

September 30, 2009

**Mr. Kenneth Esser
Chief Energy Advisor
Office of the Governor
125 West State Street
PO Box 001
Trenton, NJ 08625-0001**

RE: NAIOP New Jersey Response to Energy Master Plan

Dear Ken:

On behalf of the members of NAIOP New Jersey and the commercial real estate industry, we are pleased to share our response to the New Jersey Energy Master Plan.

NAIOP New Jersey believes that the intelligent use of energy, materials and other resources yields environmental benefits, and that the lifecycle of a building – from site development through design, construction, renovation, operations and demolition – should strive to employ every usable, cost-effective, sustainable strategy available. We applaud states, municipalities and agencies at all levels that offer incentives for sustainable building that enable responsible developers to build better buildings and meet the needs of environmentally conscious owners and occupants, both today and in the future. NAIOP New Jersey encourages its members to seek education and certification resources (e.g. LEED) in understanding the development and maintenance of energy-efficient high-performance properties.

While we support many of the goals of the Energy Master Plan (EMP), we have a number of questions, concerns and recommendations, particularly surrounding the rationale for some goals and action items, costs of compliance, time frames for implementation and how this plan will be implemented and enforced across multiple agencies with complex and often conflicting laws, regulations, codes and policies.

This document is the result of months of work by NAIOP New Jersey's Energy Master Plan Task Force, which includes a number of our industry's leading energy experts. We have made a diligent effort to present a realistic assessment of the EMP's potential impact on our industry and our ability to comply with targets for new and existing buildings, and to offer suggestions and recommendations that we trust will assist policy makers in developing and implementing rational, cost-effective and workable energy policies that reduce overall energy usage and carbon footprint.

Overall Concerns

- As an industry, our members are already naturally motivated to seek opportunities to improve energy efficiency and develop sustainable energy generation sources within their facilities, provided these opportunities make economic sense. However, existing buildings should be protected from mandates to meet energy efficiency standards that go beyond the standards that were applicable at the time the building was approved for construction. It would be more prudent to capture improvements to existing buildings under the rehabilitation subcode.
- The Energy Master Plan (EMP) cites the ease of incorporating greater building energy efficiency into new construction, but fails to meaningfully quantify cost impacts that appear to far outweigh expected benefits.

- The commercial real estate community (NAIOP) had little opportunity to participate in the process of drafting the EMP, yet new and existing buildings are the primary focus. Because commercial and industrial buildings owners were excluded from the process, we question the validity, efficacy and practicality of the EMP.
- A 30% across the board reduction in energy usage for new buildings is the wrong starting point, since it is cost prohibitive and will yield only modest gains with the limited amount of new construction being built.
- A far more effective approach would be to encourage energy efficiency improvements in existing buildings by enticing building owners to naturally make the necessary investments through a BPU-promulgated rebate program. If a 5% improvement could be achieved, the cumulative impact of even this modest improvement would dwarf the impact of a 30% reduction in newly constructed buildings.
- While the EMP's goals are laudable, they are unreasonably aggressive and will be difficult, if not impossible, to achieve in the set time frames considering the costs involved, the availability of technology, the availability of capital, and the state of our industry and the economy.
- Economists predict that the next few years will see states "warring" for jobs. New Jersey must also be mindful not to detract from our business climate or create burdens that render it any less competitive than is currently the case. Otherwise, well-intentioned goals (e.g. increasing standard construction code building efficiency requirements by 30%), will divert development opportunities to other states with lower construction costs.
- To the extent that energy efficiency requirements for existing buildings would ever go beyond a voluntary level, building owners (and tenants) should never be required to incur any costs that they cannot economically justify. This will necessitate the use of significant incentives, such as subsidies and grants.
- Implementation/enforcement through "time of sale restrictions" would have unintended adverse consequences that would be harmful to our economy. NAIOP understands that this is a "last resort" option. Nevertheless, it should be excluded as an option regardless of utility company energy efficiency goals.
- The EMP does not acknowledge the state of the economy or the industry, or the implications of the EMP with respect to New Jersey's ability to sustain its economy and compete with other states. Without such consideration, the EMP is fundamentally remiss.
- Particularly given the enormous budget deficit New Jersey will face in 2010, there is unlikely to be adequate funding coming from the State: 40% will come directly from the real estate industry, 60% from our industry indirectly through "other" sources (e.g. RGGI, societal benefits charges which may be "recycled" to pay for some). The EMP needs to recognize that capital resources coming from "other" sources (such as RGGI, federal green stimulus programs, cap and tax laws, etc.) are not without burdens. In one way or another, tax payers, ratepayers and consumers will bear the costs of the regulatory burdens contained in the EMP. The bottom line is that developers will directly bear 40% of the costs of implementing the EMP, and indirectly even more.
- The goals don't stop at 30% efficiency by 2020. Net zero carbon is the ultimate goal: this is not appropriate until economically feasible technology exists to achieve it.

General Recommendations

- In addition to improved efficiencies, increased energy production capacity must be a primary goal of the EMP because there has been a dearth of new utility-company-grade power plant development in New Jersey for at least the past 10 years. Our state's grid reliability is a foremost consideration in retaining and attracting industry and should, therefore, be a primary focus of the EMP. To this end, clean central station generation plants (nuclear) should be a priority, as they have the potential to provide reliable, low-cost electricity, and the potential to replace coal-fired and older inefficient facilities. New Jersey requires a diversity of electricity supplies to complement clean central plan generated electricity, such as natural gas-fired combined-cycle (co-generation) central plant generation. In the interests of fuel source diversity, it is desirable that offshore Liquid Natural Gas facility projects be developed. Recent announcements of simple cycle generation plants are a welcome addition to our power generation capacity. Because of their inherent inefficiency, however, they secure grid reliability by imputing higher marginal costs to all ratepayers.
- The EMP should leverage existing work products, such as BOMA, for New Jersey's ongoing monitoring of energy efficiency improvements to existing buildings.
- The Rutgers Green Building Standards Manual should be implemented on a pilot basis, with the appropriate measurement and monitoring of actual results and performance, before being permanently implemented.
- The EMP should focus on methods to achieve grid stabilization, such as upgraded transmission systems and, where economically justified, distributed generation (relying more on power produced by smaller local co-generation facilities). This will minimize the risk of electricity supply interruption while deploying proven energy-efficient technologies.
- Although we acknowledge that transportation sector energy planning has been split into a separate plan, a truly comprehensive EMP for New Jersey must take into account and address the transportation sector as part of any meaningful statewide aster plan.
- The EMP should focus more on incentivizing the owners and tenants of existing buildings to lower their energy usage even modestly, since that will provide the greatest, most cost-effective and quickest rate of return.
- The EMP must make the case for specific mandates. "Evidence-based policy making" is often lacking in New Jersey. With long payback periods, developers and tenants are entitled to scientific evidence (proven via pilot projects), that changes/designs/upgrades/equipment are necessary and meaningful, and would provide a reasonable return on investment.
- New Jersey must be very careful in how it plans to implement a 30% increase in energy efficiency on the new commercial/industrial sector if it expects to see any commercial development in the Garden State.

