



Environmental Justice Task Force

Comments for EMP meeting on Reducing Energy Usage

General

1. What energy efficiency, peak demand reduction, and demand response programs and systems will assist in helping keep energy affordable for all customer classes, especially as technology advances in areas such as electric vehicles or heating and cooling, which will potentially increase electric energy usage?

The state should start by reconsidering how the Societal Benefits Charge works. It charges a fixed percentage (about 3.8%) of a customer's energy bill. This charge is far more onerous for low-income households than for middle- and high-income households, and yet – according to a contractor that does the work for both communities -- the rebates go almost entirely to middle and higher income households. This is because the newer technologies that provide the required energy efficiency are too expensive for lower income households. Clearly, the Office of Clean Energy wants to incentivize paying for improved efficiency, which is good, but a lower-income household shouldn't have to subsidize this effort if it can never utilize it.

The state should consider ways to make efficiency improvements more accessible to low-income households. The Office of Clean Energy should establish a goal of seeing energy-efficient single-family houses (such as passive houses or net zero energy houses) built in communities like Irvington and Elizabeth as well as in communities like Short Hills and Morristown.

Right now, small energy efficient multi-family houses can be built at the market rate for such houses. Building these houses will both reduce energy use and lower the cost of housing, making home ownership and rental more affordable to low-income families. This is do-able right now. For example, Habitat for Humanity has begun building LEED certified houses with solar panels to help their clients with utility payments. Incentives for energy efficiency should be designed to avoid subsidizing

those who can most easily afford to pay. Income tax credits, for example, are not so useful for people who pay little income tax¹.

Public transportation is a far more efficient use of energy than private cars. Improvements in NJ Transit buses and trains are exceedingly important to encourage people to use them more. This will benefit all classes of people in New Jersey, but an advertising campaign will be needed to spread the benefits. As a long-time NJ Transit user to commute into New York, I have found the quiet time on a train or bus to read or to work to be invaluable and a great alternative to sitting in traffic fighting anxiety and anger. I am commuting to the Trenton area the same way and enjoying the commute. I suspect that a real marketer could put together a great marketing campaign.

2. With the coming requirement that all commercial buildings over 25,000 sq. ft. be benchmarked through EPA's Portfolio Manager, what programs should be created to help with benchmarking and reduction strategies?

3. What are the key non-energy benefits associated with energy efficiency? How can their value best be considered in cost-benefit analyses?

A key non-energy benefit of energy efficient houses is reduced cost. In particular, they will be more affordable for low-income individuals and families, provide healthier indoor air quality, improve comfort and reduce drafts.

A non-energy benefit to electrifying transportation is public health. According to the American Lung Association website over half the counties in New Jersey receive a grade of F for high ozone days. A quarter of the children in Newark suffer from asthma. Emissions from the transportation sector must be reduced enough to reduce asthma rates!

These benefits can reduce the incidence of homelessness and reduce health care costs.

4. What should the role of ratepayer funded programs, whether state or utility run, be in achieving reduction strategies?

The "societal benefits charge" should never be redirected to the general budget, but used only to improve energy efficiency and to support programs to reduce emissions. The BPU should carefully consider the best ways to incentivize improvements in energy efficiency. Perhaps there is enough data now to determine how effective different sizes of rebates are for encouraging energy efficiency measures. Also, what income groups respond to incentives, and at what rates? Rather than incentives for specific actions, should there be an incentive for a percentage reduction in energy usage year over year (above and beyond the cost saving)?

¹ Our information on energy efficient housing is from a contractor, Pat Ryan, and an architect, Chris Kellogg, who both build passive and net-zero energy houses.

5. What type of educational outreach is needed to advance energy efficiency throughout New Jersey?

Improving energy efficiency is a complicated subject, so educational outreach is essential, but because it is complicated it tends to be confusing. The most effective educational outreach will come through trusted sources, such as religious organizations and community groups, municipalities. Mass-market advertising and sending information with the electrical bill is useful, but because we have become conditioned to suspect scams in virtually any offer, the information probably needs reinforcement from sources trusted by the households. The state should work with community organizations and clean energy advocates to develop an understandable and credible marketing campaign/message.

There is low-hanging fruit that requires only education:

- ***New Jersey households can choose renewable energy generation right now for their homes, just by calling their electrical utility, but very few people know about this or how it works. The state should be working to let people know about it.***
- ***Drying laundry in the sun provides fresher, better-smelling clothes (if you don't have a factory next door). It's gentler on clothing than a dryer. It disinfects and whitens laundry. And some clothes – especially wools – should never be put in a dryer.***
- ***Devices use “vampire power” when they are not active, for example for updating a clock or a screensaver. This can use as much as 10% of a home's energy. Unplugging devices reduces your home energy use and your electrical bill.***

Technology

6. What advances in technology should be considered as part of a strategy to reduce energy consumption? What technologies could complement and advance existing energy efficiency efforts?

The most important advances would likely be in battery and materials technologies.

7. What are the intermediate time frames and pathways to these new or enhanced technologies and energy efficiency and demand response systems?

