



STATE OF RHODE ISLAND
**ENERGY EFFICIENCY &
RESOURCE MANAGEMENT COUNCIL**

MEETING AGENDA

Thursday, March 10, 2016

3:30 PM - 5:30 PM

Conference Room B, 2nd Floor

Department of Administration, One Capitol Hill, Providence, RI

- 1. Call to Order**
- 2. Approval of February Meeting Minutes**
- 3. Executive Director Report (15 min)**
- 4. Executive Committee Report (10 min)**
- 5. Policy and Planning Issues (50 min)**

a) Finance Update (5 minutes)

The consultant team and OER will provide an update on recent finance activities, including Dunsky's work and developments at the RI Infrastructure Bank, including Commercial PACE and the Efficient Buildings Fund.

b) Savings Targets Update (10 minutes)

The consultant team will provide an update on recent savings targets activities, including a recommendation to hold a special EERMC meeting to solicit stakeholder input. The Council will decide on potential date/times, confirm meeting objectives, and confirm Council member roles for reaching out to constituents to solicit input.

c) EERMC Response to Regional Greenhouse Gas Initiative Allocation Plan (10 minutes)

The consultant team will present a memo requested by the Executive Committee outlining potential comments on the RGGI plan. The Council will decide if comments should be submitted and direct the consultant team to finalize comments.

d) Public Utilities Commission Docket "Review into Changing Distribution System" (15 minutes)

Abigail Anthony will explain why this docket is pertinent to the Council (see PUC memo). The Council will decide if it will be an official stakeholder in the docket and, if so, who the representative(s) will be.

e) EERMC Annual Report (10 minutes)

The consultant team will present a memo requested by the Executive Committee outlining potential policy recommendations. The Council will to guide development of the first draft to be reviewed in April.

6. Rhode Island's Participation in Avoided Cost Study (15 min)

The Council will decide which key inputs it would like to be included in an upcoming update to the Avoided Cost Study, and when the update should be prepared.

7. Council Business (15 min)

a) EERMC Budget Report & Discussion of Unallocated Funds

The Council will determine what, if any, activities may warrant specific allocation of discretionary funds from its 2016 budget.

8. Public Comment

9. Adjournment



STATE OF RHODE ISLAND
**ENERGY EFFICIENCY &
RESOURCE MANAGEMENT COUNCIL**

MEETING MINUTES

Thursday, March 10, 2016

3:30 PM - 5:30 PM

Conference Room B, 2nd Floor

Department of Administration, One Capitol Hill, Providence, RI

Members Present: Abigail Anthony, Bob Bacon, Joe Cirillo, Roberta Fagan, Jennifer Hutchinson, Michael McAteer, Joe Newsome, Shigeru Osada, Chris Powell, Diane Williamson

Members Absent: Marion Gold, Betsy Stubblefield Loucks, Karen Verrengia

Consultants Present: Mike Guerard

OER Staff Present: Chris Kearns, Rachel Sholly

Others Present: Michael Baer, Leah Bamberger, Tim Faulkner, Rachel Henschel, Jeremy Newberger, Belinda Wong, Chon Meng Wong

1. Call to Order

Chairman Chris Powell called the meeting to order at 3:33 PM.

2. Approval of February Meeting Minutes

Bob Bacon made a motion to approve the February meeting minutes. Joe Cirillo seconded and all approved.

3. Executive Director Report

In Commissioner Marion Gold's absence, Rachel Sholly gave a brief Director report. OER has hired an intern to update and redesign the EERMC website. Any content or layout suggestions should be directed to Ms. Sholly. OER will be collecting headshots of members who have not already provided one, which includes Bob Bacon, Karen Verrengia, Roberta Fagan and Diane Williamson.

The Energy Expo at the Rhode Island Home Show is coming up on March 31 - April 3 at the Rhode Island Convention Center. There are currently 84 energy-related companies and organizations registered to exhibit. There are many more solar companies than last year, probably due to the launch of Solarize Rhode Island, which is coordinated by Shauna Beland in our office. Now over 300 students from 20 career tech schools are engaged in the construction of the three feature energy demonstrations, which are the solar demonstration exhibit, the Cox Communications home technology showcase, and two solar tree houses. The marketing campaign started last week, which includes TV and radio spots that Marion and Michael did, a website, a promo video, social media, and \$2 off coupons in National Grid bills. The opening ceremony will feature Senators Reed and Whitehouse, Representatives Langevin and Cicilline, and Providence Mayor Jorge Elorza and will be held on Thursday, March 31st at 4:00 PM on the show floor. Lastly, the invoice for the Council's \$50,000 sponsorship has been paid.

4. Executive Committee Report

The Executive Committee discussed Rhode Island's participation in the Northeast Energy Efficiency Partnership's (NEEP) Evaluation, Measurement & Verification (EM&V) Forum. Rhode Island has participated for the past few years, however, the value to Rhode Island has been questioned. National Grid, OER and the EERMC are trying to decide together at what level to participate moving forward. In MA and NY, National Grid is no longer contributing. National Grid has allocated up to \$100,000 from its 2016 Energy Efficiency Plan budget for Rhode Island's participation in the EM&V studies. Commissioner Gold has been asked to take Commissioner Paul Roberti's place on the Forum, which is made up of other regulators and energy commissioners from around the region. The Executive Committee agreed that Commissioner Gold should accept the seat on behalf of the EERMC on a trial basis with the goal of better targeting NEEP's priorities to match Rhode Island's priorities.

Additionally, in response to recent questions posed by Betsy Stubblefield Loucks about the Council's legislated responsibilities, specifically resource diversification, the Executive Committee directed the consultant team to develop a dashboard of programs or activities going on in the name of the Council that support EERMC legislated responsibilities. This will be something that Council members can reference to figure out their role for action and what to keep an eye on. A draft will be ready for Council feedback at Executive Committee meeting.

In light of recurring confusion on open meetings laws, the Executive Committee directed Marisa Desautel to create a summary of open meetings requirements related to communications among members. There was also continued discussion of the proposed use of Regional Greenhouse Gas Initiative (RGGI) funds. Abigail Anthony requested that the consultant team prepare the memo that is in member packets for the discussion later in today's meeting.

5. Policy and Planning Issues

a) Finance Update

Consultant Mike Guerard provided an update on recent finance activities, including Dunsky's work and developments at the RI Infrastructure Bank, including Commercial PACE and the Efficient Buildings Fund (EBF) (see attached). Ms. Sholly reported that the EBF received 27 applications - 20 efficiency; 7 renewable energy; 19 municipalities; 8 schools; \$60M requested. All applications were scored and ranked by the OER and the final Project Priority List was sent to the RIIB on March 4th. Michael Baer of RIIB reported that they have begun meeting with applicants and expect to be able to finance all of the projects that want to move forward. Given the high demand seen in round one, RIIB is already starting to think about round two and is evaluating ways to come up with capital that can be used to provide low-cost financing for these projects.

