

**CLIMATE CHANGE ADVISORY COMMITTEE
MEETING MINUTES**

February 6, 2018

10:00 a.m. – 2:00 p.m.

Conference Room 105

Rachel Carson State Office Building

MEMBERS/ALTERNATES PRESENT:

Chairperson Steve Krug, Vice-Chairperson Terry Bossert, Sara Nicholas, Regi Sam (alternate for Joseph Sherrick), Paul Opiyo, Lindsay Baxter, Grant Gulibon (alternate for Luke Brubaker), Zakia Elliott, George Ellis, Robert Graff, Mark Hammond, Patrick Henderson, Gary Merritt, Marc Mondor, and Meredith Graham (alternate for Mike Winek)

MEMBERS ABSENT:

Rep. Ryan Bizzaro

PROXY VOTING:

None

PA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) STAFF:

John Krueger, Jessica Shirley, Kerry Campbell, LeeAnn Murray, Robert 'Bo' Reiley

INVITED GUESTS: Anne Choate and William Prindle (ICF Inc.), Rob Altenburg (PennFuture), Adam Agalloco (City of Philadelphia)

MEMBERS OF THE PUBLIC:

Bob Barkanic (The Barkanic Group, LLC)

REGULAR MEETING:

The February 6, 2018, regular meeting of the Climate Change Advisory Committee (CCAC) was called to order at 10:00 a.m. by Chairperson Steve Krug. With 14 of 16 seated members present at the start of the meeting, a quorum was established.

MINUTES:

The minutes of the December 4, 2017, CCAC meeting were presented to the committee by Mr. Krug for approval. A motion to accept the minutes, as presented, was made by Mr. Ellis and was seconded. The motion carried by voice vote.

MEETING SUMMARY: (This narrative provides a summary of the discussions that took place during the meeting. It is not a transcript of the proceedings.)

Membership Update:

The CCAC now carries five vacancies (one Senate majority, one Senate minority, one House minority and two House majority). DEP continues to work on filling these vacancies.

PA Agency Presentation:

Finding PA's Solar Future

Mr. Rob Altenburg of PennFuture and Mr. Kerry Campbell of DEP's Office of Pollution Prevention and Energy Assistance (OPPEA) offered the CCAC an overview of an ongoing 30-month scenario planning and stakeholder engagement project to identify paths that Pennsylvania can take to having 10% of consumed power being produced by in-state solar energy by 2030. This project is being done to provide policymakers with information upon which to base future decisions and is not binding. Partners for this project, funded by the U.S. Dept. of Energy, include Pennsylvania DEP, PennFuture, VEIC, Dr. Jeffrey Brownson of Penn State, Sharon Pillar, Maureen Mulligan, Ron Celentano and over 300 stakeholders from utilities, the solar industry, academics, consumers and other interested parties.

The group holds quarterly meetings, with the next stakeholder review on March 8, an academic review in April, and release for public comment in June.

The scenarios looked at having varying ratios of solar power provided by small-scale installations (Distributed Capacity) versus large installations (Grid Scale Capacity). The reference scenario established predicts that only 1.2 gigawatt (GW) (0.5%) of the state's energy would come from solar by 2030 with distributed capacity and grid scale capacity contributing 0.6 GW each. Current capacity is approximately 300 megawatts. Capacity would have to increase to 11 GW to achieve the 10% goal in 2030. Currently, the focus is on two scenarios. 'Solar A' would lean more heavily on small scale generators with 3.9 GW (35%) being distributed capacity and 7.1 GW (65%) coming from grid scale suppliers. 'Solar B' envisions a much higher percentage coming from large suppliers with 1.1 GW (10%) being distributed capacity and 9.9 GW (90%) coming from grid scale suppliers.

The additional costs of 'Solar A' and 'Solar B' would be \$8.8 - \$10.3 billion, or 1.2% - 2.4% above the reference scenario. However, they would reduce greenhouse gas emissions economy-wide by 2% - 3% and generate 100,000 construction jobs and 1,000 permanent jobs.

The committee asked questions concerning the various technical assumptions made; if 10% is a goal and how it was set; if other energy sources were undergoing the same process; the availability of the draft. Mr. Altenburg and Mr. Campbell explained the assumptions made; clarified that the 10% was level set for modeling purposes and is not being recommended for the Alternative Energy Portfolio; explained that only solar was being looked at this time; and that a draft has been released to the stakeholders.

Outside Agency Presentation:

Municipal Energy Master Plan for the Built Environment

Adam Agalloco of the City of Philadelphia's Office of Sustainability gave a presentation on the City's plan to not only meet the Paris Climate Agreement obligations by reducing carbon emissions 26 - 28% by 2025, but also meeting a global standard of reducing carbon emissions 80% by 2050 and the pledge by Mayors for Clean Energy to transition Philadelphia's municipal energy usage to 100% renewable energy by 2030.

Some of the means to achieve these goals is to lower the City's energy use by switching to LED street lighting; ensure that new and renovated municipal buildings are designed with improved

building controls, LED lighting, occupancy sensors and improved HVAC systems; and establish policy, program and system changes. Examples are the new police station and the art museum, with the Corrections facilities next. The City also plans to meet its energy needs by generating its own clean energy onsite while seeking to obtain 20 - 40% of its electricity as renewable energy through a Power Purchase Agreement.

