

Connecticut Energy Advisory Board

March 5, 2010

What we want to accomplish today

- Status Update on the 2010 Plan Development
 - Update on Hearing & Workshops (CHP, Transmission)
 - Review of Analytics and Core Cases
 - Key Upcoming Dates for Completion of the Plan
- Framework for Procurement Plan
- Key Findings/Observations from Analytics
- Discussion on Initial Conclusions and Potential Recommendations for topic areas

Status Update

- Reviewed EDCs' plan for substance and compliance
- Reviewed written public comments on EDCs' Filing
- Public Hearing on 2/11
- Completed workshops on Transmission and CHP
- Finalized analytical cases and metrics to run
- Completing model runs and evaluation of cases
- Initial Drafts of several "Issues Papers" is complete; rest are underway
- Finalized outline for Procurement Report and drafting underway

Hearing Update

Public Hearing was held Thursday, February 11th

- 16 speakers (five of which has previously submitted written comment)
- 5 sets of written comments were received after January 25th

Overview of Summary of Hearing and Additional Comments

- Nearly all called for All Achievable Cost-Effective DSM
- Several supported in-state cost effective renewable resources; one expressed concern about the cost of achieving the RPS
- Two spoke in favor of studying nuclear; several others objected or felt those resources would be better put elsewhere
- Half of the speakers expressed concern about DSM jobs leaving the state

Workshop Update - Transmission

- About 30 people in attendance and good stakeholder representation (ISO-NE, EDCs, state agencies (DEP, DPUC, CSC), generators, citizens groups)
- Overall goal: Improving process to seek non-transmission alternatives, identify a specific path to comparable solutions on a timely basis
- Discussion focused on
 - ISO-NE Tariff
 - Reliability Needs Assessment triggers, participants, planning models and data availability
 - Potential for Broader, Deeper Participation
 - Market Solutions
 - Binding commitments prerequisite for ISO to consider resources
 - Use of RFPs: Assumption that market will or will not respond vis a vis state provision of financial surety
 - Interplay of State/ ISO Processes
 - Review of alternative “flow charts” / models

Workshop Update - CHP

- About 50 people in attendance and good stakeholder representation (outreach groups, CHP owners and Energy Independence District Developers)
- Discussion focused on:
 - CASE CHP Study
 - Potential for Broad Implementation, Copenhagen example
 - Symbiotic Relationships
 - Large-scale industry (Algonquin Power example)
 - Cities/hospitals/industrial parks
 - University Cogeneration (UConn example)
 - Creating New Opportunities
 - identifying and addressing regulatory, practical hurdles
 - Models for municipalities: Energy Independence Districts
 - Progressive Policies and Initiatives

Alternative Strategies Evaluated

I. Energy Efficiency Strategy Testing

1. Targeted EE
2. Re-Engineered EE five years
3. All Achievable Cost Effective (A-ACE)
4. Re-Engineered A-ACE

II. Renewable Energy

7. Connecticut In-State Build Out of Renewables
8. Sensitivity to reduce the penetration of Biomass

III. Repowering Existing Oil/Gas Generating Facilities

5. Repower CT - 2440 MW of Combined Cycle Repowering 2015-2018
6. Repower 2020 - 2660 MW of Combined Cycle Repowering in 2020

Alternative Strategies Evaluated (Cont'd)

IV. Combined Cycle additions

- 9. Green Gas

V. Nuclear for Emissions reduction

- 10. Nuclear

VI. Retirements

- 11. Retire Connecticut Coal

VII. Max Need

- 12. Full-scale retirement of fossil steam in New England by 2020
- 13. NEEWS projects do not go forward