Detailed comments and recommendations are enclosed. Please feel free to contact me with any questions.

Sincerely,

Michael G. McGuinness
Chief Executive Officer

cc:

NAIOP New Jersey Response to Energy Master Plan

September, 2009

1.0: GOAL 1 – MAXIMIZE ENERGY CONSERVATION AND ENERGY EFFICIENCY

The Energy Master Plan (EMP) seeks to cut statewide energy consumption by at least 20% by 2020, in order to save an estimated 20,000 GWh per year for electricity and nearly 110 trillion BTUs for heating per year. To achieve this goal, the EMP proposes to make new and existing buildings more energy efficient. However, when we factor in projected energy use in 2020 (as opposed to using current usage as a baseline) the necessary reduction is closer to 30%. A recent study by the Northeast Energy Efficiency Partnership (NEEP), suggests that to achieve that 30% reduction, New Jersey's existing buildings would need to cut energy use by nearly 50%. New buildings would have to exceed current code requirements by 25%.

1.1: Action Item 1-- Transition the State's current energy efficiency programs to be implemented by the electric and gas utilities, and achieve the desired results while remaining cost effective. These programs will emphasize a whole building approach to energy efficiency, and this transition will begin upon release of this plan.

The EMP seeks significant reductions in energy consumption to reduce greenhouse gas emissions, reverse the trend of global warming, etc. It suggests that energy efficiency programs traditionally administered by the Board of Public Utilities (BPU) be immediately transferred to the electric and gas utilities. The justification being that the utilities have direct contact with the 3.7 million existing building owners and would do a better job of promoting and implementing energy conserving programs than would the BPU. However, the EMP appears to be more concerned about how to compensate the utilities for lost revenue as a result of conservation initiatives. The EMP suggests that revenues can be maintained by allowing the utilities to assume a greater role in education and implementation of energy efficiency programs. Funding for the cost recovery to utilities includes a number of potential sources (e.g. electric and gas rates). Presumably, gas and electric ratepayers will cover these costs via current societal benefits charges and/or through additional charges imposed directly by the utilities.

The EMP also aims to provide funding to the non-regulated municipal electric utilities, and oil and propane providers to educate their customers about energy efficiency programs. Currently, consumers who rely on oil or propane for heat are typically charged at the going rate for the fuel. Those consumers can benefit from cheaper fuel costs, and from whatever energy conservation measures they incorporate into their homes or buildings, without having to contribute to regulated utility energy efficiency programs.

Recommendations

1.1.1 The plan to transfer these responsibilities to utilities should be carefully weighed against concerns about increased costs for ratepayers, and potential conflicts of interest. Major utility companies have previously attempted to compete in the energy efficiency improvement marketplace during the outset of retail electricity access beginning in the late 1990s through unregulated affiliates. These efforts were met with limited success, as evidenced by the fact that none of these unregulated affiliates survived for any

meaningful period of time. There is no evidence to suggest that another attempt in this vein will be any more fruitful with a regulated entity.

1.1.2 The BPU needs to maintain the leading role in the conservation programs. Otherwise, utilities will have an easier time passing through steeper rate hikes to consumers for energy efficiency programs. Any suggestion that franchised utility companies should recover revenues lost because of efficiency improvements or migration to behind-the-meter local generation plants is patently counterproductive and should not be part of the EMP or any statute or regulation in any form. This is because capital investments to reduce grid-sourced energy consumption will be offset by higher rates incurred through utility company rate increases. This is the equivalent of entitling real estate companies to automatically and commensurately increase rental rates for existing tenants if occupancy happens to decline so that their revenue can remain stable. No company, franchised utility company or commercial enterprise is entitled to revenue or profit guarantees.

1.1.3 A pilot program based on the Chicago model would be a good first step. This program allows developers to opt in to a more restrictive energy efficient building code in return for bonuses and incentives (e.g., higher density, faster permit processing, etc.).

1.1.4 A thorough financial analysis of any considered transition program should be undertaken by an independent source prior to final consideration.

1.2: Action Item 2-- Increase energy efficiency in new buildings with a statewide building code that will make new construction at least 30% more energy efficient than buildings under current State code by the end of 2009.

The EMP seeks to increase energy efficiency in new buildings with a statewide building code that will make new construction at least 30% more energy efficient than buildings under current State code by July of 2009.

Since New Jersey first adopted an Energy Subcode in the late 1970s, there has been a succession of upgrades to the minimum thermal envelope requirements and other efficiency standards for residential and commercial buildings. Low-rise residential buildings have been regulated by national model energy codes (BOCA, CABO and now ICC), while commercial and industrial buildings have been regulated by ASHRAE Standard 90.1. The New Jersey Uniform Construction Code requires DCA to adopt a model code and to participate in the code development process when the need for change arises. New Jersey will soon have the 2009 edition of the International Energy Conservation Code (which by reference incorporates the latest ASHRAE 90.1 standard) available for adoption. This code represents the state-of-the-art national model for energy conservation.

Recommendations

1.2.1 No legislative or administrative action should bypass the recognized code development process to expedite a 30% energy efficiency increase to the New Jersey Energy Subcode.

1.2.2 If BPU/DCA were mandated by legislation to make building codes 30% more efficient than they currently are, the result would greatly compound the housing affordability dilemma and commercial building crisis before us now.