The committee asked questions concerning the City's power purchase agreements and whether the City was going to adopt the 2015 Building Code vs 2018 Building Code. Mr. Agalloco explained the nuances of the City's power purchase agreements and that the Mayor is advocating that City Council adopt the 2018 Code.

Public Comment(s):

None

ICF – Work Status Update:

Anne Choate and William Prindle of ICF, Inc., discussed ICF's progress on the Climate Action Plan (CAP). The ICF presentation covered the Energy Business as Usual (BAU) Assessment Draft Results, Energy Resource Potential Assessment Methods Review and other status updates.

With the Energy BAU Assessment, ICF is summarizing past and predicted energy production and consumption trends in Pennsylvania by sector (residential, commercial, industrial and transportation) and fuel type (fossil, alternative and renewable fuels).

Key Conclusions from the Energy BAU:

- Electricity demand growth is flat in the buildings sector, rising in industry and transport
- Fossil fuel consumption is falling overall, though natural gas and propane use is rising
- Fossil fuel production is booming, much of it exported
- Renewable fuel production rising, but still only projected to be 5% of fossil production in 2050 (does not include fuels or resources used for electricity generation)
- Renewable electricity generation is rising and is projected to be ~30% of total generation in 2050
- GHG emissions in 2050 are 12% below 2005 levels, but up slightly from 2015
- Energy expenditures rise modestly, but energy intensity falls by more than half

Final Steps for the Energy BAU:

- ICF has received a round of feedback from DEP
- Revised numbers and report will be delivered to DEP in early February
- CCAC to provide feedback on what ICF has presented today by February 19
- Final feedback from DEP will be addressed in the Comprehensive Energy Assessment Report, which will combine the Energy BAU and the Energy Resource Potential Assessment
- CCAC will have an opportunity to review and comment on this combined report in April 2018

Mr. Prindle then went over the objectives, approach and data being used to develop the Energy Resource Assessment Methods Review.

The objective of this review is to develop technical and economic energy resource potential by sector for Pennsylvania's resources. For this analysis a resource is defined as a physical commodity or a

technology that can be utilized to drive energy efficiency, fuel production or power production.

The approach to this analysis will be to:

- Develop supplemental resource assessments
- Define sectoral energy resource opportunities
- Develop environmental impact and economic benefit and cost estimates
- Produce task summary and spreadsheet(s)

Mr. Prindle then went over the data sources for the following areas being used in the study:

- Energy Efficiency and Conservation
- Fossil Fuels and Nuclear
- Renewables
- Enabling Technologies

ICF asked the following questions of the CCAC:

- Does the CCAC have any recommendations for data or information sources that should be considered?
- Are there any energy resources the CCAC believes will be particularly important to focus on in the assessment?

The next steps for the Energy Resource Assessment are:

- ICF and DEP will work to finalize numbers and associated write-up by the end of February 2018
- Results and write-up will be integrated in the Comprehensive Energy Assessment Report, which will combine the BAU Assessment and the Energy Resource Assessment
- CCAC will have an opportunity to review and comment on this combined report in the April 2018 timeframe

Anne Choate then gave an update on other studies that ICF and DEP are working on, including:

- Development of Clean Energy and GHG Reduction Strategies and Economic Analysis
 - Establish possible GHG goals through review of other plans
 - Long-term aspirational goal: 80 by 50 (80% reduction in GHGs by 2050, 2005 baseline)
 - Short-term goal: Reduction 28% below 2005 levels by 2025 (aligns with Paris Agreement)
 - Established analysis parameters and setting up model
 - Beginning to think through potential strategies as Energy Resource Assessment is being conducted
 - Analysis will occur through spring and summer 2018, and results will be shared via CCAC meetings
- Adaptation Strategy Assessment
 - Received feedback from a number of Agencies and Departments
 - DEP, Department of Conservation and Natural Resources, the Public Utility Commission, Department of Health, Department of Community & Economic Development, and PennDOT
 - Will align adaptation strategies with clean energy and GHG mitigation strategies and sectors where feasible (e.g., energy efficiency) in winter/spring 2018

- When this alignment occurs, will prepare summary writeup in spring 2018
- Results may be presented to CCAC in April 2018
- Climate Action Plan Report
 - Working through an outline that addresses mitigation and adaptation in an integrated fashion where possible
 - CAP organization will be presented to CCAC in April 2018
 - Draft report anticipated to be shared with the CCAC in late summer 2018
 - Report will be finalized in fall 2018

Further Discussion:

Mr. Graff raised the issue that the term for the committee's officers may be reaching its conclusion and noted the committee should be holding elections soon.

Chairman Krug started extended discussion of whether to include information concerning RGGI and Pennsylvania non-participation. No consensus was reached other than to make a few factual statements about its existence. Chairman Krug also started a discussion of the process the committee will follow to review and comment on the mitigation strategies in the new Climate Action Plan. The consensus was that the past, elongated, iterative process was not possible or even preferable. Mr. Hammond requested a shortened process, but one that allows the committee members adequate time to review the strategies. Mr. Krueger committed to working internally and with ICF to give the committee as much time as possible to review the documents. Mr. Graff recommended that time be set aside in a future meeting to review vacancies and officer terms and elect new officers.

Adjournment:

A motion to adjourn was made and seconded. The motion carried, and the meeting was adjourned at 3:00 p.m.

ADMINISTRATIVE ITEMS:

Post PennFuture/OPPEA's, ICF's and the City of Philadelphia's Office of Sustainability PowerPoints to the CCAC website.