2010 Planning Process: Key Dates

To Date

November 2009		CEAB led Stakeholder Workshops
January 1, 2010		EDCs Plan filed
January 25, 2010		Written Public Comments Due
February 5, 2010		<u>CEAB Board Meeting</u> (<i>comments, summaries, preliminary findings</i>)
February 11, 2010	1:00pm	<u>CEAB Public Hearing on EDCs IRP</u>
February 19, 2010	9:00am	<u>Transmission Workshop</u>
February 23, 2010	11:30am	<u>CHP Workshop</u>
March 5, 2010		<u>CEAB Board Meeting</u> (<i>Hearing comments, preliminary recommendations</i>)

Next

April 9, 2010 CEAB Procurement Report Filed with DPUC
(*Final Vote*)

TBD

DPUC Uncontested Proceeding to Review 2010 Plan

Looking Back: Challenges of the Past Decade

- Reliability Was a Significant Issue
 - ❑ Southwest Connecticut Reliability
 - ❑ Congestion costs , GAP RFP, RMR Agreements
 - ❑ Federally Mandated Congestion Charges
 - ❑ Connecticut was “behind” in addressing reliability
- Competitive Market Formation was a Significant Issue
 - ❑ ISO Locational Market Pricing
 - ❑ ISO Capacity Market (LICAP debate led to FCM)
 - ❑ ISO Locational Forward Reserve Market
 - ❑ Connecticut retail open access

Looking Back: Accomplishments

- Key Reliability Issues Have Been Addressed
 - ❑ Southwest Connecticut Transmission is Complete; GSRP underway
 - ❑ Commitments for 1,500 MW of New Generation
 - ❑ Congestion Costs Have Subsided
 - ❑ Connecticut has “caught up” to its reliability challenges
 - ❑ ISO-NE Planning Processes Have Progressed
- Competitive Market Formation
 - ❑ ISO Energy and Capacity Markets are maturing
 - ❑ Demand Response has become an established resource
 - ❑ Connecticut retail activity is active for large customers, procurement systems for customers on standard service
- PA 07-242 established Connecticut IRP process

Looking Ahead: Challenges of the Coming Decade

- Reliability Remains Important, Not Acute
 - Outlook for Surplus in Installed Generation; Need for NEEWS is less
- Environmental Requirements Are Key
 - Ozone Non-Attainment, Green House Gas Emissions, Water Issues
- Renewable Energy Requirements Are Significant
 - CT and NE RPS Requirements call for ~3,700 MW of new projects
- Energy Security and Independence Issues are Key
 - Gas Dependency; Reliance on Imports; Aging CT Generation Fleet
- High and Rising Costs of Electricity Must Be Mitigated
 - Reliability, Environment, RPS all put upward pressure on cost

Framework for the 2010 Plan

- Planning to Address Broader “Needs”
 - ❑ Reliability, Environment, Cost, Security
 - ❑ Vision of the Long Term informing actions for the next decade
- Integrated Assessments To Seek Best Solutions
 - ❑ Address Current Needs and Set-up for Long Term
- Be Proactive to Address Needs on A Timely Basis
 - ❑ Procurement and Planning
- Clear Near-Term Action Plan with Milestones and Signposts
 - ❑ Will require actions by several energy entities in Connecticut

2010 Integrated Resource Planning Components

Key Objectives ("Needs")

- Maintain Reliability
- Manage Costs
- Meet Environmental Requirements
- Secure Supplies

Key Drivers

- Natural Gas Supply
- Renewable Policy
- Carbon Policy
- NO_x Emissions
- Resource Finance
- Load & Demographics

Resource Options

- DSM
- Renewables
- CHP
- Repowering
- Transmission
- Imports
- Evolving Technologies
- Nuclear

Analytical Framework

- Analysis of Key Resource Decisions (Renewables, DSM, Repowering, role of nuclear, CHP)
- Evaluate portfolio options for impacts on key metrics
 - ❑ Cost of electricity
 - ❑ Energy Security
 - ❑ Emissions Impact
- Key determination is the optimal portfolio

Policy Issues

- What trade-offs are necessary to make in choosing a Plan?
- Can the market provide what Connecticut wants in its Plan?
- What does Connecticut need to do now to enable the recommended Plan?