1.2.3 Improving the energy efficiency of existing buildings by even a small margin of 5% would have a greater and more immediate impact than a 30% improvement in new construction. Given that very little new construction is being built or is likely to be built in the current economy (which could remain anemic

for a few more years), it makes more sense to focus EMP efforts on improving the efficiency of existing buildings.

1.2.5 The EMP anticipates a seven-year payback for initial energy efficiency investments. That is not realistic when asking for a 30% increase over current code requirements, nor does it take into consideration the nature of landlord-tenant “split incentives” whereby investments that are made in energy efficiency might unintentionally accrue to the tenant’s benefit. Many energy efficiency improvement options do not make economic sense. For example, thermal envelope/insulation requirements in the current codes are already at the point of diminishing returns. A 30% increase to current codes will likely more than double the initial investment payback period to beyond 14 years.

Energy efficiency improvement payback calculations are often meaningful only for specific building applications and for the specific financial characteristics at hand. Any requirement to make incremental investments based on theoretical payback thresholds distorts otherwise meaningful economics at the expense of the developer. This approach creates the likely pitfall of putting New Jersey at a competitive disadvantage with the rest of the country. This can be avoided simply by subscribing to generally accepted national building code standards.

1.2.6 Commercial developers have been hit with numerous new development fees and taxes in recent years, and it appears that the business community may soon be subject to additional taxes to supplement shortfalls in many of New Jersey’s critical programs (e.g., unemployment compensation). New Jersey’s tax policies are already the most unfriendly to business in the nation. The EMP must avoid any plan to impose “stealth taxes” in the form of code requirements that exceed national codes.

1.2.7 Establishing a set of building codes for New Jersey that is far stricter than any other adjoining state’s code, or even a national code, will effectively result in an economic disadvantage to New Jersey. The Obama Administration is clearly making energy efficiency a national platform. New Jersey should coordinate its efforts with the national effort, and work in concert with the adoption of National codes and programs that are applicable to New Jersey while keeping the Garden State competitive with competing states, thereby providing for a level playing field.

1.3: Action Item 3 -- Increase energy efficiency in existing buildings through enhanced energy efficiency standards for new appliances and other types of equipment currently not covered by existing standards beginning in 2009.

Recommendations

1.3.1 It is unclear what the EMP means by “enhanced” energy efficiency standards for new appliances. To enhance those minimum standards, manufacturers would need to be involved. It would be irrational to prohibit the use of appliances that fall below a certain level of efficiency if they are still being manufactured and sold in the marketplace. Energy Star is a standard that already exists and is known to consumers.

1.3.2 The EMP also talks about regulating equipment not covered by existing standards. Details should be provided on the scope of this initiative and how enforcement will be implemented.

1.3.3 The initial costs associated with super-efficient appliances, rooftop HVAC equipment, boilers, added insulation, solar panels, etc., are very costly and often do not produce the necessary return on their incremental investment requirements. Incentives, rebates and subsidies would be needed to help offset added costs, and should be made available for the installation of/upgrade to energy-efficient appliances, state-of-the-art fluorescent fixtures, motion-control activation sensors, etc.

1.3.4 Existing appliance stock should be grandfathered, since it would be wasteful and energy inefficient to manufacture new appliances just to replace the noncompliant items. Using up existing inventory first equals a lower carbon footprint overall.

1.3.5 For existing buildings, the rehabilitation subcode could be strengthened to incorporate additional energy efficiency provisions so that improvements during gut rehabs or tenant fit-ups would be cost-effective. NAIOP New Jersey believes this approach is the most workable, since it will not create undue hardships and it will accomplish the State's energy efficiency goal, albeit incrementally. This approach is ideal, since the regulated community has ample opportunity through the code development process to comment on the proposed revisions.

1.3.6 For existing buildings with no planned rehab, tenant behavior changes can be made (through incentives, "green lease" agreements, education, etc.) NAIOP New Jersey would be amenable to partnering with other groups, such as the Building Owners and Managers Association (BOMA) of New Jersey, to educate building owners and managers on how to structure such green leases.

1.4: Action Item 4 -- Increase awareness about the importance of energy conservation and energy efficiency upgrades by developing an education and outreach program for the public. This will result in a shift in the way the state's consumers think about and use energy.

The commercial real estate industry is very much aware of the issues and challenges surrounding energy efficiency in buildings. In September of 2007, NAIOP New Jersey conducted a green/energy/sustainability practices survey of our membership. Of those who responded:

- 69% said Energy Costs are a problem today and will be in the future.
- 96% said energy costs will negatively impact businesses to some degree.
- 62% were interested in developing, acquiring and/or operating green buildings over the next 3-5 years.
- 96% were interested in adopting energy- saving practices.
- 84% said a benefit of green building is that "it is the right thing to do."

However, in terms of challenges and obstacles to building green:

- 92% cited increased costs.
- Only 56% said "green" is a tenant preference.
- 65% cited complexity, lack of familiarity with green standards and practices, and lack of trained builders/ contractors.

With Green building technology still in its infancy, there has been an ongoing debate about what constitutes green. While the US Green Building Council's LEED (Leadership in Energy and Environmental Design) standards and American National Standards Institute (ANSI) National Green Building Standards have gained wide acceptance, New Jersey is relying on Rutgers to develop standards here. Without pilots, how do we know which of these New Jersey-specific standards will yield meaningful results, and how will we implement these standards across a complex and often contradictory set of regulations, policies and codes?

Awareness is there. However, credible, meaningful and measurable standards must be in place before we can educate and train developers, policy makers, consulting professionals, tenants and everyday citizens

about what is essential in facilitating the transformation of the commercial and residential real estate markets.

Recommendations

1.4.1 The EMP must make the case for specific mandates. “Evidence-based policy making” is often lacking in New Jersey. With long payback periods and a tight credit market, developers and tenants are entitled to evidence that changes/designs/ upgrades/equipment are necessary and meaningful. NAIOP New Jersey respectfully requests that the entities responsible for drafting the EMP share their back-up data with the public and the regulated community so that we may help assess its accuracy.

1.4.2 Any education or outreach program needs to be truthful and clear about the “total” economic costs of energy efficiency and sustainable energy development, including costs that are socialized across the rate base and tax base. Preserving credibility in all areas of promoting efficiency and sustainable energy is paramount, since those making the investments are entitled to complete and accurate information. In particular, it must be understood that much of the “real cost” of regulated or mandated energy improvements is imbedded in utility rates that contain subsidies for efficiency and green energy rebates, as well as increased taxes that fund credits and other tax-related benefits. The eventual revelation of “hidden costs” may result in a backlash that derails an otherwise naturally compelling energy policy.

