

SB191 State Energy Advisory Council (SEAC) Meeting Meeting Notes

Location: LOB 304

Date: March 28, 2014

Time: 1:30 to 3:50 pm

Council Members in Attendance:

- Meredith Hatfield, Director of the Office of Energy and Planning, SEAC Chair
- Tom Burack, Commissioner of the Department of Environmental Services
- Amy Ignatius, Commissioner of the Public Utilities Commission
- Senator Martha Fuller Clark
- Senator Bob Odell
- Representative Beatrice Pastor
- Representative Charles Townsend
- Representative Herbert Vadney

Other agency staff in attendance:

- Mike Fitzgerald, DES
- Rebecca Ohler, DES
- Joe Fontaine, DES
- Brandy Chambers, OEP
- Karen Cramton, OEP
- Jack Ruderman, PUC
- Les Stachow, PUC

1:37 Welcome & Introductions

- Approval of minutes from March 7 meeting

1:40 Navigant —Gap Analysis

(See presentation at <http://www.nh.gov/oep/energy/programs/documents/sb191-2014-3-28-gap-analysis-energy-efficiency-discussion.pdf>)

- Have received excellent comments from the public and the council on the Resource Potential Study, strong gap analysis as a result
- Today we'll focus on what challenges and barriers to reaching our potential and how we can overcome them
- Economic gap is our first priority to address—such as market inefficiency, misaligned policies, consumer awareness, etc.
- Keep in mind the Technical gap, and position ourselves to be able to take advantage of long term opportunities
- Biggest opportunities:
 - Residential & Commercial building thermal efficiency
 - Transportation Light Duty Vehicle fuel economy and Vehicle Miles Traveled
 - Thermal Fuel Choice
 - Residential Biomass & Geothermal
 - Industrial natural gas

- Commercial Air source heat pumps
 - Transportation Fuel Choice—No clear winner, opportunity for economic fuel switching to biofuel, natural gas, or electric
 - Renewable Power Generation—Rooftop & Commercial-Scale Solar
- Townsend: Transportation Fuel Choice Conversion rate?
 - Ben: Not based on number of vehicles, it's on BBtu basis

Efficiency—Residential & commercial thermal efficiency presents the biggest opportunity, but electric opportunity substantial as well. Industrial opportunity smaller

- Q: Is this based on percentages... looks like it's based on absolute usage of BBtu? What's the baseline?
 - Navigant: Based on reduction of actual usage in 2025. For industrial electric efficiency, there's an opportunity to use 1,200 BBtu less than we currently use. We can provide % savings over baseline, but this slide with the absolute savings is important in order to identify where the biggest opportunity is.
 - Q: Can we be sure to explain that when we go to the public?
- When we look at technical potential, it's even more important to focus on residential energy efficiency for the long term—the economic opportunity will continue to be there.
 - Q: Does your 'industry' category include energy companies, e.g. PSNH?
 - Navigant: I can check, this is EIA data, so I would imagine yes
 - Hatfield: It's based on the rate class the facility is in, so PSNH may have has facilities in both commercial & industrial classes
- On transportation, we again see that technical potential long-term aligns with the economic potential, reinforces need to focus on those areas

Fuel Choice & Availability

- Commercial shift to Air Source Heat Pumps very interesting in light of the shift in NH's commercial market, increase in data centers
- When we look at the technical potential here, some things jump out—notably residential air source heat pumps. While not as economic now, likely to become very economic in the future. Residential biomass stays economic as well.
 - Q: What's the driver for fuel conversion?
 - Navigant: Decision depends on the consumer, here it's based on savings.
 - Q: The technical gap for residential natural gas smaller than it might be for other states because of the lack of pipeline access?
 - Navigant: Technical was limited to people within a certain distance of a main.