Analytics High Level Takeaways

- **Reliability - Current Ample Capacity Supply, Retirements Risk**
 - ❑ Regional RPS compliance and aggressive DSM keeps region in capacity surplus for the decade, subject to retirement risks
 - ❑ During the next decade, under a CO₂ cap and trade regime, operating cost of the regions 2200 MW of coal units in the region (560 MW in CT) come under economic pressure for retirement.
 - ❑ Much or all aging steam based capacity in NE, (coal, oil and natural gas) over the next decade is at risk for retirement (more than 8,000 MW)
 - environmental compliance costs, economic obsolescence, or CO₂ regulations.
 - This would lead to a need of 5,800MW of new capacity in New England.
 - With NEEWS, CT OK. Without NEEWS, up to 2,000MW of that capacity needed in Connecticut.

Analytics High Level Takeaways

- **Environmental – Strategies to Reduce Emissions**
 - Addition of DSM would be a key tool to reduce CT emissions
 - A-ACE2: 5% reduction in CT NO_x, up to 25% of CT CO₂.
 - Connecticut CO₂ and NO_x emissions , especially on HEDD, do not benefit from an in-state RPS case (w/ fuel cells)
 - Carbon and NO_x annual emissions both increase a bit
 - CO₂ regulation significantly reduces coal output (kWh, CO₂, NO_x)
 - Retirement of Connecticut coal units would reduce NO_x emissions on HEDD, possibly as much as 10%
 - Addition of 1000 MW nuclear has largest impact on reducing emissions in the long term (post 2020)

Analytics High Level Takeaways (continued)

- **Costs – pressures from RPS, Transmission, Environment**
 - By 2020, ~ \$13 Billion of capital investment needed in the region to provide the new renewable to meet regional RPS (w/o trans).
 - On pro rata basis, investment for CT's RPS ~ \$4.5B, with most invested out of state.
 - CT RPS in-state only - ~ \$4B capital in state, plus fuel in fuel cells (overall, more costly than regional solution)
 - Per ISO-NE study, added T costs could be \$10 Billion
 - Added DSM can reduce RPS costs
 - RPS defined as % of CT kWh consumption
 - If treated as a Class I resource, ACE meets need until 2021

Analytics High Level Takeaways (continued)

- **Energy Security – Risks on Location and Mix**
 - New Resources are needed to make substantial improvements in energy security for Connecticut as measured by;
 - Amount of In-state Generating and Demand Response Capacity
 - Geographic concentration of capacity resources
 - Amount of Import and Exports to and from Connecticut
 - Degree of In-state and regional generation dependence fossil fuels
 - Overall efficiency measures of the Regional and Connecticut generation fleet as utilized.
 - High retirements case could accelerate CT reliance on region

Key Findings and Potential Recommendations: Resource Adequacy (Cassella)

Proposed Key Findings

- With DSM and renewables to meet RPS under current ISO-NE load assumptions there is no resource adequacy need in CT (defined under ISO-NE Forward Capacity Market) through 2030
 - ❑ CT load expected to recover slowly leading to limited required investment in electric resources for strict reliability needs.
 - ❑ Resource Adequacy tests show CT surplus of requirements through the period (EDC retirement case);
 - ❑ Added retirements: With NEEWS, CT OK. Without NEEWS, up to 2,000MW of that capacity needed in Connecticut. (local reliability could affect CT req)
- Significant exposure to retirements over next 5 to 20 years especially oil and coal plants when carbon comes on line could have different outcomes (5800 MW of additional capacity in New England)

Key Findings and Potential Recommendations: Resource Adequacy (Cassella)

Proposed Key Findings (continued)

- Future capacity market prices may not be sufficient to incent new preferred generation
- The absence of immediate resource adequacy need affords CT the opportunity to consider a thoughtful, balanced approach to retirement and repowering