Mr. Guerard reported that Commercial Property Assessed Clean Energy (C-PACE) program has been ramping up with meetings being held weekly to ensure that C-PACE design is fully synched with existing National Grid-administered programs. Mr. Baer also reported regulations are out for public comment until the end of March in preparation for the program launch at the end of April. RIIB has been seeing a lot of interest from stakeholders including energy efficiency vendors and solar installers. Shigeru Osada asked how energy savings will be reported to the public. Mr. Baer explained that SRS, the program administrator, will oversee any measurement and verification (M&V) that will be done. Because most of these projects will receive National Grid incentives, savings will be tracked and reported by National Grid. RIIB will track savings from measures that National Grid does not incentivize, such as windows and

doors. Both C-PACE and EBF participants will be required to track savings post-installation. Residential PACE will follow a similar process but likely will not launch until the end of 2016 or beginning of 2017.

Lastly, Dunsky has provided input to National Grid on two evaluation studies – one on the revolving loan on-bill repayment program and one on the HEAT Loan program. Dunsky is also looking at how all of these financing developments might help inform the savings targets process that is underway. A memo to the finance and targets working groups should be ready by the end of the month.

Joe Newsome asked about outreach to quasi state agencies. Ms. Sholly said that there was not much outreach to that sector in the first round of the EBF, but the suggestion will be taken for the second round.

b) Savings Targets Update

Mr. Guerard said that the Council will need to submit the targets to the Public Utilities Commission (PUC) by the end of September. The consultant team will have a final draft ready by the end of August for approval at the September Council meeting. Related activities currently underway include jurisdictional comparisons, high-level trend analysis to understand recent trajectories, and the key driver analysis. The consultants are looking at major measures in coordination with the savings targets working group. The work will also be reviewed with residential and C&I strategy teams.

To get stakeholder input, Mr. Guerard proposed holding a session in May to garner insights from key constituents to help inform the targets setting process. The Council's role would be to help identify key groups to invite. A memo to better frame the desired outcomes and discussion questions will be developed for the April meeting. Diane Williamson asked what types of constituents should be invited and how many. Ms. Anthony said to think about who members know that has insight into major energy trends. Mr. Newberger added to think about who among member constituents is doing something of significant magnitude that would make a dent in shaping the targets. The Council asked the consultant team to pick some potential dates and send out a doodle poll. Ms. Anthony suggested that, to provide flexibility, there be a process for people to submit comments or schedule individual meetings with the consultant team.

c) EERMC Response to Regional Greenhouse Gas Initiative Allocation Plan

Ms. Anthony explained that OER presented its plan for RGGI allocation last month and the Council heard a lot of public comments. She recommended that the Council decide whether it wants to provide formal written comments and, if it does, the Council should discuss what they should say.

Mr. Osada asked how energy savings from RGGI funded projects are tracked. Ms. Anthony said that if OER uses RGGI funds for energy efficiency projects and leverages National Grid programs then those projects meet all the same criteria that National Grid projects must, which is probably most projects. Mr. Newberger added that OER must adhere to the criteria in the RGGI statute, which says that funds must be used for the most cost-effective available projects.

Mr. Newsome asked what the phrase "consult with" means. Mr. Kearns said that consult means engaging with a party to get feedback. Mr. Newberger noted that OER is now doing two allocation plans per year to get money out more quickly and the Executive Committee discussed developing a better timeline so EERMC has more time to comment.

The consultant team presented a memo requested by the Executive Committee outlining potential comments on the RGGI plan. Mr. Guerard said there is still time to submit written comments before the public hearing on March 17th and 10 days after the public hearing. The Council could also attend the

public hearing and provide either oral or written comments there. Mr. Kearns recommended that any public comments received by the EERMC be submitted separately by those entities.

Ms. Anthony said that is hard to deny that state facilities are in great need of efficiency improvements. She thought it would be productive for the Council to submit any thoughtful, constructive comments to the OER on the best way to deploy that \$4.4 million so that it goes the farthest and achieves the most energy savings. Having heard concerns from a variety of stakeholders, it is incumbent on Council to submit constructive feedback. She received feedback from outside stakeholders that the RIPEP model is a best practice for municipalities to use to leverage customer payments and National Grid funds. Transferring the RIPEP model from municipalities to state could be a good recommendation for Lead by Example.

Chairman Powell said that it is assumed that system benefit charge (SBC) funds will be leveraged with the deployment of RGGI funds, but state dollars and financing should also be leveraged. Creating a revolving loan fund would better capture the savings. RIPEP had a set of rules that were applied to the spending of those funds. The Council could recommend that the state apply that same level of rigor and requirements to the use of these Lead by Example funds.

Mr. Newsome said he would resist submitting comments that will not be taken into consideration by the OER. Ms. Anthony noted that OER used suggestions from the last RGGI public hearing and had a better result. Diane Williamson felt that the Council should comment whether or not OER decides to accept them. She offered a few criteria that could be recommended, including an energy savings target, leveraging as many funding sources as possible, and aligning with planned capital improvements. Ms. Anthony said that maybe all of these best practices have already been encapsulated by RIPEP and maybe the EERMC's recommendation is to point out the most important elements of the RIPEP model and recommend that they be implemented at the state level as well.

Ms. Sholly noted that the Strategic Energy Management Plan (SEMP) that the state is engaging in with National Grid provides a framework for these types of structured criteria. Ms. Williamson said that a recommendation could be to tie the RGGI allocation plan to SEMP action items.

Mr. Newsome observed that nothing in the plan specifically addresses low-income customers. Mr. Guerard said that there is a small amount (\$300,000) allocated to state-owned homeless and behavioral health facilities. He also said that between the federal funding and the National Grid programs low-income customers get a 100% incentive for efficiency projects, which is a challenge. In previous years, OER allocated funds to nonprofits that served low-income, but it is a challenging sector.