8. How do we best utilize data analytics for energy efficiency?

9. What is the role of block chain, IoT, bigdata, 5G, and other specific technologies in energy efficiency?

State Policy

10. How can the state play a strong role in reducing its energy consumption?

The state can begin to convert NJ Transit trains and buses and all state fleets to electric vehicles. It can require that all new state buildings and renovations get energy certification such as Energy Star or (a more rigorous certification) LEED.

The state should join the 2030 Carbon Challenge, which requires that “All new buildings, developments, and major renovations shall be carbon-neutral by 2030” (see http://architecture2030.org/2030_challenges/2030-challenge/). The National Governors Association and nine states have already joined it, including New York, Massachusetts, and California.

The state should also increase the insulation requirements for all new construction and require that new roofs be oriented and engineered to support new solar construction without requiring that trees be cut down. It should require that building materials be durable, to maximize the time before renovation or rebuilding, and if building materials are not recyclable, the building must last much longer than if the materials are all recyclable. Also require green roofs and vegetative measures on new buildings and use more plantings, especially trees, to reduce heat-island effect while improving air quality.

For improving efficiency, there may be a conflict between innovation and certification. Certification makes assumptions about technologies and imposes rules based on how those technologies function. A sufficiently innovative technology may break rules and yet be more energy efficient than any technology that can be certified. Some provision should allow submission of data establishing that the technology in a given building functions at least as well as a certifiable alternative.

11. Which strategies should be state-led, and which ones should be advanced by the private sector? What other players are important leaders in energy efficiency?

Educational institutions can play a role by educating children about the environment of New Jersey and how our air and water quality are affected by our activities and how the state manages them.

12. Should the state require energy efficiency in particular projects receiving state incentives?

13. Should the state play a role in encouraging pilots of different “next generation” buildings? How could the state foster the implementation of net zero or passive buildings projects? How could that impact and restructure redevelopment efforts?

The state should require that all new state buildings and renovations be net zero or passive. Any new construction receiving a state subsidy must also provide a certain level of energy efficiency. Finally, affordable housing should be net zero or passive.

14. What Treasury design standards or procurement policies should be updated to reflect and encourage energy efficiency in state building designs or protocols?

Codes and Standards

15. What portion of the overall energy savings in the transportation, heating, processing, and cooling and electricity markets should be achieved through advanced and enhanced building energy codes and appliance standards systems?

16. How should each sector — residential, commercial and industrial — be considered in terms of codes and standards updates towards reduced energy consumption? In terms of energy efficiency, are certain sectors more adaptable or important than others?

17. What type of zoning changes or incentives should be considered related to green infrastructure? How can these be achieved?

18. What are some examples of existing or potential advanced building energy standards or metrics? (Examples include: net zero energy, Passive House, Living Building Challenge, etc.) How could these be implemented in New Jersey to accelerate greenhouse gas emissions reduction in new and existing residential and commercial buildings?

19. Are there barriers to implementing new energy efficiency codes for building inspectors? How can potential code updates be made less burdensome for inspectors in order to increase compliance and uniformity?

Security

20. How can energy efficiency and peak demand reduction strategies assist in ensuring enhanced energy security, reliability, and resiliency in the energy markets?

21. Should strategies across the transportation, residential, commercial, industrial, and electricity generation sectors vary based on differing security risks?

Economic Growth and Workforce Development

22. What new or expanded manufacturing could be developed related to energy efficiency?

The new field of building sciences is investigating the use of new materials and technologies in construction. The state could support innovative research and start-up incubators in these areas at engineering and architecture schools in New Jersey. Start-ups might be manufacturing components from new materials or providing services supporting the technologies for putting up next-generation buildings.

23. What associated jobs and training will be needed in the new clean energy economy (particularly regarding reducing energy consumption)?

24. What type of overall workforce training is needed in the energy efficiency industry, whether for maintaining systems, installation and inspection, or in other areas?

25. What type of educational outreach is needed to advance energy efficiency in the workplace?

Environmental Justice

26. How can the state be responsive in helping keep clean energy affordable in communities that are disproportionately impacted by the effects of environmental degradation and climate change? How can the state play an active role in improving the condition of older building stock and encouraging energy conservation measures in communities that are disproportionately impacted by the effects of environmental degradation and climate change?

Promote building energy efficient multi-family houses as affordable housing. Provide incentives for energy efficiency that will apply to low-income households, e.g., rebates for basic energy efficiency measures rather than tax credits or rebates for luxury energy efficiency measures.

Steam boilers are an efficient way to provide heat and can use a variety of fuel sources. They are primarily used in disproportionately impacted communities. However, because they are not sufficiently energy efficient, the state does not provide rebates for upgrading them. This is an example of the unfairness of the Societal Benefits Charge: everyone pays it, but only those who can afford more expensive upgrades benefit from it.

27. What efforts are most successful towards making clean energy and energy efficiency measures affordable and accessible to all?

Education in how to improve home energy efficiency, how to reduce home energy costs, and how to choose the best electrical supplier for your needs will be crucial. See also answer to question 5.

28. How can the state play a role in ensuring that disproportionately impacted communities receive opportunities and benefits connected to the clean energy economy?

Harmful emissions are much higher in such communities. They must be eliminated, by reducing the impact of diesel exhaust from trucks and also by decommissioning fossil fuel power plants in these neighborhoods and certainly not building new ones.

See also answers to Questions 1 and 26.