Potential Recommendations

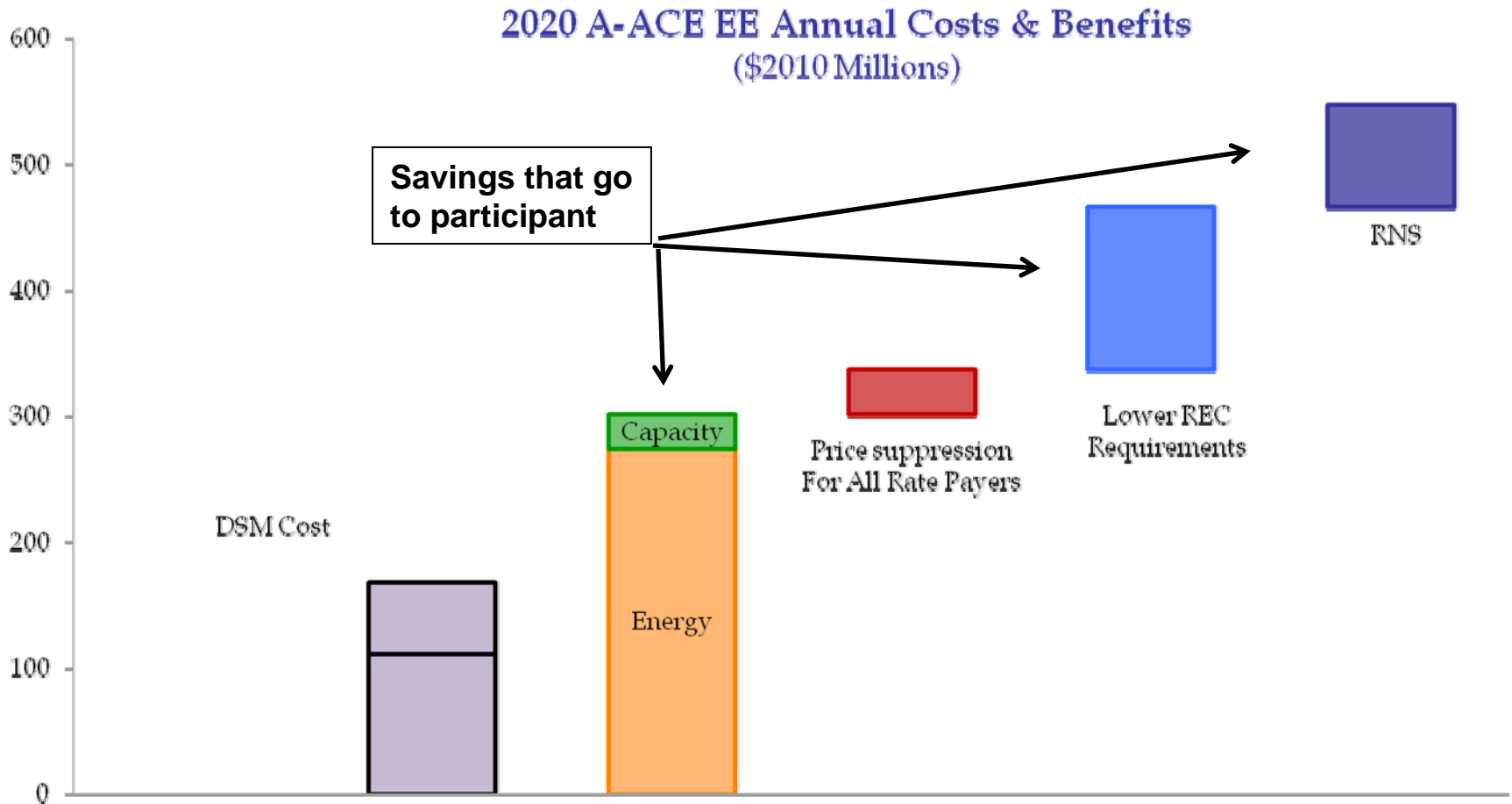
- CT needs to coordinate closely with ISO reliability and market planning to assess the risks and needs for orderly transitions as retirements occur
- Approaches to repowering:
 - Proactive, targeted solicitation to foster CT goals (environmental, security, LT cost, CHP)
 - Wait until a more acute CT capacity need is identified
- See Transmission Recommendations