1.4.3 The State must share information on access to rebate money, tax credits and other incentives that can help offset the initial expense of utilizing an energy-efficient product or service. Sometimes program money is insufficient to meet need, or the process is too complicated for the applicant to obtain a credit, incentive or rebate – particularly if Federal and State agencies are involved in the program. If commercial and residential energy users know that they will get a fair or quick return on their investment, many will look more closely at energy-efficient upgrades. They should not have to hire a consultant to file complex applications, and this adds additional costs and only lengthens payback periods.

2.0: GOAL 2 – REDUCE PEAK ELECTRICITY DEMAND

“Peak demand”, the highest point of customer consumption of electricity, is estimated at only about 50 hours per year. The EMP seeks to reduce peak demand significantly: 5700 megawatts by 2020. However, the majority of that reduction is expected to be achieved via EMP Goals 1 and 4 (4800 megawatts), leaving 900 megawatts of peak demand to be reduced.

The EMP and the Implementation Strategy Outline provide few specific details or specific actions, but merely set forth broad conceptual solutions and establish the need to do additional studies/research. This lack of specifics invites many questions. Will the tools eventually adopted be high prices (deterrent) or bill credits (incentive) for demand response? How much discretion will consumers have? Will consumers be permitted to do their own cost-benefit analysis to determine whether they want to participate in a program? Will programs be mandatory?

If subject to real-time pricing or tier-based pricing, businesses may need to alter schedules to coincide with cheaper rates: is this practical? What if a business is unable to alter its schedule? How will insurance rates respond to operations conducted at night? What about customers who operate 24 hours a day and cannot cease operations during peak demand times?

2.1: Action Item 1-- Expand incentives for participation in regional demand response programs.

Recommendation

2.1.1 NAIOP New Jersey supports incentives for demand response programs. A \$2.5 million investment in solar energy would yield a reduction in energy usage of 300 megawatts. This would translate into savings of nearly \$1.8 billion (based on a multiplier of \$6/watt of solar energy produced).

2.2: Action Item 2-- Involve electric utilities in developing and implementing demand response programs. Where possible, these efforts will be coordinated with the energy-efficiency efforts of the utilities.

Recommendation

2.2.1 NAIOP New Jersey members could volunteer to reduce usage when alerted to peak conditions. An alert system could be developed so that building owners/managers could respond appropriately. Such a system seems most likely to be employed by the utilities, which have the most direct line of communication with energy users.

2.3: Action Item 3-- Target all commercial and industrial customers with a peak demand of 500 kW or greater for reduction in peak demand, and continue to develop incentives that achieve significant peak demand savings. The BPU's Office of the Energy Ombudsperson will be responsible for the targeting of these customers, and the BPU staff will also consider alternative rate structure designs that will assist in achieving the demand response goals articulated in the plan.

Recommendation

2.3.1 There appear to be very few “large” users among NAIOP New Jersey members. We can analyze user groups among our members to determine optimal solutions.

2.4: Action item 4-- Pilot different technologies (including advanced metering infrastructure) and rate structures for residential customers and customers with peak demand of less than 500 kW. Currently, the technologies and rate structures necessary to achieve peak demand reductions for these customers remain largely unproven. Therefore, using data from pilots in New Jersey and other states, the necessary technologies and rate structures will be identified that result in real peak demand reductions while remaining cost effective to the ratepayers.

Recommendations

2.4.1 The BPU should create incentives for the installation of Smart Sensors/Smart Meters.

2.4.2 New Jersey should enact practical solar energy policies that encourage/enable members to install solar where possible (solar works best when demand is greatest).

2.4.3 NAIOP New Jersey can work with BOMA to educate all members on the variety of things they can do easily to reduce energy use in general, what can be done at cost (and what the return might be) and what incentives may be available for more ambitious efforts (new HVAC equipment, smart meters, etc.).

2.5: Action item 5 -- Monitor the results of all demand response initiatives through 2012 and implement the most effective mix of action steps to achieve a total peak demand reduction of 5700 MW by 2020.

Recommendation

2.5.1 This strategy supports our request for “evidence-based policy making”.

3.0: GOAL 3 – STRIVE TO SURPASS THE CURRENT RENEWABLE PORTFOLIO STANDARD GOALS WITH A GOAL OF ACHIEVING 30% OF THE STATE’S ELECTRICITY NEEDS FROM RENEWABLE SOURCES BY 2020.

One of the more troubling aspects of the Energy Master Plan is that it contains broad, sweeping generalizations about the ability of “the State of New Jersey” to not only meet but exceed certain targets set forth in the Global Warming Response Act, without any specific economic analysis of the incremental costs of exceeding already agreed-upon goals. Nowhere is this “aspirational” increase more apparent than in the articulation of this goal – the increase of an established goal of 22.5% of the State’s electricity needs coming from renewable sources being increased to 30% - an imbedded increase of one-third, or 33 1/3 %.

It is apparent in an economic environment where oil prices range from \$40 to \$140 per barrel and gas prices from \$2.00 to \$4.00 per gallon that the two dominant contributors to meeting the Renewable Portfolio Standard (RPS) - solar and wind - will require heavy subsidies in order to be cost-effective. The somewhat simplistic conclusion that “if 22.5% is good, then 30% is even better”, when coupled with an economic crisis of historic proportions and a credit crisis that has few surviving participants (and even fewer parties able to address the counter-party risk mitigation), is a naive aspiration when it lacks economic analysis. While it is clearly theoretically possible for the State to surpass the 22.5% RPS goal by implementing the five (5) actions listed on page 68 of the EMP, there are significant costs (and benefits as well) in not only achieving the state goal, but also in exceeding it by one third. The EMP does not address the costs and methods and, as such, without information and policy guidelines, the EMP risks becoming yet another unfunded State mandate.

3.1: Action Item 1-- Change the solar energy goals from a percentage of 2.12% to a goal of 2,120 GWH by 2020.

The EMP seeks to ensure that reductions in energy consumption (as a result of the EMP) will not suppress solar energy development in the State.