Chairman Powell read an email from Ms. Stubblefield Loucks who was absent from the meeting: *"I noted at the Executive Committee meeting that several people asked me questions about the most recent RGGI allocation. It would be helpful to know how those allocation decisions are made. Are they based on a set of criteria? When equal options are presented, who and how is the final selection made? Also, there has been some concern that the \$4.5 M for state buildings could be better structured, perhaps as a revolving loan that the state would pay back. Access to capital is a huge barrier for investments in energy efficiency and climate change mitigation and adaptation, so I would appreciate a better understanding of what options OER weighed, how future decisions will be made, and what role EERMC plays in that process."*

Ms. Anthony moved to authorize the consultant team to develop recommendations to OER on the first 2016 RGGI Allocation Plan based on input received with final review prior to submittal by either the Executive Committee or Chairman. Ms. Williamson seconded and all approved.

d) Public Utilities Commission Docket "Review into Changing Distribution System"

Ms. Anthony reminded the Council that this started when National Grid submitted a rate design proposal to the Public Utilities Commission (PUC). The EERMC was an official party in that proceeding because it had important implications for energy efficiency and other energy issues. National Grid ultimately withdrew that proposal and the docket was closed. Then the PUC issued a solicitation with questions on what kinds of costs and benefits on the energy system should be measured. Last week, the PUC opened a new docket (#4600) based on those questions and issued a 10-page document on the reason for this proceeding, which is essentially to find mechanisms that would allow it to make more strategic decisions and investments on the energy system as a whole. The PUC will look for stakeholders to identify themselves and volunteer to participate in the proceeding. The PUC is also engaging with an expert consultant to facilitate the stakeholder process. The outcome will be guidance to utility for future rate cases. Mr. Newberger said that the PUC will convene meeting in early April, so the Council should decide if it wants to be an official participant in the proceeding. Ms. Anthony said the cost would be pretty low and recommended that the Council at least take the first step of becoming an official participant and then determine its level of involvement going forward.

Ms. Anthony made a motion to direct the Council Attorney to submit the EERMC intervention petition for PUC Docket #4600 when the time comes. Bob Bacon seconded and all approved.

e) EERMC Annual Report

Ms. Sholly reported that OER will again take the lead on developing the EERMC Annual Report, as it has for the past two years. The process has been delayed due to reduced staff capacity, so the report will be submitted in May instead of April. OER will notify the legislature of this delay and does not anticipate any concerns. Development is underway and the first draft will be presented at the April Council meeting. Mr. Guerard suggested that the Council take some more time to review the proposed policy recommendations and strategic principles and send any comments.

6. Rhode Island's Participation in Avoided Cost Study

Mr. Newberger explained that Rhode Island, along with the other New England states, cooperates on a regional avoided energy supply component study that provides us with the values for electric energy capacity, natural gas and fuels that are used in screening programs for cost-effectiveness. The frequency of this study update is up for discussion. Mr. Newberger felt that Rhode Island should subscribe to the update and the update should be done now so it can be used for 2017 and 2018 programs, assessing cost-effectiveness and developing three-year targets and the next three-year plan. VT and ME have expressed interest in participating, NH and MA are on the fence, and CT will likely not participate. Ms. Anthony thought RI should participate because the PUC will want the most updated avoided costs possible. Mr. Newberger said that if RI ends up being the only subscriber and has to pay for the whole study, he would choose a subset of study topics: natural gas costs, electric load forecasts, and capacity retirements and additions. National Grid can cover the cost with its evaluation budget. The Council supported this direction.

7. Council Business

a) EERMC Budget Report & Discussion of Unallocated Funds

Chairman Powell said that there is a \$290,000 unallocated fund balance in the EERMC budget. If excess funds are left with National Grid, they go back to the general fund and are reallocated to other programs. Last year, the Council moved leftover funds to a client fund held with the Council's attorney.

One idea for use of funds was to hire an expert to inform particular pieces of the targets setting process that the existing consultant team could use help on. Another suggestion was to hire a consultant to evaluate moving from the total resource cost test to the societal cost test for screening measure cost-effectiveness. Another idea was holding a Council member workshop, similar to the orientation workshop held last year. Mr. Guerard suggested that any decisions be held for when more members are present and said the consultant team could draft a more substantive list for Executive Committee review.

8. Public Comment

Joe Cirillo referenced bill H770 introduced Representative Handy which minimum energy efficiency and water standards, which proposes detailed enhancements to appliance standards. Ms. Sholly explained that the OER has been involved in this along with Northeast Energy Efficiency Partnerships and National Grid. Mr. Guerard added that this is the third year this bill has been introduced. Chairman Powell suggested a presentation on this at the next Council meeting.

9. Adjournment

Mr. Newsome made motion to adjourn. Mr. Cirillo seconded and all approved. The meeting adjourned at 5:35 PM.



- **Policy & Planning Issues**
 - **Finance Update**
 - **Savings Target Update**
 - **RGGI response**
 - **PUC Docket – Review into Changing Distribution System**
 - **EERMC Annual Report to General Assembly**

Finance Update

- RIIB
 - Efficient Building Fund –\$60 million in project applications
 - Commercial PACE – launch in April / May 2016
 - Residential PACE – launch in late 2016 / early 2017
- Dunsky activities
 - Providing support to National Grid with focus on evaluations of finance programs
 - Developing memo on potential impact of Financing developments on Savings Target setting assumptions

Savings Target Update

		Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16
Key Deliverables	Sub tasks									
Targets Plan Submitted to PUC										
Completed Targets Plan for EERMC Vote	Final									
	Draft									
Jurisdiction Comps / Potential Studies	Final									
	1st Draft									
	KEMA Update									
Trend Analysis										
Key Driver Analysis										
Stakeholder Sessions										



Savings Target Update

Stakeholder sessions to get public input:

- Hold a “special” session at EERMC meeting
 - Prior to May 12 EERMC meeting or after? Morning or afternoon?
 - Supplemented by individual and small group sessions
- Objectives:
 - Garner insights and perspectives on goals and issues (products/services) from key constituents in and around RI that will help inform target setting process
- Council role:
 - Help identify representatives from the constituencies you serve
 - C-Team will expand the “objectives and intent” of meeting in an upcoming memo to support messaging, with a draft agenda for review at April mtg.
 - C-Team, OER and National Grid will support promoting meeting to public



RGGI response - Timing

- Three opportunities for input
 - The 30-day written comment period
 - open until March 16, 2016
 - A public hearing will be held
 - March 17th, 10:00 am, DOA's Conference Room B
 - Public record will be kept open for ten (10) calendar days following the conclusion of the public hearing to allow additional time for the submission of written comments.



RGGI response - Options

- Decide to not make any formal submittal
- Submit comments in support of the RGGI Plan
- Submit comments in support of the RGGI Plan, with recommendations
 - Recommendations could include items such as:
 - Maximize transference of the lessons learned from the successful RIPEP utilization of RGGI funds for Lead-by-Example projects;
 - Continue to pursue linkage with proven delivery models from National Grid's programs, especially the nascent investigation into a Strategic Energy Management Plan (SEMP) approach to state buildings.
 - Other?
- If the Council decides to provide input, the vote should also consider any specific direction it requires of the C-Team

PUC Docket – Review into Changing Distribution System

Docket No. 4600 - PUC's Investigation Into the Changing Electric Distribution System (3/3/16)

At the March 3, 2016 open meeting, the PUC opened Docket No. 4600 to Investigate the Changing Distribution System. The Staff's recommendation was accepted.

