# Governor's Council on Climate Change (GC3) MEETING MINUTES

**Meeting Date:** January 19, 2018
**Meeting Time:** 1:30 — 3:30 p.m.
**Meeting Location**: CT DEEP,
Gina McCarthy Auditorium,
79 Elm Street, 5th Floor, Hartford

## ATTENDANCE

| Council Member | Title | Organization | Present |
|---|---|---|---|
| David Robinson | Chief Counsel | The Hartford | Y |
| Claire Coleman | Climate and Energy Attorney | Connecticut Fund for the Environment | Y |
| Melody Currey | Commissioner | Department of Administrative Services | N |
| Katie Dykes | Chairperson | Public Utilities Regulatory Authority | Y |
| T.J. Hanson | Product Director | Thule, Inc. | N |
| John Humphries | Organizer | CT Round Table for Climate & Jobs | Y |
| Rob Klee (chair) | Commissioner | Department of Energy & Environmental Protection | Y |
| David Kooris | Director of Rebuild by De-sign and National Disaster Resilience | Department of Housing | Y |
| Bryan Garcia | President and Chief Executive Officer | Connecticut Green Bank | Y |
| David Elder on behalf of Commissioner James Redeker | Supervising Transportation Planner | Department of Transportation | Y |
| James O'Donnell | Executive Director | Connecticut Institute for Resilience and Climate Adaptation | Y |
| Catherine Smith | Commissioner | Department of Economic & Community Development | Y |
| Lynn Stoddard | Director | Institute for Sustainable Energy | Y |
| Michael Sullivan | Acting Undersecretary for Comprehensive Planning and Intergovernmental Policy | Office of Policy and Management | Y |
| Katherine Wade | Commissioner | Connecticut Department of Insurance | N |

| Associated Staff | Title | Organization | Present |
|---|---|---|---|
| Keri Enright-Kato | Director | DEEP Office of Climate Change, Technology & Research | Y |
| Jeff Howard | Environmental Analyst | DEEP Office of Climate Change, Technology & Research | Y |
| Stanley McMillen | Consultant | | Y |
| Paul Miller | Deputy Director & Chief Scientist | Northeast States for Coordinated Air Use Management | Y |
| Jason Rudokas | Policy Analyst | Northeast States for Coordinated Air Use Management | Y (phone) |
| Mary Sotos | Deputy Commissioner | Bureau of Energy & Technology Policy, DEEP | Y |

## AGENDA & NOTES

### Welcome & announcements
*Rob Klee, Commissioner, DEEP*

- Excited to kick off today's meeting and share enthusiasm for the upcoming legislative session. DEEP intends to put forth legislative proposals with climate change in mind.

- Deputy Commissioner Mary Sotos and her staff have been working very hard to finalize the Comprehensive Energy Strategy, which puts forth recommendations to:
    - increase the state's renewable energy commitments;
    - develop sustainable funding models for energy efficiency; and
    - accelerate deployment of zero-emission vehicles.

- Coming to a consensus on the mid-term target is timely as we head into the legislative session.

### Review and meeting objectives
*Keri Enright-Kato, DEEP*

- At our November meeting we reviewed electric-sector sensitivities that evaluated the effect of increasing levels of zero-carbon electricity (60-80%). The cleaner the electric grid, the more flexibility we have in the building and transportation sectors.

- A high zero-carbon electric sector allowed for a lower penetration rate of renewable thermal technologies. These sensitivities provided the council with a good sense of how we might want to lean on one sector over another as we set the 2030 target and develop strategies to achieve it.

- At our October meeting the REMI analysis demonstrated that much of the projected economic and jobs growth resulted primarily from building-sector strategies – heat pump deployment and thermal energy efficiency. Important to note that this analysis optimistically assumes, with a few exceptions, that technology deployment is driven by private investment.

- At our November meeting the council requested to review a 45% mid-term target scenario and an updated REMI analysis. Also at the request of the council, DEEP staff also committed to developing sector specific potential policy options for the council to consider. A resource document outlining potential policy options was provided to council members prior to the meeting.

- A correction of an error in the graph displayed at the November meeting: "Assessment of 2030 interim GHG reduction targets." The targets were mislabeled and needed to be shifted upwards. For example, the 40% target was mislabeled as the 35% target, and 45% target was mislabeled as the 40% target. Revised graph shows actual values of each target, including linear point in 2030, about 43%.

### Scenario Update
*Jason Rudokas, NESCAUM*

- Review of 40% and 45% midterm target scenarios for electric, buildings, and transportation sectors.

- Inputs for and assumptions for each sector included:

- o Electric sector: electric energy efficiency and renewable and carbon free electricity generation.
  - o Building sector: thermal energy efficiency and renewable thermal deployment
  - o Transportation sector: EV deployment, heavy-duty electrification/alternative fuels, passenger and freight rail electrification, short haul truck electrification/alternative fuels, and vehicle-miles-traveled reductions.
- The LEAP data out puts were utilized as inputs for the REMI analysis.