Recommendations

3.1.1 Flat roofs, common in commercial construction, offer ideal conditions for solar panel installations. The warehouse and distribution center “market” (both owner occupied and leased facilities) in New Jersey represents a total of (conservatively) 700,000,000 square feet of roof space solar panel potential. With approximately a 25% penetration of the market, allocated between thin film and crystalline panel applications, enough power could be generated on these roofs alone to achieve the 2120 GWh goal. However, these installations will not make economic sense unless the SREC values are more predictable and the risks to the building owners are mitigated through sufficient revenue generation. This could be facilitated with passage of S-2353 (Smith) which establishes a “Solar Roof Installation Warranty Program” in the New Jersey Economic Development Authority, and appropriates \$2 million from “Global Warming Solutions Fund.”

There are additional impediments, however, to maximizing the rooftop generation of solar energy, in that the terms of SREC agreements are typically three to five years, while utility firms are looking for 20-year term agreements. This “disconnect” will need to be addressed, and potential solutions might include

credit enhancement or SREC "floor value" provisions through working with the NJEDA and a dedication of their portion of RGGI auction proceeds.

Other major impediments will require legislation to remedy: systems must be sized based on the on-site electric usage; thus, warehouses (and vacant land) cannot capitalize on the space. We need "before-the-meter" incentives to qualify for SRECs and allow for the sale of excess electricity to the grid at retail for such facilities. There should also be "net remote metering" that allows for a municipality, and other non-profits that can't benefit from the tax incentives currently offered, to combine their facilities for purposes of energy usage so that they can get credits for the electricity produced by a large solar system.

3.1.2 New Jersey should authorize customer-generator bi-lateral agreements for the sale and purchase of excess energy generation. Customer-generators would be able to negotiate and execute user agreements above wholesale rates encouraging the proliferation of solar renewable energy development and the creation of regional distribution areas.

3.1.3 New Jersey should encourage the use of renewable energy sources in tandem with each other (e.g., solar plus wind farm), as well as in tandem with more traditional energy sources (e.g., solar plus natural gas combustion turbine), to create the ability to engage in fuel-switching and similar strategic energy management practices. Rooftop micro wind turbines are no more obtrusive than the cell phone signal towers we often see, and they can provide a building's minimal energy electric needs during the overnight hours when solar generation does not occur. Meanwhile, battery backup is many years away from helping solar photovoltaics reach its full potential, but stationary fuel cells employing natural gas (that is already delivered to the building) can cover the building's intensive power demands from 4:00 to 8:00 PM in the summer.

3.1.4 We need to recognize that a direct and sudden switch from fossil fuels to renewable energy is unrealistic. To help bridge traditional and alternative energy systems, one of the best tactics to use is called "co-location". By co-locating energy production systems and technologies, society can gain efficiencies while reducing risks, because each energy system or fuel source complements the other. The Atlantic City Utilities Authority is doing this already at the macro-scale; it supplies co-generation based district heating and cooling utility products throughout the city, has a large ground and carport solar array located at the same site as its industrial-scale wind turbines, and methane harvesting from its landfill. The State of New Jersey can incentivize the use of proven technologies such as co-generation and co-location to help us better bridge the gap.

3.2 Action Item 2: Develop New Jersey's wind energy resources, with at least 1000 MW of offshore wind installed by 2012, and at least 3000 MW of offshore wind and up to 200 MW of on-shore wind by 2020.

The Energy Master Plan correctly points out that "wind energy resources are limited to specific areas of the State". Therein lies the most significant challenge for wind energy in New Jersey, because the most appropriate areas for efficient generation of wind power are also among the most controversial: off-shore, where it is considered by some to be both an "eyesore" and an environmental problem, and in the northwest portion of the state, where it is potentially in conflict with the Highlands areas.

With regard to offshore wind, the EMP references (on page 71 of the document) a study undertaken by the New Jersey Commerce Commission that concluded "that potential tourism impacts from an offshore wind facility are greatly reduced as the turbines distance from the shoreline increases". Besides being patently obvious, the statement ignores the other likely conclusion that the cost of the wind turbines increases as the distance from the shoreline increases, and does not determine the optimum location for wind turbines to address both the tourism and economic impacts. More importantly, these optimum

locations will need to be the basis of the DEP ecological baseline study to be undertaken in the summer of 2009.

Recommendations

3.2.1 The goal for wind is unrealistically front-end loaded. It seems incredible that one third (1000 MW) of an identified twelve-year goal (3000 MW) can be achieved in three years (by 2012), when there is no ecological baseline study completed yet. We recommend that this goal be revised based upon the results of the pilot study referenced herein.

3.2.2 The Garden State Offshore Energy project should be treated as a pilot project and, as such, should be considered an appropriate vehicle for targeted funding and incentives, such as portions of RGGI proceeds and the Federal Economic Stimulus Package, as well as a prioritized regulatory and permitting process.

3.2.3 The Offshore Wind Planning Group (OWPG) should be formed immediately so as to capitalize upon the unique financing programs for renewable energy solutions that will remain available for only a short period of time in this economic environment.

3.2.4 The OWPG should be a key stakeholder and contributing member of the group overseeing the DEP ecological baseline study.

3.2.5 In addition to focusing on creative financing strategies for wind, the OWPG should focus on the attraction of wind turbine equipment manufacturing companies to the State of New Jersey. By working with the Office of Economic Growth and the New Jersey Economic Development Authority, the OWPG could develop an incentive package, perhaps utilizing Federal economic stimulus dollars, to locate manufacturing facilities in the state. Pennsylvania has already attracted firms to the former USX facility in Fairless Hills, PA. New Jersey could improve the cost structure of wind power generation by locating the manufacturers close to where their product will be deployed.

3.2.6 South Jersey's coastal counties have many locations good for small and mid-sized wind turbines placed at 75 to 150 feet high at farm sites away from neighboring properties. Townships need to create zoning that allows them, or should at least be prevented from arbitrarily blocking farms from putting up wind turbines. The height of the turbines off the ground is critical, because the height largely determines electrical output since higher elevations have much stronger wind; a difference of just 50 feet can change output significantly.

3.2.7 The BPU should be empowered to provide attractive incentives for offshore wind developers to lay undersea south-to-north transmission lines to supplement existing terrestrial lines.