Transportation

- No clear winner in terms of economic viability; this is due to a lack of infrastructure for all alternative fuel types.
- However, technical potential for all types very high; what this says is that we need to be flexible in our strategy going forward and not pick winners at this time. That will allow the market to determine which fuel emerges as the most economically viable.
 - Q: What are you including in biofuel?
 - Navigant: Ethanol, biodiesel, biogas

Power Generation

- Rooftop & utility scale solar clear winner in terms of economic opportunity for expansion
- This is in part due to the existing activity on wind & biomass; penetration of solar, by contrast, remains low
 - Q: In terms of the rooftop solar, are you including net metering to make it economically justified?
 - Navigant: I will check the model, but I believe the assumption is a one-for-one offset of electric rates
 - Q: So this is saying that we could economically produce 2500MW of additional solar power?
 - Navigant: That would be the nameplate capacity, but we would need to factor in the capacity factor to get to MWh
 - Q: We had a discussion about time of day/time of year. Rooftop it doesn't meet winter peak. How do we maintain a grid if we're using power at the wrong times of day and there's no baseload generation?
 - Navigant: Let's come back to it when we talk about power generation & the grid.
- Technical potential of utility scale solar extremely large, as is the technical gap for offshore wind—something to keep an eye on long term.

Rep Borden: I'm confused about sequence; I know people who have very efficient houses, and they only spend \$700/year on energy. So for these air source heat pumps, if you put those in a normal house, the effect on total energy usage would be almost imperceptible. So it's important to pay attention to sequencing for these efficiency efforts.

Navigant: We didn't specifically look at that for the gap analysis, but yes, from a policy perspective we absolutely need to think about that; we can get into that later today when we're prioritizing policies.

Laura Richardson: The previous question leads to the concern of stacking—the bars in each of your graphs are not additive. So the stacking and cascading issue is important to recognize.

Fitzgerald: The flipside of that is that if you fuel-switched in a very inefficient home, your savings would be even greater.

Navigant: These are all very important points, but those are the types of things that have to be worked out on a building by building basis, and the auditor has to decide what's best.

Hatfield: This gets to the issue of program design—at the moment, the state's various programs don't require coordination with each other. So a potential policy direction could be to require coordination – you must do efficiency in order to be eligible for renewable programs, for example.

Policy Discussion

Navigant has identified six key areas that either building upon existing programs or introduce a new way of increasing efficiency in the state.

- Expand upon CORE programs
- Expand loan programs—Green bank
- Advance PACE financing
- Adopt an EERS
- Implement & enforce building codes & appliance standards
- Promote alternative rate design for utilities

These are a response to the gap analysis and the energy vision.

CORE Programs

- Overview of current programs
- Challenges
 - Q: Could you talk a little more about market transformation?
 - Hatfield: In a perfect world, you would be able to reduce rebates over time as the market adoption increased and the need for subsidies decreases. It's related to the question of how do you maximize limited funds.
 - Q: Seems to me the wrong direction to put most of our emphasis on financing & funding, especially when talking about government funded programs. We need to emphasize the financial & technical benefits so that people can see that they should fund it themselves.
 - Navigant: So you think we should focus on the outreach & education side more?
 - Yes, need very focused education & outreach so that people know how to do it themselves.
 - Hatfield: If we reduce rebates, maybe we could put that money instead into education and assistance in getting private loans.
- Fitzgerald: How can CORE use a small amount of money to get a homeowner on board and then use their own money to invest in the bigger project. Maybe it's a free audit, etc.
- Navigant: Other states are leveraging more and getting greater savings per public dollar.
- Pastor: Education is important, but it has to go hand in hand with financial, because education by itself doesn't get you anywhere. You have to find a way to help consumers get that private financing.