EERMC Annual Report to General Assembly

2016 EERMC Annual Report Timeline		
Date	Timeframes	Task
25-Feb		Draft timeline & table of contents
by 4-Mar		Kickoff meeting - timeline, TOC, policy recs, writing assignments, charts, etc.
by 11-Mar	1 week	Policy recommendations call
1-Apr	4 weeks	Individual sections due
5-Apr	1 week	First draft for review
7-Apr	2 days	ExComm meeting - review first draft
14-Apr	1 week	Council meeting - review first draft
19-Apr	2 weeks	Comments on first draft due
21-Apr	2 days	Second draft for review
28-Mar	1 week	Comments on second draft due
3-May	2 days	Final draft to Council
5-May	2 days	ExComm meeting - review final draft
12-May	1 week	Council meeting - vote on final draft



EERMC Annual Report to General Assembly

The SIRI Report includes the following recommendations:

- a. **Identify Ways to Promote More Cost-Effective, Comprehensive NWA Distribution Planning**
- b. **Assess Market Potential, Costs, and Benefits of Strategic Electrification and Active Load Management**
- c. **Pave the Way for Accelerated Use of Electric Vehicles**
- d. **Map Rhode Island's Current Renewable Energy Promotion Processes and Assess Adequacy and Gaps**
- e. **Assess Market Potential, Costs, and Benefits of Advanced Metering Infrastructure and Time-Varying Rates**
- f. **Consider Whether Methods of Performance Regulation Can Be Implemented to Further the Public Good**



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EERMC Annual Report to General Assembly

Recommendations that have been made in prior years, and still need to be acted upon?

- Adoption of appliance standards for products not covered by federal action?
- Extension of Least Cost Procurement to delivered fuels?
- Action that would require building labeling?

EERMC CONSULTANT TEAM



Memorandum

To: RI Energy Efficiency & Resource Management Council (EERMC)
From: EERMC Consultant Team (C-Team)
Date: March 8, 2016
Subject: EERMC options for comment on Regional Greenhouse Gas Initiative (RGGI) Plan

<i>Relevance of Topic</i>	The Council reviewed the proposed RGGI allocation plan (RGGI Plan) from the RI Office of Energy Resources (OER) at the February EERMC meeting, which was subsequently posted for public comment on February 17 by OER. Since no action was taken at the February EERMC meeting, the EERMC Executive Committee requested that the C-Team advise the Council on upcoming opportunities to provide input, and to support discussion on whether the Council chooses to provide input on the RGGI Plan.
<i>Content of memo</i>	The memo provides detail on the three remaining opportunities to provide input, and options and context.
<i>Expected Outcome</i>	This memo is aimed at providing information for the EERMC to decide what, if any, official input they want to provide on the RGGI Plan, and to support a potential vote how that would be achieved, including potential assignment to the C-Team.

Status and remaining process for RGGI Plan

The RGGI Plan that was reviewed by the EERMC at the February 11, 2016 meeting and was subsequently posted on February 17, 2016 by the OER. It can be found at:

<http://www.energy.ri.gov/documents/rggi/2016%20Plan%20Items/2016%20PROPOSED%20RGGI%20Allocation%20Plan%202-16-16.pdf>

There are three opportunities for input that the EERMC can consider:

- The 30-day written comment period, which is open until March 16, 2016
- A public hearing will be held on March 17 at 10 am in DOA's Conference Room B
- Finally, the public record will be kept open for ten (10) calendar days following the conclusion of the public hearing to allow additional time for the submission of written comments.

The following table summarizes the proposed allocations (for reference, tables for the preceding two approved allocations are also included at the bottom of the memo):

EERM CONSULTANT TEAM



<u>2016A RGGI Allocation Plan</u> <u>[Posted]</u>		<u>Amount</u>	<u>Notes</u>
	Lead by Example - State Facilities, EE & Renewable	\$4,400,000	leveraged w/ SBC funds
	Lead by Example - State Homeless/Behavioral Health	\$309,588	leveraged w/ SBC funds
	Delivered Fuels Energy Efficiency	\$1,000,000	leveraged w/ SBC funds
	Solarize Expansion	\$300,000	continued expansion of highly-successful, community-driven rooftop solar initiative
	Microgrids demonstration project (EE/DR, critical assets)	\$500,000	building on work underway through CDBG-funded grant

Options for the Council to consider include:

- Decide to not make any formal submittal of comments (written or at public hearing)
- Decide to submit comments in support of the RGGI Plan
- Decide to submit comments in support of the RGGI Plan, with recommendations
 - Recommendations could include items such as:
 - Maximize transference of the lessons learned from the successful RI Public Energy Partnership (RIPEP) utilization of RGGI funds for Lead by Example projects;
 - Continue to pursue linkage with proven delivery models from National Grid’s programs, especially the nascent investigation into a Strategic Energy Management Plan (SEMP) approach to state buildings.

If the Council decides to choose the second or third bullet (or other options), the vote should also consider any specific direction it requires of the C-Team to support the action.

Since the RGGI Plan references *Lead by Example*, the following is the list of items from the Executive Order signed by Governor Raimondo on 12/08/15 for your reference:

Lead by Example – Objectives & Responsibilities

1. There is hereby established a Lead by Example program within the Office of Energy Resources ("OER"), to oversee and coordinate efforts at State agencies to reduce energy consumption and greenhouse gas emissions.
2. State agencies shall seek to reduce the use of natural resources at State facilities, including a reduction in energy consumption derived from fossil fuels and emissions associated with such consumption.