3.3: Action Item 3--Develop 900 MW of biofuels and biomass as part of the State's 2020 RPS.

The recommendations set forth and conclusions made in this section of the EMP appear to be heavily based upon a report titled "Assessment of Biomass Energy Potential in New Jersey" prepared by the Rutgers New Jersey Agricultural Experiment Station. The EMP states that the BPU will "working with the DEP, examine what changes they can make in the current RPS to support the development of 900 MW of biofuel-based electricity generation by 2020".

In the absence of an economic analysis of the costs associated with producing the 900 MW target amount, the goal remains purely aspirational. An economic analysis might conclude that it will be cheaper to produce 900 MW of biofuels-based generation than a comparable amount of wind or solar - generated

power, or vice versa. This particular action item needs an economic foundation to determine its economic viability before there is any program launched to enable it to be implemented.

In addition, the EMP mentions the use of biofuels as an element of home heating in “South Jersey”. It is unclear as to why this program was limited to southern New Jersey – was it a utility company pilot program? Is there anything specific to the southern portion of the State that makes it more achievable in that geography, as opposed to northern New Jersey, where there are also a significant number of residences dependent upon petroleum-based heating solutions?

Recommendations

3.3.1 The Rutgers report needs to be analyzed for its discussion of potential economic costs and benefits. If the report includes economic studies, they should be updated. If it does not, an economic analysis should be undertaken.

3.3.2 The biofuels home-heating oil program in South Jersey should be analyzed for its potential applicability to other areas of the State.

3.3.3 If New Jersey presents such a great opportunity to convert trash to energy because of its trash generation rate being 50% higher than the national average, we should investigate technologies (such as “clean incineration”) that allow for the conversion of more than the current 17% of the existing solid waste into energy.

3.3.4 The BPU should work closely with the Department of Agriculture to investigate the establishment of livestock “bio-energy enterprise zones” to encourage farmers to convert farm waste to energy, instead of threatening the agricultural community with the so-called “methane/carbon tax” alternative.

3.4: Action Item 4--Increase support of other renewable energy technologies.

This is clearly an aspirational goal. The EMP identifies some potential technologies (low head hydro, tidal power) and establishes a somewhat arbitrary target of 50 MW per year through 2020. This section of the EMP does, however, identify a potential funding source for research efforts: the Alternative Compliance Payments (ACP) collected for technology development “that did not happen in a year”. Again, the one year time frame seems entirely arbitrary, especially considering new technology development. However, the suggestion of an identified funding source is a key element of any Research and Development effort.

Recommendations

3.4.1 Resist the temptation to create a new program just for this specific purpose. Keep administrative costs down by reviewing existing programs, such as the Edison Innovative Fund, for their applicability.

3.4.2 The State should aggressively promote community renewable energy projects and alternative generation at remote sites. Regional Planning Commissions can be used to foster regionally shared large-scale wind and solar projects, ideally co-located, that promote area job creation, shared risks and benefits. Groups of businesses in individual large towns can be encouraged to hire a solar or wind developer to develop district heat and industrial steam systems through solar thermal stations, or shared wind and solar power plants. Large companies in urban areas should be permitted to develop large renewable projects in rural areas of the same utility for credit against their account.

3.4.3 New Jersey should accelerate and strengthen programs and regulations that allow municipal, county, and public school entities to implement alternative energy projects through Guaranteed Energy Savings Contracts (GESCs) such as those used at the federal and state levels. Smaller government entities have capital and debt limitations for long-term investment in alternative energy projects. At the same time, the financial community is hesitant to partner with these government entities because it is difficult for them to achieve a reasonable ROI unless they can take the combined tax, depreciation and incentive packages. By allowing more GESCs to be employed, contractors can recover their costs through the cash flows generated by the projects over time in a predictable stream of income that they can better finance. Also, by allowing energy services companies to own the systems or equipment, they can reduce the cost for the government entity by taking the tax/depreciation/incentives package that only for-profit entities can enjoy.

3.4.4 The State should phase in requirements for utility companies to incorporate renewable energy generation capacity into the design and construction of any new fossil and nuclear fueled power plants. Nuclear power plants have massive cooling towers, the south sides of which represent an excellent location for mounting solar panels, for example. The steam released from stacks can also be harvested to power steam turbines that generate additional electricity, or perhaps that steam can be used in a district heating system for nearby businesses in industrial parks. For any new nuclear power plants there will be large open areas serving as security perimeters – those areas would be ideal for geothermal systems and solar farms. Stacks would prevent effective use of industrial scale wind turbines, but many coal-fired power plants have appropriate land and roof space for a series of micro wind turbines. The whole paradigm of power production needs to change to represent different fuel mixes and co-location of technologies.

3.4.5 The BPU should issue an order stating that combined renewable energy-fossil/nuclear projects will receive preferential treatment in the approvals process over non-renewable, fossil and nuclear -only projects. For utilities, that is a great incentive to move in the proper direction in support of the EMP.

3.5: Action Item 5 -- Increase the Renewable Portfolio Standard for the years 2021 to 2025.

In the absence of any reliable performance data, it is difficult to determine whether this goal is achievable or not, or whether it is even necessary. It is clearly worth noting that the market for renewable energy solutions will see a great deal of activity (and hopefully implementation) in 2009 and 2010 because of the federal stimulus packages being deployed in early and mid-2009. It is also worth noting that most transactions involving PPAs or lease agreements will have terms of 15-20 years. Achieving predictability in underwriting standards until 2025, or even 2030, is a target worth considering. It is not clear, however, that any increase is warranted until we have better feedback on the economic performance of certain transactions.

No action warranted at this time.

4.0: Goal 4-- DEVELOP A 21st CENTURY ENERGY INFRASTRUCTURE

There is a significant and immediate need for New Jersey to undertake a thorough analysis of its existing natural gas and electric generation and transmission infrastructure. To the extent that our existing infrastructure is found insufficient to provide adequate, reliable and cost-effective service going forward, it must be expanded and improved to accommodate the State's ever-increasing energy demands.