Key Findings and Potential Recommendations: DSM (Healey)

Proposed Key Findings

- All Achievable Cost-Effective EE:
 - ❑ offers quantifiable environmental benefits
 - ❑ saves considerable money on RECs
 - ❑ Lowers RNS costs
 - ❑ Lowers market prices
 - ❑ Benefits in Addition to EE Cost-Effectiveness Tests Savings
- Investment in A-ACE EE is \$3.8 Billion or \$1.5 B more than Reference
- The total estimated reductions due to changes in program incentives as a result of external financing and funding options is about 10-25%

Key Findings and Potential Recommendations: DSM (Healey)



Key Findings and Potential Recommendations: DSM (Healey)

Potential Recommendations

- The DPUC should begin a program to Implement A-ACE by:
 - ❑ Piloting incentive levels
 - ❑ Piloting the use of external financing
 - ❑ Program redesign to reduce incentives
- By re-engineering the Programs:
 - ❑ Reduce the cost of the programs
 - ❑ Develops alternative financing vehicles
 - ❑ Allows time to review changes to standards
 - ❑ Will provide time for further study, pilots, and establishing building codes to further lower ratepayer costs

Key Findings and Potential Recommendations: Renewables (Nuñez)

Proposed Key Findings

- CT RPS requirements increase significantly by 2020 (20% of CT MWh)
- Limited in-state potential requires CT to seek supplies outside CT (NE/NY) to most cost effectively meet CT RPS
- Required capital investment by 2020 to meet RPS in New England is ~ \$13 B (including CT), with ~\$1.2 B in CT.
- If CT satisfies RPS with in-state resources, instate capital investments by 2020 would be an additional \$2.8 Billion, mostly added fuel cells and PV.
- Regional renewables may require substantial transmission investments
- Added DSM can reduce RPS costs
 - RPS defined as % of CT kWh consumption
 - If treated as a Class I resource, ACE meets need until 2021 w/ Proj 150

Key Findings and Potential Recommendations: Renewables (Nuñez)

Potential Recommendations

- Under Current RPS statute:
 - Pursue a regional strategy to meet RPS by
 - Pursue ACE to reduce the overall requirement
 - Proactive procurement of the best renewables opportunities under long-term contracts
 - Consider coordination with NESCOE's Governor's Blueprint Procurement Workgroup on longer-term approach
- CT should evaluate the impact of reducing RPS targets based on the cost of meeting RPS
- Determine renewable in-state stimulus benefits to the CT economy
- CT should establish a direct link between the level of RPS required and environmental planning

Key Findings and Potential Recommendations: Transmission (Gaudiosi)

Proposed Key Findings

- Transmission Costs are increasing:
 - ❑ \$4 B “T” investment in ISO-NE during 2002-2009
 - ❑ \$5 B “T” investment planned over next 5 years in ISO-NE
 - ❑ RNS rates expected to increase from .5 cents/KWh in 2005 to expected 2.5 cents/KWh by 2015 in real terms
- CT “congestion” costs are abating
 - ❑ “GAP RFP” contracts concluded in 2008
 - ❑ Out-of-Merit Generation Costs down since SWCT “T” completed
 - ❑ RMR Agreements are ending
 - ❑ However, Localized costs for Forward Reserves and Non-PTF “T” \$

Key Findings and Potential Recommendations: Transmission (Gaudiosi)

Proposed Key Findings (cont.)

