasive, even for those with periodic service contracts.

These ten initiatives can be developed, legislated and implemented, within the next two years. Coupled with more substantial initiatives currently underway related to offshore wind, solar PV, microgrids, cogeneration and food waste recycling, they would begin (or leave) an indelible and admirable Murphy legacy on evolving New Jersey energy policy. These actions would be universally acceptable to all but the most environmentally jaded of future governors and are not likely to be reversed.

Building on the success of these "Phase 1" initiatives, the next phase of the Energy Master Plan could begin to introduce more aggressive measures and programs when time, technology and consumer preferences will have combined to make them practical and timely.

Meaningful EMP's must include realistic external and internal analyses resulting in initiatives that are specific, measurable, attainable, realistic and time related. They should contain benign, universally accepted goals that are easily transferable from governor to governor. They should be phased in with digestible bites starting with the low hanging fruit, building to an eventual outcome where desirable and needed environmental objectives blend seamlessly with technology development and consumer preferences. Ratepayers shouldn't feel that they are having someone's

pet project shoved down their throats. when they have neither the desire, nor budget, for presumptive measures that will cause massive implementation problems which offset any assumed achievement of environmental functionality and serve to build additional resistance to measures which facilitate environmental responsibility.

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