EERMC CONSULTANT TEAM



3. The State shall procure, subject to funding opportunities and constraints, 100% of State government electricity consumption from renewable sources by 2025. To accomplish this goal, OER shall identify opportunities to increase the use of no-carbon and low-carbon energy resources by methods such as supporting the installation of renewable energy systems and leveraging competitive market procurement.
4. State agencies shall achieve, subject to funding opportunities and constraints, an overall collective reduction in energy consumption of at least 10 percent below fiscal year 2014 levels by the end of fiscal year 2019. In order to ensure steady progress toward and timely achievement of this goal, OER shall establish annual interim goals and work in partnership with National Grid, the administrator of State ratepayer-funded energy efficiency programs, to develop strategic energy plans to meet short- and long-term goals.
5. OER shall post State energy usage publicly, which shall include energy use for each State agency and progress in reducing energy usage below the fiscal year 2014 baseline.
6. The Division of Capital Asset Management and Maintenance ("DCAMM"), within the Department of Administration, in coordination with OER, shall develop strategies for reducing fossil fuel use and greenhouse gas emissions from the State fleet, with the goal of ensuring that a minimum of 25 percent of new light-duty state fleet purchases and leases will be zero-emissions vehicles by 2025.
7. DCAMM shall coordinate with OER, the Energy Efficiency and Resource Management Council, the Distributed Generation Standard Contracts Board, and the Green Building Advisory Committee to achieve a high standard of green building operations and maintenance at all state facilities such as may be accomplished through the International Green Construction Code, U.S. Green Building Council's LEED certification, or an equivalent high performance green building standard.
8. OER shall coordinate with the EERMC, National Grid, and the Green Building Advisory Committee to establish a voluntary aspirational or stretch building code based on the International Green Construction Code or equivalent by 2017. The stretch building code shall be publicly available for use in all State construction and renovation projects as well as those in the private sector.
9. State agencies shall consider full life-cycle costs and savings in planning and implementing projects when making cost-effectiveness determinations about investments in capital assets and services, including in cases where higher up-front costs may result in significantly lower energy, operation and maintenance costs, or longer life for the project.
10. State agencies shall work with OER and DCAMM to improve energy efficiency and achieve the goals of the Lead by Example program. OER shall provide State agencies with the technical assistance necessary to implement State policy and the directives described herein.
11. In achieving energy reduction goals, agencies shall consider other policies to reduce greenhouse gas emissions including, but not limited to:

EERMC CONSULTANT TEAM



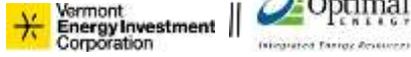
- a. Installing renewable energy sources on State properties;
- b. Replacing inefficient lighting systems with more efficient lighting options, such as compact fluorescent light bulbs (CFLs), light-emitting diodes (LEDs), and others;
- c. Purchasing energy-efficient appliances, such as ENERGY STAR products;
- d. Installing additional electric vehicle charging stations at State properties;
- e. Committing to energy targets for new construction; and
- f. Reducing employees' vehicle miles traveled commuting to work, as outlined in R.I. Gen. Laws § 36-6-21.1, by taking steps to encourage employees to commute by foot, bike, public transit, or carpool.

12. OER shall monitor compliance and progress toward the targets established herein. OER shall issue a report evaluating the State's progress towards these goals on or about October 1, 2016 and annually thereafter.

Recent RGGI Plans – Approved and completed or in process

<u>2015 RGGI Allocation Plan</u>		
Rhode Island Infrastructure Bank	\$ 3,000,000	leveraged with SBC funds to generated private capital supporting Efficient Buildings Fund
Utility-administered EE Plan	\$ 3,420,072	leveraged with SBC to directly support annual EE Plan; direct reduction to SBC
Lead by Example - RIPEP	\$1,000,000	funds utilized to support municipal EE projects; leveraged with SBC funds
Lead by Example - DOT Highway Light LED Conversion	\$2,800,000	leveraged w/ SBC funds
Lead by Example - Municipal Streetlights	\$1,000,000	leveraged w/ SBC funds
Delivered Fuels Energy Efficiency	\$ 1,600,000	leveraged w/ SBC funds
Solarize Expansion	\$300,000	continued expansion of highly-successful, community-driven rooftop solar initiative
Pascoag Utility District - LED project	\$150,000	energy efficiency project
Block Island EE Program	\$500,000	design and implementation of comprehensive EE program in New Shoreham
<u>2014 RGGI Allocation Plan</u>		
Utility-administered EE Plan	\$3,635,495	leveraged with SBC to directly support annual EE Plan; direct reduction to SBC
Lead by Example - State	\$500,000	leveraged with SBC funds
Lead by Example - DOT Highway Light LED Conversion	\$250,000	leveraged w/ SBC funds

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Lead by Example - Municipal Streetlights	\$525,000	leveraged w/ SBC funds
Renewable Energy Projects - Public & Private (K-12) Schools	\$1,300,000	renewable energy
Lead by Example - EV/EVSE Expansion - State & Municipal	\$600,000	new EVSE electric load must be offset by clean energy project
EV/EVSE - Private & Non-profit	\$125,000	new EVSE electric load must be offset by clean energy project
Municipal Electric Utilities (Pascoag & BIPCO) - EE/Renewable	\$125,000	funds supported LED lighting projects in both communities

State of Rhode Island
RI Energy Efficiency & Resource Management Council

**COMMENTS BY THE RI ENERGY EFFICIENCY & RESOURCE MANAGEMENT
COUNCIL ON A RI PUBLIC UTILITIES COMMISSION DOCKET TO INVESTIGATE
THE CHANGING DISTRIBUTION SYSTEM
FEBRUARY 19, 2016**

On February 5, 2016, the Rhode Island Public Utilities Commission (“PUC”) issued its *Request for Comments on a Docket to Investigate the Changing Distribution System*, (“Request for Comments”) wherein the PUC states that it is interested in understanding all of stakeholders’ interpretations of several baseline questions to ensure clarity when it defines the scope of a docket concerning Rhode Island’s distribution system.

Approved by vote held during an appropriately noticed Open Meeting on February 11, 2016, the Rhode Island Energy Efficiency & Resource Management Council (“EERMC”), hereby submits its comments in accordance with the PUC’s Request for Comments. The EERMC recognizes that many other parties will be providing comments, including the Rhode Island Office of Energy Resources (“OER”), the Acadia Center, and the Northeast Clean Energy Council (“NECEC”). The EERMC concurs with the comments of those three parties, and does not repeat many of the topics they address.

The EERMC is pleased that the PUC is considering the commencement of a proceeding to explore the range of issues that are under active discussion in Rhode Island. The EERMC agrees that a docket that attempts to look “across” a range of utility activities and consider costs, benefits, interactive effects, rate design and utility incentive design is needed. The goals of clearer understanding and a more unified perspective can provide real value to the varied energy policy, energy production, efficiency, delivery and management activities under way in Rhode Island. We believe this will help support the evolution of a cleaner, more resilient, more affordable and a more economically sound energy system.

Specifically, the EERMC advances three basic points it suggests should guide the subject proceeding:

- The proceeding should maintain a strong and consistent focus on the principles of Least Cost Procurement and System Reliability as articulated in Rhode Island legislation.
- Consideration of the full range of costs and benefits of all services, activities and options for providing energy service should be fairly considered on a consistent basis.
- Incentives for guiding utility investment and providing customer benefit should reflect both of the first two policy principles.

I. The proceeding should maintain a strong and consistent focus on the principles of state law concerning Least Cost Procurement and System Reliability

The policy framework within which this proceeding is to take place is of primary and fundamental importance. The multitude of issues and opportunities this proposed docket seeks to address needs the guidance of clear and consistent policy. The EERMC believes that Rhode Island’s Least Cost Procurement and System Reliability legislation should provide foundational guidance. This legislation was not intended to focus solely on advancing energy efficiency, but requires an innovative, integrated approach to planning and implementing the state’s regulated energy systems, both electric and natural gas. This approach includes efficiency, system reliability, conservation procurement, demand response, and renewable energy. (R.I.G.L. §39-1-27.7; *See also* R.I.G.L. §39-1-27-8 for guidance about how supply procurement is to be considered in relation to “system reliability and energy efficiency, and conservation procurement.”)