**REMI Scenarios**
*Stan McMillen, Consultant*

- Review of combined economic implications for 40% and 45% cases:

  - o Important to note that combined view does not merely add up impacts in individual sectors; it accounts for synergistic interactions between them.

  - o For both cases, modest (fraction of one percent) increases in jobs, GDP, state revenue, state expenditures.

- Review of sector-specific implications:

  - o Individual sector snapshots are kept independent of each other in order to highlight the relative contribution and direction of each.

  - o Transportation — in both the 40% and 45% cases, jobs, GDP, and state revenue are up slightly, while; state expenditures are down slightly.

  - o Buildings (residential/commercial thermal) — in both the 40% and 45% cases, there is modest increases in jobs, GDP, state revenue, and state expenditures.

  - o Electricity sector —update on inputs incudes using actual Connecticut $/kWh rates, whereas October analysis utilized the regional average. For both the 40% and 45% cases, there is a slight decrease in jobs, GDP, state revenue, and state expenditure.

- Conclusion: Impacts on jobs, GDP, state revenue, and state expenditures are small but not insignificant. The buildings sector drives most of the economic and fiscal impact

- Illustrative examples of approximate potential public incentives and private costs:

  - o Estimated cost of 5 more years of CHEAPR incentives to deploy 43,000 ZEVs: $64 million.

  - o Estimated costs for 5-year investment in Level 2 and 3 charging stations: $54-77 million.

  - o Estimated cost of incentive to deploy RTT for 5 years: $51 million at $300/household to $340 million at $2,000/household.

**Policy and Mid-term Target Discussion**
*Facilitated by Rob Klee, Commissioner, DEEP*

- The executive order requests the GC3 to identify a mid-term target that, if met, puts the state on a trajectory to meet the 2050 goal.

- A mid-term target selection less stringent than a linear reduction may create uncertainty in meeting the 2050 target; however, one caveat to this approach would be if the council were to assume there will be significant improvements in technology and cost reductions in later years.

- Concern that 2030 target will be legally enforceable and thus must be achievable utilizing current technologies.

- Discussion on economic costs and benefits, ratepayer impacts, and co-benefits.

- Recognition that there is uncertainty in achieving the penetration rates needed for renewable thermal deployment, especially if electricity rates were to increase.

- Discussion on the value of CT leading and demonstrating success in achieving its reduction targets.

- GC3 should work to support good corporate citizenship since many companies are putting forth their own ambitious climate and sustainability goals.

- A call for consensus on a 45% reduction from 2001 levels by 2030 with an agreed upon GC3 set of principles to accompany the recommendation.

- Full council consensus on recommending a 45% reduction and developing a set of accompanying principles to include the following elements:
    - Prioritize largest and most cost effective GHG reduction investments
    - Recognition of the importance of modernizing and decarbonizing transportation, heating systems, and electricity generation
    - Foster and leverage business innovation
    - Comprehensive planning and regular review
    - Recognition of co-benefits
    - Recognize the challenge and uncertainty
    - Equity
    - Citizen engagement

- DEEP staff will further draft principles for review and editing by full GC3 over email.


**Public Comments**

*Henry Link, Enviro Energy Connections*
- (1) Despite raid of Green Bank and EE funds, there is a serious need to fund Lead by Example. (2) Despite Pres. Trump's efforts to roll back climate action, it's occurring anyway. Municipalities and states are moving ahead. Sustainable CT will advance climate action at municipal scale. Energy efficiency is crucial, and efforts should be made to inhibit legislature from taking further funds. (3) Since the measures needed to address climate change have so many important co-benefits, maybe it would be helpful for the Council to emphasize these more and emphasize climate less.

*Huân M. Ngô*
- As a research scientist, he believes Council has erred in not bringing human health impacts into focus. Because it has failed to account for health costs of climate change and health benefits of climate change mitigation, Council's work rests on an unrealistic foundation.

*Ray Albrecht – National Biodiesel Board*

- Concerns about cost are on target. Biodiesel industry could meet 80% target (for 2050) by 2030, if asked. Encourages: (a) broadening of Renewable Portfolio Standard program to encompass all fuels; and (b) consideration of dynamic pricing and real-time RECs. Fuel flexibility is needed in all sectors in order to make energy system nimble. If widely employed in electricity sector, biodiesel could have held off grid impacts of January 19, 2018, cold spell.

*Daniel Gatti – Union of Concerned Scientists*

- GC3's EV penetration vision is aggressive. Could be at around 8% by 2025; so GC3 is aiming very high. CA is funding EVs with cap-and-trade revenues; CT depends solely on RGGI, which provides less revenue.

**NOTE:**  *Slides are available on GC3 web page:  www.ct.gov/deep/gc3*