- Transmission Costs for Renewables could be large
 - ❑ Transmission improvements will be required for to access expansion of renewables over next 20 years (ISO-NE 2030 study)
 - ❑ Case with 4,000 MW of wind ~\$10B
 - ❑ Cost allocation for transmission is key uncertainty
- In near term, 2nd & 3rd components of NEEWS are pending ISO-NE reassessment and could impact
- Process: Alternatives assessment needs to be more cost effective and better integrated with ISO process, including a fresh look at proper roles for CEAB/DPUC and CSC

Key Conclusions and Potential Recommendations: Transmission (Gaudiosi)

Potential Recommendations

- CEAB should be a proactive participant in transmission planning process
 - CEAB/CT needs an active presence in ISO-NE planning
 - Planning Advisory Committee (PAC); Needs Assessments; Cost Allocation
 - NESCOE – Renewables Procurement Working Group; Economic Studies
 - Work with ISO to establish parameters/assumptions ISO will use in any upcoming needs assessments, including periodic consultation on updates of the RSP project list
 - Ensure ISO makes available any on-going information prior to making a final determination

Key Conclusions and Potential Recommendations: Environmental (Babbidge)

Proposed Key Findings

- Environmental goals are an essential component of energy planning
- NO_x emissions reductions is a key near-term challenge
- CO₂ emissions reductions is a key long-term challenge economy-wide and to the electric sector
- Existing generation faces significant costs to comply with NO_x emissions and water cooling issues
- Increasing EE funding (5%), renewables in state (2%) and nuclear (about 10% per 1000MW) all may be needed to be deployed to capture the potential to mitigate emissions.

Key Conclusions and Potential Recommendations: Environmental (Babbidge)

Potential Recommendations

- The complex and cross sector nature of environmental issues requires integration through comprehensive energy planning coordinated with key stakeholders
- The CEAB should periodically be briefed by DEP on water cooling issues and the status of EPA rulemakings as these are key signposts

Key Conclusions and Potential Recommendations: Generation and Repowering (Hoffman)

Proposed Key Findings

- CT has 2,700 MW of aging fossil fired generation capacity nearing retirement and under a carbon regime much of this will be gone
- Challenges for continued operation include age, NO_x and water regulations, and poor market economics
- Generation sites exist with key locations in CT power system
- When evaluating to add environmental controls, retire, or repower Connecticut's fossil steam generation retiring improves NO_x and Carbon emissions and reduces HEDD
- CT and NE Coal units challenged to continue in a cap & trade world beyond 2020

Generation Observations

- Repowering in this decade would require some additional support from utility ratepayer, putting upward pressure on rates.
- Price suppression benefits occur when new generation is added in Connecticut .
- Price suppression, when coupled with capacity market revenues and energy revenues, will be able by 2022 to cover all the fixed costs of new capacity though repowering

Key Conclusions and Potential Recommendations: Generation and Repowering (Hoffman)

Potential Recommendations

- Prepare Options for Potential Retirements of CT & NE Oil/Coal
 - ❑ Potential for High Retirements within 10 yrs
 - ❑ Contingent on GHG regulation & other pressures
 - ❑ Sites Candidates for Repowering , CHP, New Gen
 - ❑ Surplus means replacement is less than 1 for 1
- Procurement should be soon:
 - ❑ Tied to Signposts – Cap & Trade, Environmental Rules, Delists
 - ❑ Allow time for retire/repower cycle
 - ❑ Preferences could include CHP, Existing Sites, Op Flexibility

Key Conclusions and Potential Recommendations: Resource Finance (Hennessy)

Proposed Key Findings

- Primary supply options required to meet CT needs are capital intensive
- Market structures are currently not adequate to ensure the preferred resources are built
- Supply options are difficult to back with debt finance without contracts
- Projects that are very large or retain too much risk may still be difficult to finance

Potential Recommendations

- CT should consider proactive contracting for lower cost renewables options
- Connecticut should consider Utility cost of service as an alternative for them to participate.

