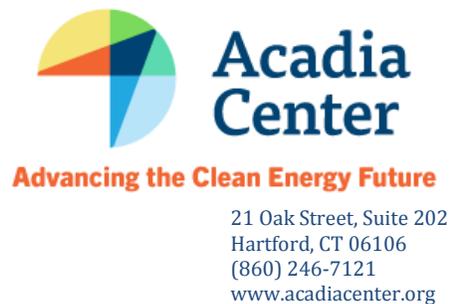


# Comments of Acadia Center to the Connecticut Department of Energy And Environmental Protection on the Draft 2014 Integrated Resource Plan for Connecticut



**FEBRUARY 11, 2015**

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Acadia Center thanks the Department of Energy and Environmental Protection (“DEEP”) for the opportunity to provide written comment on the draft 2014 Integrated Resource Plan for Connecticut (“2014 IRP” or “IRP”). The IRP is Connecticut’s primary planning document for its electric resource. The analysis performed in the IRP can lead to multi-billion dollar energy decisions funded primarily by Connecticut’s residents and businesses via their future electric bills. It is therefore critical that the IRP analyze and model all major electric resource options. The public needs a clear and objective sense of the resource choices they face, including a comparison of the relative economic impacts that flow from each choice.

## **I. Overview: Analytical Caveats**

As an important planning document for our energy future, the 2014 IRP should acknowledge its data and analytical limitations to best inform policymakers and the public. Two such limitations should be noted in the final draft:

(1) The IRP’s eight recommended resource strategies were not analyzed within the 2014 IRP modeling system. In other words, while the IRP did model future baseline energy conditions, it did not extend its modeling to include policy options, including the eight recommended strategies, and their effects on the projected baseline (or on each other), as has been the case in prior IRPs. This means that the IRP should be viewed only as an integrated resource assessment of current conditions and not as a forward-looking action plan with modeled policy scenarios like previous IRPs. Without analysis through modeling, the recommended strategies do not carry the weight or justification of the policy scenarios in past IRPs.

(2) The 2014 IRP does not analyze the economic impacts of a policy scenario that invests in all cost-effective energy efficiency in Connecticut. The IRP correctly notes that current investment levels in electric and natural gas efficiency, while significantly increased, are not at all cost-effective levels. The final draft of the 2014 IRP should therefore analyze an all cost-effective energy efficiency scenario to

determine whether additional net benefits, like lower electricity costs, could be captured. This scenario analysis is required by state law and has strong support from the state's Comprehensive Energy Strategy, which identifies investing in all cost-effective energy efficiency as the state's first energy priority.

## **II. Resource Strategy #1: Energy Efficiency**

While Acadia Center generally agrees with DEEP's overall description of the positive impacts of Connecticut's expanded energy efficiency investments in the draft IRP's sections on forecasted resource adequacy, we would like to suggest some additional refinements for consideration in the final draft.

First, the analysis of the final IRP draft should incorporate the latest savings information from the 2014 plan year of the 2013-2015 Conservation and Load Management Plan. This information will be finalized and available this month and can be used to refine and update the IRP's assessment of current and future energy efficiency impacts. The program administrators appear to have achieved savings that exceeded 2014 savings targets, perhaps even significantly. This means that the draft IRP's assessment likely underestimates the full positive impact of the state's energy efficiency programs on forecasted baseline energy conditions, including valuable incremental reductions in summer and winter peak demand.

Second, the draft IRP is generally correct when it notes in Section II (page 9) that energy efficiency investments benefit average customers through reduced bills (as opposed to rates), but the point can be stated even more clearly. Overall customer expenditures are always lowered due to energy efficiency investments because the state's programs must pass cost-effectiveness tests that require the value of program benefits – all energy savings and system benefits – to exceed program costs. The state's energy efficiency programs continue to be highly cost-effective. For instance, the pending 2015 Plan Update (filed with DEEP but not yet approved) estimates that the energy efficiency investments that will be made in 2015 for both electricity and natural gas will return \$2.49 for every \$1 invested with a total net benefit of \$490 million. That is excellent benefit-cost performance for the entire program portfolio.

Turning to the draft IRP's section on the energy efficiency resource strategy, Acadia Center has additional refinements to suggest for the final draft.