The EMP properly notes that energy demand continues to grow steadily at a pace that exceeds the supply and transfer capabilities of our infrastructure. The accelerating retirement of aging power plants over the

past decade, coupled with the failure to replace the retired plants, has exacerbated this trend. Several thousand megawatts of generation have already been or are scheduled for retirement and more retirements are expected. Our existing fleet of power plants is rapidly aging, with nearly half of our generation infrastructure being 30 years or older, meaning that these plants have exceeded or are nearing the end of their useful lives. Little conventional generation has been added in recent years and few viable projects have been proposed.

The utility transmission and distribution systems have also become increasingly inadequate, resulting in a constrained delivery system that is not always capable of delivering the state's power requirements during periods of peak usage, leading to congested transmission lines and increased power costs. As a result, a PJM Interconnection study recently concluded that significant upgrades of the state's generation and transmission infrastructure are necessary if the state is to avoid additional congestion and the prospect of brownouts and blackouts in the near future.

It is imperative that the state adopt policies that will achieve the state's overarching goal to maintain, on a continuing basis, reliable supplies of energy at a reasonable price. We are concerned that the EMP has not adequately addressed this issue of critical importance to New Jersey's future. In our view, the EMP places inordinate reliance on renewable energy, energy efficiency and demand response initiatives, to the exclusion of the development of conventional infrastructure as the means to ensure adequate energy production and delivery functions going forward.

The renewable and energy efficiency goals set forth in the EMP are aggressive and will be difficult to achieve. However, even if the goals for maximizing renewable energy sources, energy efficiency and conservation are achieved, it is unlikely that our existing conventional infrastructure will be sufficient to continue to accommodate even a significantly reduced level of demand. Renewable energy sources like solar and wind are, at best, intermittent resources that are available only a small fraction of the time that power is required. We are concerned about the reliability and cost of a system that is comprised of a significant component of very expensive power that is generated only when the sun shines and the winds blow. We therefore consider it prudent to develop conventional generation, particularly baseload nuclear and high-efficiency natural gas-fired plants, to ensure a reliable power supply in the future.

4.1: Action Item 1—Work with the electric and gas utilities to develop master plans through 2020 that will be responsive to the goals and action items in this plan. This will include the examination of smart grid technologies and modernizing the electricity grid to 21st century technologies.

Recommendations

4.1.1 We urge the State to implement long-term, strategic energy infrastructure planning to ensure that our natural gas and electric systems are reliable, affordable and responsive to our growing energy challenges. The State should conduct a comprehensive study of our current energy infrastructure, determine the appropriate mix of resources, including conventional generation, transmission, renewables, energy efficiency, demand response and conservation that will be necessary in the near and long term to assure the continuing reliability and cost-effectiveness of the electric grid and natural gas infrastructure.

4.1.2 We believe that the State's initial interest in creating a state power authority with responsibility for studying and fostering the development of infrastructure determined to be necessary was well-founded and should be pursued. It is also desirable for New Jersey to consider all available electric power generation fuel sources and systems, including clean central station (nuclear), combined cycle (co-generation) natural gas and clean coal technology, as part of a potential supply mix to satisfy the State's demand and environmental requirements in the long term.

4.1.3 In the near term, we support the development of the proposed Susquehanna-Roseland transmission line, which has been ordered by PJM to avoid reliability issues in the interstate transmission grid that are projected to occur in New Jersey as early as 2012. While we are sensitive to the concerns of those who live in close proximity to the existing line that would be upgraded pursuant to the PJM directive, we urge that it should be a fundamental energy policy of the State to avoid deficiencies in our transmission grid that could threaten the reliability of service provided to citizens. Apart from the considerable economic consequences, blackouts and brownouts are disruptive of our personal and business lives. It must, therefore, be a principal tenet of the EMP that New Jersey should adopt policies that will avoid the threat of brownouts and blackouts to the greatest extent possible.

4.1.4 Create a regulatory structure that encourages creative and alternative technologies and schematics for transmission and distribution of electric power. The Connecticut to Washington DC corridor is at high risk for brownouts at peak demand periods, and extended grid outages that threaten national and economic security. Due to chronic under-investment, the utility grid is in poor repair and in many ways New Jersey is at the center of the PJM grid. While the utility grid has thousands of nodes, in unusual cases the simultaneous dysfunction of just a handful of nodes can lead to a cascading, crippling failure. It was not too long ago that this type of cascading failure occurred in our region.

4.1.5 New Jersey's major utilities should be permitted to experiment with long-distance DC transmission lines for potential efficiency and capacity improvements.

4.1.6 Stakeholders should be encouraged/incentivized to invest heavily in Smart Grid and Smart Metering technology using cloud computing, microgrids, demand-side management programs, and whatever other resources and technologies are available.

4.2: Action Item 2: Foster development of 1500 MW of new cogeneration capacity in New Jersey by 2020. Cogeneration development has for the most part stalled over the past decade. Through a series of actions, including rebates and sales and use tax exemptions, the State will attempt to stimulate growth in cogeneration plants, which will provide an alternative energy source for commercial and industrial users.

Recommendation

4.2.1 Include franchised utility companies in the effort to increase statewide co-generation capacity by extending to them the same incentives offered to utility customers.

4.3: Action Item 3: Ensure a balance between energy supply and energy demand that is consistent with the State's greenhouse gas targets and provides energy at a reasonable price. This balance includes the support of fuel supply projects, such as liquefied natural gas, as long as they comply with the DEP's environmental standards, and consideration of nuclear energy technology, if it is determined that additional baseload supply is needed.

Recommendations

4.3.1 Increased energy production must be a primary goal of the EMP.

4.3.2 Clean central station (nuclear) generation plant capacity development should be required as a priority before requiring other technologies classified as the EMP as "sustainable". No one should ever expect our state to function as an economic engine when its electricity generation sources are dependent upon the sun shining and the wind blowing.

4.3.3 The replacement of dirty, inefficient and older facilities should be a priority.

4.3.4 Under its goal of investing in low carbon-emitting power plants, the EMP calls for the development of more cogeneration natural gas fueled facilities. The value of natural gas is that it is cleaner than other fossil fuels, its worldwide supply is projected to peak later than other fossil fuels, and the efficient cogeneration plants that it has the potential to power can easily meet peak demand. Natural gas already plays a significant role in meeting energy needs and it is therefore important that a stable and cost-effective infrastructure is developed that will maintain current natural gas needs and support the addition of cogeneration facilities. Investment in Liquid Natural Gas (LNG) facilities within the state must be included in this infrastructure to ensure stability in both the natural gas market and the supply.