Loan programs

- There are a number of existing loan funds, many focused on commercial sector. We identified residential sector as the largest potential, does commercial focus makes sense?
- One of the challenges is low turnover rate—loans revolving slowly, fragmented oversight.
 - Q: Many of these savings take 10,15,20 years to payback—what's the typical loan period? How does this work?
 - Hatfield: Some of these loan programs actually do have those long term loans, and that's what's causing a current challenge in terms of repopulating these funds. There's also market confusion due to the number of loans.
- Navigant: one of the things to look at is how to get private institutions involved, and are there specific types of institutions that would be interested in these reliable but slow-returning investments—perhaps pensions, etc.
 - Both CT and MA have state-administered programs but utilize private banks
 - CT seeded their fund with their system benefits charge, but strive for a 5-1 leveraging
- Ignatius: NH did just start a third party financing pilot, equivalent to MassSaves.
- Hatfield: We should look at using the money we do have in a different way.
- Q: Question on CT process for a customer—what are the things the customer has to do to?
 - DEEP administers audit process to determine potential savings; CEFIA assesses customer's financial potential (credit score)
- Fuller Clark: Do we have data on how these products are performing now?
 - Navigant: Many of these products and green banks are new, so there's not a lot of data yet, but that is an excellent question, looking at program returns is very important. We can look at that relative to successful programs in other states.

- Vadney: Any time you do a pilot program, you have to be very aware of how it's going to scale. Efforts have to be replicable and sustainable.
 - Navigant: one of CEFIA's products is credit enhancement—CEFIA has partnered with Bank of America to
- Dick Henry: We started to build a market, but programs ran out and halts the market progress. We should securitize our public money and use it to leverage private funds.
- Ignatius: A lot of the conversation around this faults regulators, and we're not blameless, but we need to make sure we identify the right barrier—we haven't heard a lot of request for some of these programs. So the barrier could also be a market one or a legislative one.
- Henry: I didn't mean that as a criticism of the PUC, but rather as a design challenge for programs, including ARRA (which the PUC didn't oversee.) When people were finally starting to ask for money, we ran out and so interest went away.
- Ignatius: I think it's a frustration on all of our parts that people aren't asking for the expansion of these programs, so we don't know what the market's demanding.
- Henry: We need to collect market demand data.
- Pastor: We need some kind of state program that brings together the public money and leverages private funds in a way that's streamlined and sustainable.
- Hatfield: Perhaps we should consider how to empower the PUC to take action without having to wait for someone to bring it forward as a request.

PACE

- While NH has PACE on the books, not yet utilized.
- Discussion about residential PACE—at this point, not utilized due to concerns of Fannie Mae & Freddie Mac
- Current legislation to modify C-PACE

EERS

- Considerable discussion of and support for, but none exists yet
- Fuller Clark: In states with these in place, who does M&V?
 - PUC oversight, but third party evaluator
 - Hatfield: We have that now, but might need to beef it up
- Navigant: What's been the sticking point for this, why hasn't it gone through?
 - Fuller Clark: Part of it is that we're constantly wanting to develop a plan and trying to project outcomes rather than moving forward with implementing.
 - Hatfield: On the money side of it, how do we pay for it?
 - Fitzgerald: part of it is also education, and having people understand the benefits of an EERS, and the options for funding it.
 - Ignatius: Absence of legislative support due in part to the money already going to these programs, people think it's a lot already, don't see a need to go beyond it.
 - Fitzgerald: We now have hard numbers on the benefits of programs such as RGGI, ISO-NE FCM, quantifying savings of offset transmission needs, etc.
 - Fuller Clark: The spike we saw this winter helped make the point that EE & conservation is one of the few things we can control. The best way to get your bill down is to use less energy.
 - Navigant: How do we act before we reach the pain point like we did this winter?
 - Fitzgerald: It is clear that EE is the cheapest resource, so how do we find the funding to do that.
 - Fuller Clark: People don't make connections to how fuel usage increases costs of transmission & distribution.

- Henry: Don't pick technologies, set performance standards. The NE Governors initiative is short-sighted, it picks winners, and we've done that wrong before—Seabrook was 'too cheap to meter.' Let prices go to real market price instead of having ISO-NE constantly mitigating it. You can't have it both ways—you can't manipulate a market and then also expect it to respond.
- Navigant: A number of other New England states are looking in going in that direction, toward symmetrical or performance incentives.

