



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Energy Programs Office

Climate Change Advisory Committee Meeting

December 22, 2020

Tom Wolf, Governor

Patrick McDonnell, Secretary

Agenda

- Introduction
 - Approval of October minutes
- Summary of CCAC Feedback
- ICF Presentation on 2021 Climate IA
 - 2021 IA discussion
- ICF Presentation on 2021 CAP
 - 2021 CAP discussion
- Break (10 min)
- Public Comment (15 minutes)
- DCNR Presentation on CCUS
 - CCUS discussion
- Update on Proposed Cap and Trade Regulation
- New Business, Next Steps/Next meeting

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Tentative 2021 IA/CAP Review Timeline

Meeting Date	Materials	Shared w/ CCAC	Feedback Requested
12/22/2020	<ul style="list-style-type: none"> - Draft Final IA with refined findings - Initial CAP Draft: - Refined list of mitigation strategies and draft GHG mitigation results - Enabling technologies characterization 	12/15/2020	1/12/2021
2/23/2021	<ul style="list-style-type: none"> - Final IA with refined findings - Updated Draft CAP with supporting analysis information incorporated (GHG mitigation results, enabling technologies, adaptation pathways) - Initial economic and co-benefits information, as available 	2/9/2021	3/2/2021
4/27/2020	<ul style="list-style-type: none"> - Draft Final CAP and supporting analysis information, including all near final economic and co-benefits analyses 	4/13/2021	5/4/2021
6/22/2021	<ul style="list-style-type: none"> - Final CAP 	6/15/2021	TBD (letters)

Outcomes of CCAC Oct. Feedback

Materials Provided for Review	Committee Members Who Provided Feedback	# of Written Comments and Questions
October 2020 ICF CCAC Meeting Slides	Written Feedback – 1 *Verbal Feedback (During the October 27 th meeting) - 10	17
2021 Impacts Assessment Initial Draft	Written Feedback - 1	4
BAU Scope and Methodology Memo	Written Feedback - 2	3
Working List of GHG Reduction Strategies - 2021 PA CAP	Written Feedback (PDF) – 1 Written Feedback (Google Form) - 9	PDF – 9 Google Form – 14 (across all responses)

Outcomes of CCAC Oct. Feedback

2021 Impacts Assessment Initial Draft

- **Projection of climate changes by 2050 and through 2100:** The IA will include projections for climate changes in Pennsylvania through 2100, and include a qualitative discussion of changes beyond 2100. To inform near-term adaptation planning decisions, the risk ratings will focus on changes by 2050, but the adaptation portion of the CAP will consider impacts beyond 2050 as appropriate.
- **Updates on climate projections:** The IA will include a discussion of projected changes in precipitation patterns, including extreme events such as cloudbursts.
- **Existing risk assessment methodologies:** The IA will include a section in the next draft that provides a comparison between the National Climate Assessment, IPCC, and state criteria for likelihood/probability ratings to educate people on the differences and similarities in terms of methods and terminology.

Outcomes of CCAC Oct. Feedback

2021 Impacts Assessment Initial Draft, cont.

- **Document format/terminology:**
 - A glossary of terms will be included (e.g., defining terms such as critical threshold).
 - The dynamic nature of climate changes will be reflected in section headings (e.g., Increasing temperature as opposed to Increased Temperature).
- **The IA will identify possible opportunities that may come from climate change**, such as increasing yields from certain crops and less energy consumption for heating.

Outcomes of CCAC Oct. Feedback

BAU Scope and Methodology Memo_10.13.20

- **Electricity Production Emissions Factors:**
 - DEP will be using marginal emission factors to represent reductions related to distributed and renewable resources and energy efficiency. The analysis will not focus on peak and off-peak variations.
 - Two sources of electricity emission factors will be used. Historical electricity emission factors will rely on the most recent set of published eGrid data and those used to develop GHG inventories back through 2005. Future or projected electricity emission factors will come from ICF's IPM model, which will provide emission factors specific to Pennsylvania
- **Data Presentation:** The GHG inventory and BAU emissions projections will be shown in a more informational manner, such as adjustments to show:
 - Providing tables with data along with graphics
 - Breaking out/attributing electricity generation emissions to associated sectors (e.g., buildings, transportation, industry) and exports if feasible
 - Disaggregating natural gas and oil systems emissions to show totals for gas and totals for oils separately

Outcomes of CCAC Oct. Feedback

Working List of GHG Reduction Strategies - 2021 PA CAP

- **Data Presentation:**

- Notes on presentation of GHG data and emission factors reflected in the BAU section above will also be applicable for the GHG reduction analysis.
- Additionally, DEP and ICF will ensure that strategies, such as electrification, are reflected both in total GHG emissions related to power generation (broken out by sector and exports) and informationally reported as emissions related to the residential and commercial or transportation sectors.
- The CAP will also communicate the electricity accounting approach clearly where generation emissions are reported as part of the sector totals, but consumption emissions are also included for information purposes.

Outcomes of CCAC Oct. Feedback

Working List of GHG Reduction Strategies - 2021 PA CAP, cont.


- **For the enabling technologies, adjustments will be made to:**
 - Expand the discussion of energy storage to be beyond batteries
 - Include a discussion on carbon offsets and how they could be used to meet or exceed Pennsylvania's goals
 - Provide more specificity as to whom resources will be targeted for (e.g., on DAC) and what the role of technologies may be (e.g., disruptive digital)
- **Include or expand discussions of equity where feasible**, such as considering how we phrase the discussion around environmental justice. If we are going to state that low-income communities are not benefitting from certain programs, we need specific citations to back this up.
- **GHG Emissions Boundaries:** The GHG analysis will focus on emissions from within the boundaries of Pennsylvania. Consistent with the Pennsylvania GHG Inventory, similar state climate planning and analysis efforts, and with the Pennsylvania GHG goals, this analysis will draw a boundary geographically within the Commonwealth

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Break (10 min)

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New Business/Next Meeting

2021 Regular Meeting Dates:

- **Tuesday February 23, 2021 (WebEx)**
- Tuesday April 27
- Tuesday June 22
- Tuesday August 24
- Tuesday October 26
- Tuesday December 14