First, in light of the number of state-led efficiency initiatives that seek to capture energy efficiency savings – the three foremost being those led by the Green Bank, the Lead by Example program, and the Conservation & Load Management programs – the final draft of the 2014 IRP should address the potential differences in how energy savings are accounted for in each program. This is necessary to ensure that a kWh saved in any of these programs is based on generally accepted standards for the field

for counting only the savings that would not have happened in the absence of programs, and is comparable between programs. In addition, the final IRP needs to ensure that there is no double-counting of efficiency savings occurring through the “additional” energy efficiency listed under the Lead by Example and C-PACE examples. Both programs continue to rely on incentives provided by the state’s Conservation & Load Management programs to help achieve their efficiency goals; thus, the concern that these figures are not all simply additional. DEEP should therefore establish standardized savings attribution criteria for all state programs to ensure accurate accounting for state savings goals and contributions to air quality improvements.

On a related note, there is no support given for the assertion on page 76 of the draft IRP that C-PACE is improving the cost-effectiveness of the state’s Conservation & Load Management programs. Data supporting this assertion is important to disclose, if available. A standardized method of accounting for savings as described above would help with such an analysis.

Second, regarding the IRP’s recommendations on efficiency potential assessment (pages 78-80), the final draft should identify some concrete parameters for the proposed “dynamic, data-driven” system of assessing potential, as well as references to any such similar system elsewhere in the nation. This will be critical to helping policymakers and the public make timely and well-informed energy investment decisions. For example, the next three-year Conservation and Load Management Plan, which commences in 2016, would benefit from having updated efficiency potential data available during the development phase that is already underway this year. If the dynamic potential assessment system proposed by the 2014 IRP cannot be put into place in 2015, or the very near future, then existing potential studies should be updated with new information from EM&V studies and other sources in the interim.

Third, on the issue of targeting the Conservation & Load Management programs to reduce peak demand (page 80), the 2014 IRP should focus on creating the system that places appropriate value on energy efficiency targeted at peak demand periods so that such values can be used in cost-effectiveness testing. This will allow peak demand savings to be appropriately valued and thus increased during the planning process for the entire C&LM plan. This will be more useful over the long-term than offering a few program-specific recommendations in the final IRP. In addition, the final draft should recognize that re-targeting the C&LM programs towards peak demand reductions could also have major budget ramifications and that these programs, which are popular and have high customer demand, may not be able to provide significant, new peak demand savings without increasing funding to the all cost effective levels.

Fourth, the draft IRP references energy efficiency gains to be made through complementary policies (see page 80). Acadia Center supports pursuing these types of policies in Connecticut, which can increase the levels of potential efficiency and the cost at which they can be achieved, but it would help for policymaking purposes to have those options identified and analyzed and appropriately placed within the state's overall energy efficiency strategy. The final 2014 IRP should therefore clearly identify any recommended complementary policies, such as mandatory building labeling and disclosure, that can help increase the demand for efficiency and/or lower its cost, as well as any projected energy savings resulting from these policies.

### **III. Resource Strategy #3: Capacity Market**

This section of the draft IRP should be updated to reflect the outcomes of ISO-NE's recently completed ninth Forward Capacity Auction, which saw regional capacity prices rise 36%, pulling in new energy efficiency resources, as well as new generation capacity (on top of existing generation capacity, which experienced no de-listings).

### **IV. Resource Strategy #4: Winter Peak Demand**

DEEP should be commended for including multiple energy resources – demand-side and supply-side – in the new competitive procurement it proposes as a partial solution to the winter peak demand problem (see pages 105-106). It will be crucial that all cost-effective resources are treated and valued fairly through this procurement. While natural gas pipeline availability is a contributing factor in wholesale electric prices, the winter peak issue is ultimately one of electric prices and should be consistently referred to in that manner. Connecticut and the region, in other words, have experienced higher wholesale electric prices on some of the coldest winter days in prior years; many fuels, or energy resources, can help alleviate those high prices. Any competitive procurement should therefore be crafted to solicit electric resources that can address this. This approach will allow market participants in a procurement to determine how they want to procure fuel supplies, if needed, to ensure their ability to meet their electric supply obligations under a long term contract.

While Acadia Center is generally supportive of the concept of a resource-neutral competitive procurement for new electric solutions, we strongly believe, however, that all attempts at correcting the wholesale electric market should be exhausted first before resorting to any out-of-market solutions, particularly out-of-market solutions that shift risk from private companies to electric ratepayers. We do not believe that all “in-market” solutions have yet been fully explored or implemented for the winter electric pricing issue. For example, regional market reforms continue to be developed by ISO-NE to

help resolve the winter peak demand issue, including proposed changes to the capacity market that will increase the incentives for generators to procure adequate fuel supplies in the winter. We need to see this reform (and others) in action before determining whether to move forward with last-resort, out-of-market solutions.