Key Conclusions and Potential Recommendations: Nuclear (Sheridan)

Proposed Key Findings

- Nuclear should be considered as a potential long-term supply option for CT
 - ❑ Nationally, nuclear is re-emerging as a long-term supply consideration to meet growing GHG targets
 - ❑ Significant improvements in technology design and standardization, but costs and waste issue still present challenges
 - ❑ Smaller commercial reactors could benefit nuclear option through reduced financing risk, shorter lead time and perhaps lower cost, but are unlikely to be available before 2020-2030
 - ❑ 1000 MW new Nuclear power in the New England region could significantly reduce CO2 levels by 2030 (7%) and reduce market prices
- Long lead time for nuclear development (10 to 15 years) provides lead time for potential acceptance in CT as well
- New purely merchant nuclear capacity unlikely in New England

Key Conclusions and Potential Recommendations: Nuclear (Sheridan)

Potential Recommendations

- Despite nuclear power's hurdles (in particular waste), its potential to achieve meaningful carbon emissions reductions is compelling to support on-going assessment
 - ❑ Initiate CEAB sponsored study on nuclear power
 - ❑ Create a CEAB nuclear power subcommittee to monitor industry signposts
 - ❑ CEAB should request periodic DEP updates on waste issue
 - ❑ Convene a stakeholder workshop to reassess and update any changes when conditions warrant

Key Conclusions & Potential Recommendations: CHP (Cole)

Proposed Key Findings

- Retrofit potential for small scale use is limited: some potential for commercial applications with high reliability requirements e.g. hospitals
- Large scale retrofit faces challenges related to proximate steam uses and large capital requirements
- CHP has its most technical potential in new development over a long term horizon
- Harvesting CHP and District Heating/Cooling potential requires integration of issues beyond power procurement such as economic development policy

Potential Recommendations

- Determine CHP potential beyond retrofit opportunities through study of best potential sites in concert with local and municipal district heating and cooling
- Reclassification of CHP with fuel cells as Class I renewables

Key Conclusions & Potential Recommendations: CHP (Cole) (continued)

- Reduce regulatory barriers to consider private investment in CHP and consider long-term adoption
 - Work with State economic development entities Connecticut Economic Development Authority (CDA) and Department of Economic and Community Development to
 - Examine attracting industry to sites near power plants where heat is available
 - Develop return on investment (ROI) models and other evaluative tools for use by new, expanding, modernizing business entities
 - Evaluate economic impacts/legal ramifications of Energy Improvement Districts or allowing CHP plants to sell power directly to local customers instead of the New England wholesale market
 - Update building codes with mandate for new buildings of a certain size/investment to evaluate using CHP

Key Conclusions & Potential Recommendations: CHP (Cole) (continued)

- Allow publically owned/operated CHP to allow export and sell of surplus energy
- Review benefits of programs providing financial incentives such as a revolving loan fund for CHP or Energy Improvement Districts or Loan Guarantees for Energy Improvement District (EID) customers

Key Conclusions and Potential Recommendations: Energy Security (Gordes)

Proposed Key Findings

- Energy security is increasingly important as CT develops increasing reliance on gas pipeline supply, large transmission projects, regional renewables
- Desire for greater security of the power system and need to understand how resource choice can impact energy security
 - ❑ Renewable supply and amount of intermittent generation
 - ❑ Increased transmission interconnections
 - ❑ More natural gas usage for generation and EE
 - ❑ Distributed generation
 - ❑ Nuclear power
- With RPS compliance in the region, and aggressive EE by 2020, Natural Gas is estimated to supply about 1/3rd of the state's electric energy requirements.

