

Comments on the New Jersey Energy Master Plan  
May 8, 2008  
Electric Power Research Institute

The Electric Power Research Institute commends New Jersey for its thoughtful and comprehensive energy plan. In general, we believe it has been prepared well and will provide an important guide as New Jersey makes energy decisions going forward.

We submit the following comments and recommendations for your consideration.

1. We recommend that this plan should address cross-sector strategies rather than focus only on electricity and heating fuel challenges. This approach will likely result in effective climate strategies as well as overall energy efficiencies. For example, plug-in hybrid electric vehicles, and potentially eventually all-electric vehicles, will increase electricity generation, but will reduce greenhouse gas emissions over gasoline-only vehicles. As the electricity system becomes more decarbonized, using electricity for transportation and in other sectors is a powerful greenhouse gas reduction strategy. Greenhouse gas reduction should be considered in addition to kilowatt-hour reduction.
2. Capital cost estimates (p 32 of draft plan) for new generation are generally lower than actual bids for new plants today, particularly for nuclear, coal, gas, and wind plants. In addition, lead times required for new plant construction are also probably one to two years too short given recent increases in public protests and litigation affecting siting of plants as well as transmission required to support them.
3. The energy consumption reduction goal of 20% by 2020 should also include savings in the entire electricity system in addition to end-use savings. The electricity system consumes energy in the production and delivery of electricity. There is potential to improve the energy efficiency of power generation, and transmission and distribution. We recommend the State focus on this as well as end-use efficiency. We also recommend the State facilitate research, development, and demonstration on electricity system and end-use savings, for example on advanced technologies and methods. In addition, the State and utilities should take advantage of lessons learned from other states on end-use efficiency, e.g., California, and include utilities and stakeholders in planning and implementation.
4. We agree with the action to move the State's electricity grid toward a smart grid. We recommend that investments in smart grid systems be on non-proprietary systems based on open architecture and industry-accepted standards to assure that systems are interoperable. This helps assure that systems will be more cost-effective, able to work with many suppliers' products, and minimize the probability of obsolescence.

We also recommend that New Jersey look closely at the experiences in California with advanced metering infrastructure deployment. Southern California Edison and Pacific Gas & Electric are implementing open systems. Southern California Edison has used the EPRI IntelliGrid Architecture to develop their AMI system. We recommend New Jersey use the IntelliGrid Architecture, methods developed, and standards identified by the IntelliGrid research program.

5. To achieve the goal of 22.5% renewable energy by 2020, we recommend considering the impacts of intermittency on the transmission system. Research and demonstration of storage technology should also be part of the State's strategy.
6. We agree with the strategy to move forward with nuclear power generation. We also recommend focusing on extending the life of the existing nuclear power plants in New Jersey.
7. Overall, we agree that energy efficiency, renewable energy, distributed energy resources, and nuclear energy are all critical to New Jersey's energy plan. We also recommend including advanced coal with carbon capture and sequestration in the State's strategy. We recommend investing in research, development, and demonstration of all the technology options in order to achieve the full portfolio to enable a cost-effective energy strategy while meeting climate change goals.
8. We recommend that the State consider this plan the beginning of a continuous planning energy planning process, because as goals are met, exceeded, or not met, changes and adjustments must be made in the plan and strategy going forward to meet overall goals.