5.0: GOAL 5-- INVEST IN INNOVATIVE CLEAN ENERGY TECHNOLOGIES AND BUSINESSES TO STIMULATE THE INDUSTRY'S GROWTH IN NEW JERSEY

NAIOP New Jersey strongly supports this goal of establishing a renewable energy industry in New Jersey and pledges to work with the appropriate State agencies to achieve this goal. At this critical time in our State's economy, and considering the federal government's focus on renewable energy as a key component of the federal stimulus package, a coordinated effort among State agencies, elected officials, the investment community and the private sector is essential to realizing the job-creation potential of this industry.

It is critical to any investment market, particularly in the early stages of an industry and even more so in the difficult credit market currently affecting our economy, that the market possesses three essential characteristics: predictability, transparency and consistency. Therefore, it is critical to reiterate in this section the concern with the EMP which has been voiced elsewhere in this document: the identification of "aspirational" goals without appropriate underlying economic analysis creates the potential for unfunded mandates, which could have a crippling effect on emerging technology markets.

5.1 Action Item 1: Expand efforts that encourage the development of clean energy technologies by expanding the Edison Innovation Fund to invest in innovative clean-energy technologies and provide support to business incubators that support clean-energy business development.

Recommendations

5.1.1 The identification of \$75 million over a five year period (allocated from the Edison Innovation Fund) to attract over \$200 million in private equity investment is a great starting point. The dedication of this \$75 million needs to be verified and additional sources, such as the allocation of RGGI proceeds and the potential for federal and/or State stimulus dollars, should be investigated.

5.1.2 The current mission statement of the Edison Innovation Fund is to invest in "technology and life sciences businesses", but the state would be better served if that were tweaked to emphasize "green energy" applications. The danger is that many of the resulting innovations stemming from many biotech and software applications supported by the Fund is that they can lead to economic and job growth in Boston or India, since those innovations are easily transferred out of state. Conversely, green energy type innovations typically involve substantial local knowledge, engineering and field work for infrastructure and ongoing maintenance. For that reason, New Jersey will likely see a greater long-term return on investment from green energy projects initiated by the Edison Innovation Fund.

5.1.3 The Fund could host a mini-summit and conduct member/participant surveys every couple years to determine exactly what energy problems and needs entrepreneurial New Jersey businesses are facing. That information could then be distributed to the green energy sector, as well as aspiring new green energy entrepreneurs, in a way that allows industry to respond rapidly to market needs.

5.1.4 It is important that the Fund not be open solely to new ventures, but should also be available to existing entities with established facilities, technologies and jobs. Often, dollars can be more effectively leveraged by investing in expansion or shelf-ready technology that needs an introductory push into the marketplace.

5.2 Action Item 2-- Develop timely and industry-recognized job training programs to ensure that sufficient numbers of New Jersey workers have the skills demanded by industry to fill the jobs that are created from the action items in this Master Plan.

Recommendations

5.2.1 The consolidation of the pharmaceutical industry in New Jersey, coupled with the loss of jobs in the financial services sector, will make available a significant number of skilled workers who could be “cross-trained” to become significant contributors to the renewable energy industry in the State. In addition, there is a significant pool of lower-skilled workers who could benefit from job training programs offered by the community college system in the State, supported by an allocation of RGGI auction proceeds to dedicated “green collar” job training. The Industry Workforce Advisory Council (IWAC) referenced on page 84 of the Energy Master Plan should consider this multi-level job training approach as they develop programs for this emerging industry.

5.2.2 Mandatory energy audits would create strong demand for trained energy professionals such as Certified Clean Energy Manager and LEED-EB Accredited Professional. This process will make New Jersey one of the nation’s leaders in energy consulting and performance contracting – exactly the type of hi-tech service industries the state needs.

5.2.3 We can support education and training for the next generation of facilities managers at large commercial and industrial buildings through facilities tours that illustrate Best Energy Management Practices, hands-on-seminars, technology demonstrations from vendors, etc. Also, New Jersey should promote continuing professional education through the Certified Facility Manager designation of the International Facility Management Association.

5.2.4 The State could support green-collar job growth via professional accreditation programs for management, a job-matching program between employers and energy technician trainees, and apprentice programs. New Jersey should also administer North American Board of Certified Energy Practitioners (NABCEP) training and certification programs for solar, wind, energy efficiency audits, weatherization programs, etc.

5.3: Action Item 3 -- Establish the Energy Institute of New Jersey (EINJ) to support basic and applied energy research efforts at the colleges and universities in the State.

Recommendations

5.3.1 The BPU and DEP should resist the initial temptation to create yet another study panel, institute or bureaucratic board at the outset, and first investigate whether any current entity (such as the board members of the Edison Innovation Funds, for instance) can be expanded or modified to perform the same function.

5.3.2 Again, funding needs to be identified for this initiative, or it will be yet another good concept that “fails to launch” because of lack of funding.

5.3.3 The role of the EINJ, as compared to the role of the proposed State Energy Council, will need to be clarified so as to eliminate overlaps and, conversely, identify gaps.

In summary

NAIOP New Jersey urges the State to adopt cost-effective energy policies that achieve an appropriate balance of all generating and transmission resources, as well as efficiency and conservation measures. We emphasize that pilot projects, a roof-top solar initiative, localized regional generation facilities and financing vehicles with long-term viability will be critical to the success of this effort.

Financing vehicles are critical to the long-term success of a solar market for commercial/industrial real estate, since the industry would like to capitalize the use of SRECS. Intervention by the New Jersey Economic Development Authority would be extremely helpful in eliminating the variability of SREC values, thereby providing predictability to the industry.

We must ensure that our policies and actions are well planned, based on informed study and, as implemented, truly adequate to meet our ever-expanding energy demands and the corresponding stresses placed on the interstate transmission system. The state should also provide necessary vehicles, including public/private partnerships and creative financing arrangements, to foster the development of targeted infrastructure improvements.

In concert with the above, it is imperative that we get the physics right, that we quantify the economics (including the ratepayer and taxpayer burdens that fund incentives), and that we identify and explain the risks. To do otherwise will imperil the Energy Master Plan, our state and, eventually, our livelihoods.