Almost a decade after the passage of this legislation, it is increasingly clear that it creates a framework that requires the integration of all these capabilities and strategies. After ten years of growing success and effectiveness in energy efficiency markets; dramatic changes in renewable energy affordability and reliability; new opportunities for load management; application of customer data and system data in real time, and; the potential for storage of electricity, the law should be drawn on for the overarching guidance it offers.

In addition, EERMC respectfully suggests that the PUC specifically look to the Rhode Island State Energy Plan for the policy guidance it provides. (See comments of OER). This plan looks beyond least cost planning in the regulated utility sector and offers a set of goals for applying the principles of least cost procurement to energy use in all its forms across the state. This is of particular importance as the walls between what have traditionally been considered “transportation” fuels and “delivered heating” fuels and the regulated energy markets begin to crumble. By these comments, the EERMC is not offering a full elaboration of what these principles should be, but their outline is clear, and an acknowledgement of them in the course of this proceeding will help provide consistency and guidance that will keep the proceeding on track.

II. Consideration of the full range of costs and benefits of all services, activities and options for providing energy service should be fairly considered on a consistent basis

The EERMC asserts that a consistent basis for comparing costs and benefits of different options and different strategies is essential to coming up with an informed and workable approach to establishing priorities and fair pricing structures. For example: in Rhode Island, the environmental effects of combined heat and power (CHP) systems are treated differently from efficiency, even though they are a part of efficiency programs. RI values economic benefits for CHP, but not for efficiency or renewables. RI considers environmental costs and benefits, but does not include all of them in our screening processes. We sometimes acknowledge that there are health costs and benefits to be considered but we do not treat them in any comprehensive way. We talk about economic and jobs benefits, but do not include them in screening for most measures. We do not have a consistent basis for comparing renewable energy to energy efficiency; load management to new poles and wires. We have no consistent basis for assessing whether there is a measureable benefit to integrating higher levels of distributed renewable generation. We struggle to decide how energy efficiency, new solar installations, and demand response might be integrated seamlessly in Tiverton/Little Compton. The assessment of how to identify costs and benefits needs to be broad and inclusive or existing silos will be hardened and new silos will be created. The EERMC urges that a full and thoughtful examination of costs and benefits be an essential part of this proceeding. It should then, in turn, inform pricing and rate-making structures.

This aspect of the Docket should also beneficially inform the process of setting new “Standards” to guide least cost procurement for the 2018-20 planning cycle.

III. Incentives for guiding utility investment and providing customer benefit should reflect both of the first two policy principles.

The process of designing new incentive mechanisms to guide and appropriately reward the utility is both an exciting opportunity and a major undertaking. The opportunity to design an incentive structure that will reward better utilization of the system, empowerment of customers, stimulation of innovation, and promotion of reliability, economic benefits and environmental and health improvement is a significant (and undoubtedly ongoing) effort. As the Acadia Center points out, many of the “good” things RI decides utilities should do get an “incentive” to promote them (efficiency, renewable energy, distributed generation), but there is no real framework for assessing how various of these “good things” might work together to do even better things. Some measures like savings from Conservation Voltage Reduction (CVR) don’t seem to fit any of the existing silos and so the utility has no clear incentive to pursue them, even though CVR might yield significant energy savings. Other strategies like the integration of more renewable energy, the development of demand response capability, and the promotion of storage capability are not fully valued, and thus not considered as a utility priority. In a similar manner, it is not clear that the current system rewards utilities for linking better system utilization to a strategy for securing lower standard offer prices for customers. The EERMC welcomes the design of an incentive structure that will consistently and aggressively advance the policy goals established/clarified at the beginning of this proceeding.

In response to the PUC statement contained in its *Request for Comments* that “[i]n addition, the PUC desires to ensure all rates are consistent with traditional Bonbright principles and the new principles set forth in the Renewable Energy Growth Program,” the EERMC respectfully suggest that there be a discussion of the traditional Bonbright principles and an examination of what modifications to them might be appropriate in light of the significant changes in the utility system that have taken place and are continuing. These include new and evolving energy system, the new capabilities of data acquisition and management, and the system’s change from being simply a delivery system to a networked system with different forms of customer and market participation, and new opportunities for customer, system, and societal benefit.

The EERMC thanks the PUC for the opportunity to engage in the comment process and is available for further input, should the PUC seek additional comments or discussion.

EERMC CONSULTANT TEAM



Memorandum

To: RI Energy Efficiency & Resource Management Council (EERMC)
From: EERMC Consultant Team (C-Team)
Date: March 9, 2016
Subject: EERMC Annual Report to General Assembly – Policy Recommendations and Strategic Principles section

<i>Relevance of Topic</i>	The Council is legislatively required to submit an <i>Annual Report to the General Assembly</i> regarding results of Least Cost Procurement efforts. This year’s report will be submitted in May, 2016. At the March meeting, the Council will discuss options for the section of the report focused on <i>Policy Recommendations and Strategic Principles</i> , and give direction to the parties working on the report for the draft that will be developed and reviewed at the April EERMC meeting.
<i>Content of memo</i>	The memo provides an overview of past Policy Recommendations and Strategic Principles, and the results in table format. A preliminary list of potential new items is presented to spur discussion.
<i>Expected Outcome</i>	This memo is aimed at supporting discussion and direction regarding options for inclusion in the first draft of the Annual Report to the General Assembly. Items identified by the Council will be crafted by the Annual Report working group to include in the first draft to be reviewed at the April Council meeting.

Objectives and results from Policy Recommendations and Strategic Principles

The Policy discussions and recommendations included in the EERMC Annual Reports have been an important part of these reports, and have contributed to the development of policies that support and expand the principles of Least Cost Procurement and System Reliability Planning in Rhode Island. They have been informed by and have helped to advance effective implementation of efficiency programs in the electricity and natural gas sectors. They have advocated for the application of Least Cost Procurement across all energy sectors in the State. They have supported advancement of Rhode Island’s energy policy goals articulated in the Rhode Island Energy Plan. At times the recommendations have specifically supported legislative action; at other times they have supported further investigation and advancement of policy discussions that are not yet formulated as actionable legislative or regulatory steps. These recommendations have often supported actions that legislators and regulators have taken to move energy policy forward in a state that is increasingly being recognized as a clean, affordable energy leader.