Building Codes

- Challenges with enforcement, no unfunded mandates, consumer awareness—what do you see at the biggest challenge?
- Hatfield: Hard to get new codes adopted, but enforcement is big challenge, difficult for municipal inspectors who have to wear a lot of hats.
- Burack: What exists for incentives in this arena? For builders, or financing entities?
- Hatfield: EnergyStar Homes through CORE Programs
- Richardson: There are energy efficiency mortgages for homes that go beyond code. EnergyStar Homes is extremely difficult which creates frustration in the industry. Two big issues for energy code compliance are the unfunded mandates and lack of consumer awareness and demand for it.
 - Navigant: Could you work with banks to offer better rates for efficient homes?
 - Richardson: Building to code is what's required to be legal, can't really incent that. There has been some talk of insurance companies red-lining towns or districts that don't meet code, because they're considered risky. That could be a huge leverage point.
- Navigant: So given all this, how might we incent the market to build to code?
- Vadney: Every time we move the goalpost in terms of code it disrupts things and creates a real problem. Have to make sure we're not striving for something that's not implementable.
- Henry: A code is intended to be the floor, but people treat it as a ceiling. Give people reduced mortgage rate for better-than-code buildings. Maybe we buy down the interest rate with public dollars, etc.
- Fitzgerald: One of the big problems is that the home assessors, realtors, and lenders aren't adequately valuing efficiency investments at resale.
- Navigant: One idea is home labeling, like an MPG sticker on a car.
- Vadney: Downside is that if your home is valued higher, your taxes and insurance go up.
- Ohler: One of the things we've heard in the Building Energy Code Collaborative is that banks can only lend to the appraised value so appraisers are the key. People who make these EE investments don't tend to sell their homes after, so there aren't a lot of comps.
- Vadney: NH's population is not growing rapidly. We have a lot of existing stock and few new buildings. A focus on new construction might not pay off for a long time, whereas a focus on inefficient homes might pay off quickly. Our committee had a briefing by Margaret Dillon that was fascinating, and she pointed out how important technique is—even a lot of people who think they're meeting code aren't, because they're doing something just a little off. So our focus should be there.

Rate Design

- Hatfield: Is it fair to say that the states around us have all moved in this direction?
 - Yes, except VT, who has a completely separate EE utility

- Ignatius: Commission is open to it, no utility has brought a decoupling proposal forward yet. To me, it's not whether you should have it or not, but rather how should it be designed. It is complicated, but it's clearly doable. We, as commissioners, are looking forward to considering a good decoupling proposal.
- Navigant: So how do we incent utilities to do this? If their bet, going long, is that EE won't take off, they don't have an incentive decouple. How do we send a signal to them that EE is going to happen?
- Fitzgerald: I think a lot of this is tied to the EERS discussion. The utilities worked with us on the study we just did, and I think they are recognizing that the train is starting to leave the station.
- Henry: I come back to the need for performance based incentives; California set a goal of no new electric growth.
- Fitzgerald: Perhaps change utilities' views of themselves—they need to be providers of efficiency in addition to providers of electricity
- Richardson: Also important to move to Time of Use Rates

Prioritization

- We've heard today that public funding is limited and getting private dollars in is really important. We've also had feedback on the need for performance standards to avoid picking winners.
- Henry: The unregulated thermal component has very complex interactions with the regulated area, and we have this debate about whether electric SBC should go to thermal savings, but when you do whole-building you can't really separate measures on an electric vs. thermal basis.
- Hatfield: The SB323 report recommended a thermal SBC. Do any states have one?
 - MA has had a bill for a number of years but they have not been able to get it to pass—branded as a tax on heating oil. Has support of the dealers.
 - Vadney: I don't think it would make much difference who proposed it here.
 - Fitzgerald: This is a strategy and I don't think we should shy away from making those types of recommendations.
- Richardson: We need really strong political leadership, this should not be a two-sided argument, this is about the future of our state.
- Hatfield: Some states are asking 'what's the utility of the future,' we could ask the same question to the oil dealers, do they see themselves as just dealers for the next 20 years, or are some of them interested in getting into the efficiency business?

3:50 Director Hatfield asked if there was any further public comment. Hearing non, she announced that the first stakeholder meeting on the siting rules will be the morning of April 11th at 9am; further info on OEP's webpage at <http://www.nh.gov/oep/energy/programs/sb99pre-rulemaking.htm>.

Meeting adjourned.