Key Conclusions and Potential Recommendations: Energy Security (Gordes)

Potential Recommendations

- The complex and critical nature energy security requires integration through comprehensive energy planning coordinated with key stakeholders
- Energy security metrics should be adopted and monitored by the EDCs
 - ❑ Import Dependence
 - ❑ Fuel Diversity (% Gas)
 - ❑ Fossil Fuel Energy dependency
 - ❑ Fossil Fuel Reliability Dependency
- The CEAB should request periodic briefings from the EDCs on energy security

Key Conclusions and Potential Recommendations: Emerging Technologies (Marie/Sime)

Proposed Key Findings

- PEVs/PHEVs
 - ❑ emerging as long-term strategy to reduce transport sector carbon emissions and oil consumption
 - ❑ limited fleet penetration likely by 2030
 - ❑ Significant cost and charging barriers
- Smart Grid/AMI
 - ❑ Significant activity due to Federal investment
 - ❑ Real potential to reduce peak loads
 - ❑ Enabling technologies can help customers respond more effectively to price signals, and AMI programs that encourage these technologies are more likely to yield more pronounced responses
 - ❑ A comprehensive cost/benefit analysis is required to design and implement an effective AMI program

Key Conclusions and Potential Recommendations: Emerging Technologies (Marie/Sime)

Potential Recommendations

- Active monitoring of PEVs, AMI and other technologies
- CEAB should support and keep abreast of Regional Electric Vehicle Initiative (REVI) and Connecticut Electric Vehicle Coordinating Council (CEVC) activities to feed into long-term planning efforts
- AMI – need for full cost benefit analysis, timing and scope of deployment and consideration of interface options

Key Conclusions and Potential Recommendations: Natural Gas (Mengacci)

Proposed Key Findings

- New Supply paradigm for gas creates potential for natural gas to serve as a “bridge” fuel
- New-found domestic shale supplies significantly improve gas supply and price outlook in near-term but gas prices are expected to escalate in real terms
- New LNG sources, pipeline compression enhancements/development with access to New England create additional gas flexibility

Potential Recommendations

- Active monitoring of CT gas supply infrastructure to ensure secure pipeline systems for reliability and security of power supply
- Greater integration of gas planning system and electric system planning requires more comprehensive and integrated energy planning

Key Conclusions and Potential Recommendations: Load & Demographics (Cole)

Key Findings

- Load impacts from demographic changes take time
 - Demographics development patterns and the economy over 20 years could reduce demand by 9%
 - Population changes, Land Use, Housing architecture, Lifestyles
 - Ratemaking/Regulatory Structure
 - Income/Job Market
 - Transportation
- To significantly alter our energy consumption, CT citizens would have to change the way we live and work. Bringing about such change would require extreme policy changes

Potential Recommendations

- Working Group to develop integrated approaches to development to capture these efficiencies

Key Conclusions and Potential Recommendations: State Support for Integrated Resource Planning (Buckley)

Proposed Key Findings

- IRP process is valuable and effective for electric planning
 - ❑ Implementation requires comprehensive statutory interpretation and may require policy changes and legislative solutions
 - ❑ The transmission alternatives process needs to start earlier and be more integrated with NE-ISO
- Organizational and operational status quo is insufficient to address energy related issues
 - ❑ A comprehensive energy plan (all sectors) could provide a unifying structure for energy entities, and enhance electric planning and energy program delivery
 - ❑ Connecticut must devote sufficient capacity to fulfill CEAB's current responsibilities

Key Conclusions and Potential Recommendations: State Organization and Enablers (Buckley)

Potential Recommendations

- Prohibition of State agencies' participation in IRP should be lifted
- Improve Transmission Planning Process through
 - ❑ Better needs assessment
 - ❑ Including State specific interests
 - ❑ Proactive Solicitation of Alternatives and
 - ❑ Additional State involvement in ISO processes

Key Conclusions and Potential Recommendations: State Organization and Enablers (Buckley)

Potential Recommendations (continued)

- State organizational and operational structures could be improved by
 - ❑ Enhancing capabilities within existing organizations
 - ❑ Adopting the CASE alternative – stakeholder group and energy coordinating council
 - ❑ Establishing a new CT comprehensive energy department