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The following table summarizes the previous *Policy Recommendations and Strategic Principles* and the results from those items:

2015 Policy Recommendations http://www.rieermc.ri.gov/documents/annual/5_EERMC%20April%202015.pdf	Outcome / Status
Continue electric and natural gas Least Cost Procurement (LCP)	The General Assembly voted to extend LCP legislation through 2024 during the 2015 session
Expand Least Cost Procurement to unregulated fuels	Ongoing discussions with Stakeholders to craft legislation providing sustainable funding
Expand financing and investment tools	The RI Infrastructure Bank was established in summer 2015; the Revolving Loan/on-bill repayment fund was expanded; the EERMC hired a “Finance Expert” to further explore financing issues and opportunities.
Advance systems integration http://www.energy.ri.gov/documents/siri/Systems%20Integration%20Rhode%20Island%20Vision%20Document%20January%202016%20FINAL.pdf	The System Integration RI group was created as a subcommittee of the Collaborative in 2015. It hired Richard Sedano of the Regulatory Assistance Project (RAP) to facilitate discussion of integration issues. A report was issued in January of 2016. The PUC recently opened a docket to explore this set of issues issue, as it relates to ratemaking, cost-effectiveness comparison, and performance incentive regulation.
Enhance workforce development relative to energy efficiency	Training and education associated with program implementation
2014 Policy Recommendations	http://www.rieermc.ri.gov/documents/annual/4_EERMC_April%202014.pdf
Extend Rhode Island’s Least Cost Procurement mandate beyond 2017	The General Assembly voted to extend LCP legislation through 2024 during the 2015 session
Develop a comprehensive financing approach to support aggressive Least Cost Procurement in Rhode Island	The RI Infrastructure Bank was established in summer 2015
Commence a comprehensive investigation of the potential for Grid Modernization to provide Least Cost Energy services and other benefits to RI’ers	The System Integration RI group was in 2015

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Strengthen appliance minimum standards	Legislation was proposed, but not passed in 2014 and 2015.
2013 Policy Recommendations	http://www.rieermc.ri.gov/documents/annual/3_EERMCApril%202013.pdf
Financing for Energy Efficiency - Res PACE, Large C&I, look at C-PACE	The RI Infrastructure Bank was established in summer 2015
Building Labeling & Disclosure Strategies	OER-coordinated Working Groups have been formed for both residential and C&I labels, and DOE grants funds have been applied for.
2012 Policy Recommendations	http://www.rieermc.ri.gov/documents/annual/2_EERMCMay%202012.pdf
Disclosure strategies for homes & businesses and benchmarking requirements for public sector	OER-coordinated Working Groups have been formed for both residential and C&I labels, and DOE grants funds have been applied for.
Don't redirect System Benefit Charge (SBC) funds to close budget gap	No SBC funds have been redirected
2011 Policy Recommendations	http://www.rieermc.ri.gov/documents/annual/1_EERMCApril%202011.pdf
The same Least Cost Procurement investment requirement that applies to electricity – and the ability to fund it – should be required in Rhode Island law for natural gas service delivery as well.	LCP was expanded to natural gas in 2012.
OER, National Grid, and the General Assembly should work aggressively to ensure that cost saving, comprehensive, all-fuels efficiency services are available to all unregulated fuel users (heating oil, kerosene or propane) like they already are for electric and natural gas customers.	A working group was formed in 2012; recent efforts to fashion legislation are underway.

For this year's Report, the following recommendations are presented to the EERMC for consideration:

- 1. SIRI recommendations:** The SIRI report represents a thoughtful and collaborative approach to addressing multiple interconnected issues and opportunities that can have a profound beneficial impact on Rhode Island's energy future. It has constructively engaged key stakeholders. It seeks to explore issues by discussing actual experience and learning that is

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taking place in various parts of the economy, not by imposing an arbitrary “framework” through a “top down” investigation. The approach outlined in the SIRI report has the opportunity to advance Rhode Island’s energy, reliability, environmental, and economic goals by taking an incremental and workable set of steps toward building a new energy future. The EERMC, the OER, and government and regulatory bodies should support this process, and find the appropriate forums such as Docket # 4600 in which to advance the discussions and learning opportunities outlined in the January SIRI Report. The SIRI Report includes the following recommendations:

- a. **Identify Ways to Promote More Cost-Effective, Comprehensive NWA Distribution Planning**
- b. **Assess Market Potential, Costs, and Benefits of Strategic Electrification and Active Load Management**
- c. **Pave the Way for Accelerated Use of Electric Vehicles**
- d. **Map Rhode Island’s Current Renewable Energy Promotion Processes and Assess Adequacy and Gaps**
- e. **Assess Market Potential, Costs, and Benefits of Advanced Metering Infrastructure and Time-Varying Rates**
- f. **Consider Whether Methods of Performance Regulation Can Be Implemented to Further the Public Good**

Should we include recommendations that have been made in prior years, and still need to be acted upon?

- Adoption of appliance standards for products not covered by federal action?
- Extension of Least Cost Procurement to delivered fuels?
- Action that would require building labeling?

Dear EERMC Members,

Item 6 on today's agenda is about the potential avoided cost study update. I have not prepared a formal presentation for Rachel to circulate, but I would like to share with you a brief summary of the issue before the meeting.

- Since 1999, New England energy efficiency program administrators (PAs) have jointly sponsored an avoided cost study, to develop the value of electric energy, capacity, natural gas, and other fuels avoided by the implementation of energy efficiency programs. These avoided costs are critical inputs in the calculation of cost effectiveness. I have been the coordinator of the sponsoring Study Group since 2005.
- The 2015 Avoided Energy Supply Component study (AESC2015) differed from prior studies because it was done to cover a three year period to match Massachusetts' planning schedule, as opposed to a two year period.
- At that time, other states that are on different schedules, such as RI, requested that we build one update during the three year period into the scope of work, because we did not want to have avoided costs that were "less fresh" than what we were used to.
- The beginning of the update process is a memo from Tabors Caramanis Rudkevich (TCR, the contractor for the 2015 Study) that outlines the parameters that they believe are potentially ripe for updating, and their potential impact. This is intended to guide states' decisions about whether and what to update AESC2015.
- I have asked PAs in the various states to indicate (a) whether they want to participate in an update, (b) when and (c) which (any or all) of these parameters they would like to have updated, and which of them were higher priority. We could manage the number of parameters to control the costs of an update.
- The parameters identified by TCR are
 - Crude oil prices (AEO 2016)
 - Natural gas production costs (AEO 2016)
 - New ISO-NE zones
 - Electric load forecast (2016 CELT)
 - Capacity retirements and additions
 - RPS standards updates/cost of renewables
 - TCR indicated that proposed clean energy import projects could be considered under updated capacity additions and retirements. They also observed that, thus far, that there has not been enough concrete new information about gas pipeline expansion to make that into a variable to update.
- All states have been given the option to participate. Cost will be shared by the states, to the extent that they participate. We are trying to scope this out by the end of the month.

