Comments of Northeast Energy Efficiency Partnerships (NEEP) To the Massachusetts Department of Energy Resources Re: Massachusetts Low Demand Scenario Analysis

Submitted via email to: lowdemandstudy@state.ma.us
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Thank you for the opportunity to comment on the information presented at the third stakeholder meeting for the Massachusetts Low Demand Analysis. [1] NEEP is a regional non-profit organization whose mission is to serve the Northeast and Mid-Atlantic areas of the U.S. to accelerate energy efficiency in the building sector through public policy, program strategies and education. We are one of six Regional Energy Efficiency Organizations (REEOs) as designated by the U.S. Department of Energy to work collaboratively with it in linking states in our respective regions to DOE guidance and resources.

While we, and the other clean energy stakeholders participating in this exercise, were very much appreciative of the Department's efforts to create an open process for reviewing alternatives to increased natural gas pipeline capacity into Massachusetts and New England, the stakeholder meeting of December 18, 2014 has left us very frustrated by what seems to be the Department's unwillingness to acknowledge a set of deeper and broader benefits that are attributable to clean energy, and, specifically, energy efficiency.

In hearing the presentation of Dr. Elizabeth Stanton of Synapse Energy Economics — the firm chosen by DOER to conduct the low demand scenario analysis — it became very apparent that Synapse was operating under a set of restrictive parameters placed upon it by DOER which have had the effect of disqualifying large amounts of energy efficiency potential which are generally acknowledged to be the cleanest, quickest and least expensive of energy resources available to meet the Commonwealth's and the region's energy needs.

In addition, certain assumptions directed to Synapse by DOER in relation to building energy codes have had the effect of creating an unrealistic baseline assumption of which energy efficiency measures may be modeled to be cost-effective, thus also changing the amount of those resources that should be acknowledged as available. Given the significant limitations of time imposed on stakeholders to provide comments, we limit these comments to largely focus on the energy efficiency modeling results as released by Synapse on Dec. 18.

Energy efficiency potential underestimated

During the initial stakeholder meeting to explain the Low Demand Scenario modeling plans, Dr. Stanton indicated that the standard to be used by Synapse for screening alternative resources is "to the greatest extent that is determined to be simultaneously technically and

[1] These comments are offered by NEEP staff and do not necessarily represent the view of the NEEP Board of Directors, sponsors, funders or partners.

economically feasible." During the stakeholder meeting of Dec. 18, however, she revealed that DOER had placed upon Synapse an alternative screening parameter that she described as "practical and feasible." When questions about exactly what that requirement would equate to in practice, she acknowledged that such language is not what analysts would normally apply to energy efficiency potential study analysis, but that it was what DOER had directed be included in the Low Demand Scenario Analysis.

Upon further questioning, Acting Commissioner Meg Lusardi of DOER acknowledged that the figure for energy efficiency potential was derived from conversations among DOER staff which simply took the 2.6 percent annual electric savings currently planned for in the next three-year energy efficiency plans as administered by the state's investor owned utilities and the Cape Light Compact and added 0.3 percent to what they considered "achievable" under the parameters of "feasible and practical."

As energy efficiency potential studies have been conducted for many years in all parts of the U.S. and the world — including many that have guided energy efficiency program goals for Massachusetts and New England — using what are seemingly an unaccepted set of parameters to model the energy efficiency potential for the purposes of this analysis would seem ill-advised, considering how energy efficiency can be most quickly and economically deployed, and also be in compliance with the Global Warming Solutions Act.

As an alternative, we would suggest that DOER may instead direct Synapse to the energy efficiency potential study performed by Optimal Energy for NEEP in 2010.[1] While DOER analysis appears to vastly underestimate the annual energy efficiency savings potential in Massachusetts in 2020 with a value of roughly 24 trillion BTUs, the Optimal analysis performed for NEEP showed that Massachusetts has the potential to save 51 trillion BTUs of energy (more than *twice* the DOER analysis) and New England has the potential to save 108 trillion BTUs from 2010 to 2018. Although the study period of NEEP's most recent analysis and DOER's low demand analysis are different, it at least illustrates the point that DOER appears to have vastly underestimated the annual energy efficiency savings potential in Massachusetts.

Moreover, NEEP would strongly suggest also that energy efficiency potential for the entire New England region be modeled as part of this exercise, for reasons explained in greater detail below. This potential, according to our same 2010 analysis, showed an opportunity to capture108 trillion BTUs in energy efficiency across the six-state region by 2018.

In addition, Acting Commissioner Lusardi noted during the Dec. 18 stakeholder meeting that the Synapse analysis assumed the adoption of an "advanced" building energy code, or stretch code, going forward, because such an assumption is included as part of the state's Clean

[1] See: From Potential to Action - An Analysis of the Region's Economically Achievable Electric Efficiency Potential, Oct. 2010, at: http://www.neep.org/potential-action-analysis-regions-economically-achievable-electric-efficiency-potential-oct-2010

Energy and Climate Plan as developed in response to the Global Warming Solutions Act of 2008. However, despite the fact that the state has had the next iteration of the stretch building energy code for over two-and-a-half years but has failed to act on it, any assumptions of an advanced energy code being adopted now appear to be unrealistic. And, insomuch as the adoption of a new building code would alter the baseline of the state's energy use, any new energy efficiency measures included as part of the Synapse analysis would be less-cost effective than they will be in reality without a new advanced building code being adopted.

At the very least, we believe that DOER should have instructed Synapse to model with different baselines assuming a new advanced building code and no new advanced building code, to be sure that the differing baseline assumptions would not dramatically alter the potential cost-effective savings available from new energy efficiency measures.