The draft IRP also requires significant updating in this section because the studies it relies on have now been rendered inapplicable by new market conditions. Significant regional market changes have occurred since the release dates of the studies cited. ISO-NE's winter reliability program has been refined to include LNG. There has also been better coordination of the gas and electric markets. These changes, along with fuel prices that are different from those forecasted, have resulted in a significantly different market in the current winter season. We experienced dramatically lower wholesale electric prices in January 2015 versus January 2014, despite weather (for Hartford, CT) that has been very similar, as shown in the following table. Wholesale electric prices in January 2015 have also been lower than January 2013, a much warmer month.

	Heating Degree Days	Average Daily Temp (°F)	Average Daily Low (°F)	Average Day Ahead Locational Marginal Price (\$/MWh)	Average Real Time Locational Marginal Price (\$/MWh)
Jan-15	1234	23.9	14.1	\$69.90	\$64.57
Jan-14	1235	24.3	13.5	\$166.43	\$161.64
Jan-13	1058	29.5	19.4	\$85.71	\$83.52

Source: ISO-New England, National Oceanic and Atmospheric Administration

The year to date data for February is showing an even clearer trend. Despite substantially colder weather, wholesale electric prices are still dramatically lower than in the past two years.

YTD through Feb 8	Average Daily Temp (°F)	Average Daily Low (°F)	Average Day Ahead Locational Marginal Price (\$/MWh)	Average Real Time Locational Marginal Price (\$/MWh)
Feb-15	20.3	6.9	81.00	82.05
Feb-14	27.4	14.7	126.24	117.47
Feb-13	25.9	17.8	138.67	116.41

Source: ISO-New England, National Oceanic and Atmospheric Administration

Similar updating is needed regarding resource costs. References to estimated pipeline costs in particular should be reviewed to ensure they are still accurate. The \$1.2 billion figure for a pipeline from Wright, NY to Dracut, MA cited on pages 93, 95, and 100, would now more appropriately be \$2.9-\$3.5 billion<sup>1</sup>. This type of change in cost structure again renders the results of studies based on it inapplicable.

Finally, we believe the final draft of the 2014 IRP should correct or remove the statements at the bottom of page 99 and top of page 100 regarding the costs and amount of efficiency needed to address the winter pricing issue. Those calculations are based on the price of summer electric peak demand reductions. The actual cost of addressing winter peak demand through cost-effective demand-side investments, either as currently structured or when targeted towards winter peak reductions, does not appear to have been analyzed in this IRP.

## V. Resource Strategy #7: Grid Modernization

Acadia Center commends DEEP for identifying grid modernization as an opportunity to reap electric benefits on behalf of its residents and businesses. The focus on developing fair values for all significant distributed energy resources (“DER”) is an important step in the right direction, and Acadia Center looks forward to participating in any public study or proceeding on the topic. DER values developed through DEEP’s proceeding should include not only solar, CHP, and other well-established customer-

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<sup>1</sup> Kinder Morgan Presentation for Investors, 1/28/2015, <http://ir.kindermorgan.com/sites/kindermorgan.investorhq.businesswire.com/files/event/additional/KM2-02AnalystConfNatGas2015TM.pdf>

sited generation resources, but also demand-side DER, such as geo-targeted energy efficiency, energy storage, demand response, and active load management. These demand-side resources can provide significant customer and system (or grid support) benefits, including peak demand reductions (system and local) that can help optimize grid infrastructure investments and lower energy bills for all electric customers, regardless of DER ownership or participation.

DER grid integration is also another worthwhile focus of any grid modernization initiative. As with the DER valuation issue, it is important that the scope of any DER integration efforts include all cost-effective demand-side resources in the definition of eligible resources. Other jurisdictions, such as Maine and Rhode Island, have pursued DER-related pilots that include demand-side resources like geo-targeted energy efficiency. Acadia Center fully supports DEEP's related call for sufficient transparency regarding distribution grid performance at the circuit level. This information will be crucial if policymakers, stakeholders, and customers are to design, oversee, and implement effective DER integration pilots. Distribution load "hot spots" need to be identified so that combinations of DER resources can be coordinated and targeted to reduce local peak demand cost-effectively. Acadia Center's previously submitted DER pilot proposal to DEEP describes the possibilities for pilot design, performance, and evaluation in more detail (see the attached document).

Acadia Center recommends that DEEP add an additional element to its grid modernization initiative: a new state-wide planning process that would periodically identify opportunities to employ DERs to defer or avoid new investment in expensive grid infrastructure, like substations, transformers, poles, and wires. New York's "Reforming the Energy Vision" proceeding has already identified this approach – sometimes called least-cost procurement of grid resources – as the "low-hanging fruit" of grid modernization. Other states in the region have already begun pursuing this approach with DER, and it is time for Connecticut to begin doing the same.

Sincerely,

William E. Dornbos  
Connecticut Director & Senior Attorney