While sponsorship of the periodic avoided cost studies is practically required, participation in the update is optional. Since cost-effectiveness considerations are a key part of the EERMC's mandate, at today's meeting, I will be discussing my recommendation for RI to participate in an update of the Study this year.

Thanks very much,
Jeremy Newberger



Memorandum

To: AESC 2015 Study Group

From: Rick Hornby

Cc: Alex Rudkevich, Ben Schlesinger, Scott Englander

Subject Update to AESC 2015

Date February 17, 2016

The Study Group, pursuant to Article 4 of the Consultant Services Agreement (CSA) regarding Task 6 of the AESC scope of work, has asked TCR to prepare a memo discussing changes in key inputs that it could address in an update of AESC 2015. This memo responds to that request with a discussion of the following three elements specified in the CSA:

- a list of key inputs of the 2015 Study that have a significant influence on forecast of avoided cost components for which an update has been issued or created since publication of the 2015 Study report;
- a high level estimate of the change in the input parameter from that incorporated into the 2015 AESC Study; and
- a qualitative assessment of how this change may affect the affected avoided cost component over the forecast horizon.

Changes in Key Inputs TCR Could Address in an Update of AESC 2015

As of mid-February 2016, there are updates and/or changes to six inputs to the 2015 Study which could have a significant influence on the forecast of avoided cost components. The six inputs and their changes are discussed below and summarized in Table 1.

1. **Prices of crude oil and refined petroleum products.** Futures prices for crude oil, e.g. West Texas Intermediate (WTI), are almost 50% less than the AESC 2015 levelized costs for 2016-2025. Lower prices for crude oil translate into lower prices for refined petroleum products, such as distillate. Lower prices for distillate used by dual-fuel generating units could have a downward impact on avoided electric energy costs in winter months, as well as on avoided costs of refined petroleum products in general. EIA is not scheduled to issue AEO 2016 until mid-June 2016, but it is scheduled to issue short-term energy outlooks through 2017 in March and April.
2. **Natural gas production costs.** Futures prices for natural gas at the Henry Hub are approximately 20% less than the AESC 2015 levelized costs for 2016-2025. These lower prices would have a downward impact on avoided electric energy costs as well as on avoided costs of natural gas by end-use. EIA is not scheduled to issue AEO 2016 until mid-June 2016, but it is scheduled to issue short-term energy outlooks through 2017 in March and April.

3. **ISO New England zones.** ISO NE has created a new zone, South East New England (SENE), in recognition of the transmission constraints causing higher LMPs in that area. In an update, TCR could project avoided electric costs for SENE.
4. **Electric load forecast.** The avoided electric costs in AESC 2015 are based upon the 2014 CELT forecast. In an update, TCR could base the avoided electric costs on the 2015 CELT forecast. (The 2016 CELT forecast is not expected to be available until May). The 2015 CELT Forecast also reflects the ISO NE forecast of solar generation.
5. **Capacity retirements & additions; FCA 10 results.** AESC 2015 assumed Pilgrim would shut-down in 2032; it is now scheduled to close in 2019. AESC 2015 assumed generic new capacity would come on-line from 2019 onward; the FCA 10 results provide us information on the specific size, location and dual-fuel capability of 1,300 MW of I capacity scheduled to begin service in 2019 (i.e., 485 MW Burrillville Energy Center 3 in Rhode Island, 484 MW at Bridgeport Harbor in CT and 333 MW at Canal 3 in Sandwich, MA). In addition, about 390 MW of demand reduction attributed to solar cleared in FCA 10. TCR could reflect this updated specific information, plus the capacity price results of FCA 10 (which are about 35% less than the AESC 2015 projection), in an updated projection of avoided electric costs.
6. **RPS standards; projected cost of entry new renewables.** Since completion of AESC 2015, there have been several changes which will affect the demand for renewable generation, and the projected cost of entry of new renewable resources. These changes include Vermont's establishment of an RPS, Connecticut's solar carve out, extensions to the Federal investment tax credit and production tax credit and updated projections of utility scale solar costs.

Table 1 presents a summary overview of the changes in these inputs and their potential impacts.

Next Steps

After their review of this memo, TCR would be happy to participate in a conference call with the Study Group to discuss the key inputs under consideration for updating.

The Study Group will have to decide which key inputs they wish TCR to include in an update, and when they wish TCR to prepare the update. According to the CSA, if one or more Study Group members (Update Sponsors) wish to receive updated results for their state, TCR will develop and present a price estimate and proposed schedule for an update based on the inputs the Update Sponsors ask TCR to update.

- TCR proposes to provide updated results for the direct avoided costs reported in AESC 2015 Appendices B, C and D that are affected by the inputs the Update Sponsors ask TCR to update. If requested TCR could also provide updated electric energy DRIPE results based on the updated avoided electric energy costs and the energy DRIPE coefficients from AESC 2015. The update report would be specific to the states in which the Update Sponsors operate.
- TCR expects preparation of an update would take approximately 2 months from start to finish
- The Update Sponsors will be responsible for the cost of the update report.

Table 1. Changes in key inputs to AESC 2015 and Qualitative assessment of potential directional impact

Key Inputs for which updated projections are available		high level estimate of the change from that in 2015 AESC Study	Qualitative assessment of impact over 15 year horizon (2016 -2030)					
			Electricity - Appendix B				Natural Gas - appendix C	Refined Petroleum Products, appendix D
			Wholesale Energy	Wholesale Capacity	REC price	Non-Embedded Cost	Avoided City-Gate Cost	Crude Oil
1	Crude oil prices	25% reduction through 2017 per EIA Febbruary 2016 Short Tem Energy Outlook, 50% reduction through 2024 per current NYMEX futures	downward	N/A	upward	N/A	N/A	downward
2	Natural gas production cost	20% reduction through through 2024 per current NYMEX futures	downward	N/A	upward	N/A	downward	N/A
3	ISO New England zones	creation of new SENE zone	upward in new zone	upward in new zone	N/A	N/A	N/A	N/A
4	Electric load forecast	approximate 1.6% reduction through 2024; ISO-NE revised 2015 PV forecast	minimal	minimal	minimal	N/A	N/A	N/A
5	FCA 10 results, Capacity retirements &/or additions	FCA 10 is 35% less than AESC 2015 projection; Pilgrim retirement, 1300 MW of new dual-fuel capacity in 2019	downward	downward	upward	N/A	N/A	N/A
6	RPS standards; projected cost of entry new renewables	Federal ITC & PTC extended; VT RPS; CT Solar Carve Out; updated projections of utility scale solar costs	N/A	N/A	downward	N/A	N/A	N/A