Regional vs. state-only energy efficiency potential

The Synapse analysis of energy efficiency potential continues to only model results for energy efficiency measures in Massachusetts. This was an issue identified by NEEP after the first stakeholder meeting as one that significantly limits the ability to most accurately capture alternative resource solutions. As we noted at the time, such a limited interpretation of alternative energy resources would mean that, for example, the energy efficiency resource that a state such as New Hampshire could contribute to the demand reductions will only be modeled based on current efficiency savings levels.

NEEP, again, reiterates that a wealth of detailed analysis has been performed to ascertain the technical and economic potential for energy efficiency savings for a state such as New Hampshire,[2] and, rather than suggesting policy changes for that state cannot be included, the analysis should capture in the aggregate all energy efficiency potential that has been identified as both economically and technically attainable for all New England states.

The reasoning behind request such a change in modeling parameters is found in the fact that current market rules allow for all costs associated with supply-side infrastructure enhancements — poles, wires, pipelines, etc. — to be "socialized" among the ISO-New England states, and, as such, all demand-side resources, such as energy efficiency, should be counted on a regional basis as well. And, as gas pipeline capacity increases are being modeled based on certain "policy" commitments of New England states other than Massachusetts — i.e., state siting decisions, environmental impact decisions, etc. — so, too should the demand resources being models, such as energy efficiency. As we have previously pointed out, to not

[2] See:"Increasing Energy Efficiency In New Hampshire," prepared for the Office of Energy and Planning, November, 2013. http://www.nh.gov/oep/resource-library/energy/documents/nh_eers_study2013-11-13.pdf

do so is inconsistent with the New England governors' stated intent of sharing investments in and commitments to regional energy solutions, including energy efficiency. [3]

Price assumptions for natural gas pipeline

Any assessment of energy efficiency potential has been put up against a price point for new natural gas pipeline capacity that Synapse has included in its modeling results. However, there are two significant flaws that DOER's parameters placed upon Synapse modeling that also need to be called out:

The first is the fact that between the first stakeholder meeting and the third, the price for new natural gas pipeline capacity has evolved from an assumption of 20 percent pipeline usage during winter peak periods to 80 percent usage. The reason for this change was not fully explained by Synapse during the Dec. 18 meeting, with the only reason being that, again, a directive from DOER resulted in this change of parameter and assumption. Certainly, DOER has to acknowledge that such a major shift of assumption needs to have greater clarification if this process is to earn the trust of the public, especially since it is widely understood that winter peak price spikes have occurred in New England on only a very few hours of a very few days, and those occurring during one of the coldest winters on record for the region.

The second flaw in modeling involves price assumptions for natural gas supply. When this exercise began nearly three months ago, Synapse began its modeling for price based upon what were the prices for natural gas, oil and liquefied natural gas (LNG) at the time. However, as we all are aware, the market has changed significantly since then, with oil prices having fallen precipitously. And, since LNG tracks the price of oil, its commodity price has dropped dramatically as well. Since LNG can play a significant role as an alternative fuel to fire gas generated power plants during periods of high winter peak demand, new economic modeling should have been performed to account for these new prices.

Lastly, Synapse continues to use U.S. Energy Information Administration (EIA) data to reflect prices from natural gas derived from hydraulic fracturing, or fracking, processes, this despite the fact that several policy decisions in states around the country are likely to cause increases in the costs of fracked gas, including the recent decision by New York to ban fracking entirely in that state.

In addition, new analysis done by researchers at the University of Texas casts significant doubt as to the credibility of the price of future fracked gas as ascertained by the EIA.[2]

[3] See: http://www.governor.ct.gov/malloy/lib/malloy/2013.12.05_new_england_governors_statement-energy.pdf

[2] See article in the journal Nature, December 3, 2014, entitled: *Natural Gas: The Fracking Fallacy*, at http://www.nature.com/news/natural-gas-the-fracking-fallacy-1.16430

This doubt involves the fact that the assumptions behind the EIA findings may be overly optimistic because of the methods EIA uses to calculate predictions of gas extractions from Marcellus shale formations. New methods, such as those employed by the UT researchers, are being applied in a far greater level of detail, and result in much more conservative forecasts of the ease of extraction of large amounts of Marcellus shale gas, which would, of course, drive up the costs of those extractions, and, thus, the cost attributed by Synapse of the cost of winter pipeline usage. Of course, the greater the cost of that gas supply, the more cost-effective the alternative resources that could meet winter capacity need of the region.

Summary

While we appreciate that DOER agreed to conduct a Low Demand Scenario Analysis, what began as a process to be transparent and inclusive in making an appropriate assessment of alternatives to a new natural gas pipeline into Massachusetts has, unfortunately, resulted in a process that seems quite flawed in its assumptions of one of the key alternative resources that can be utilized by the Commonwealth, and particularly with the need to simultaneously meet the requirements of the Global Warming Solutions Act. Since energy efficiency is seemingly so undervalued in the Low Demand Scenario Analysis, it is hard to imagine that the public trust has been gained by this process, which appears to have been one of the goals of the Patrick Administration.

Therefore, we would recommend that the next gubernatorial administration commit to a more thorough analysis of alternative resources, and one which uses generally accepted methods of modeling resources such as energy efficiency, as opposed to the assumptions placed upon Synapse by DOER. Further, new analysis should take into account the dramatic shifts in fossil fuel prices that have occurred since the Low Demand Scenario Process began. Lastly, it should also be done on a New England-wide basis as the proposed supply options have also been assessed based on regional energy need.

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