

**CLIMATE CHANGE ADVISORY COMMITTEE
MEETING MINUTES**

August 24, 2021

9 a.m. – 12 p.m.

Via WebEx

MEMBERS/ALTERNATES PRESENT:

Chairperson Steve Krug	Patrick Henderson
Vice-Chairperson Marc Mondor	John Bell (for Luke Brubaker)
Greg Czarnecki (for Cindy Dunn)	Jaret Gibbons
Stephen McCarter	Kimberly Kipin-McDonald
Robert Graff	Gary Merritt
Glendon King (for Representative Metcalfe)	Zachery Smith
Alissa Burger	Representative Sara Innamorato
Joe Sherrick (for Gladys Brown Dutrieuille)	Terry Bossert
Adam Walters (for Dennis Davin)	Lindsay Baxter

MEMBERS ABSENT:

Zakia Elliot, Jim Felmler, Paul Morris

PA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) STAFF:

Kerry Campbell, Lindsay Byron, Heidi Kunka, Dave Althoff, Darek Jagiela, Sarah Pinter, Andrew Hansrote, Allen Landis, Amanda Eyer, Meredith Dibert, Michelle Ferguson, Taylor Nezat, Kimberly Yeakle, Vijay Teru, Megan Porta, Keith Salador, John Krueger

INVITED GUESTS:

Dr. Sunita Satyapal

MEMBERS OF THE PUBLIC:

Sam Lehr, Eli Brill, Benjamin Dannels, Michael Yoder, David Hess, Evan Endres, Curtis Schreffler, Michael Hill, Andrew Gavin, Clint Cullison, Josie Gaskey, Romeo Smith, Peter Gleason, Erin Lynam, Rachel Gleason

MEETING:

The August 24, 2021 meeting of the Climate Change Advisory Committee (CCAC) was called to order at 9:04 a.m. by Chairperson Steve Krug. With 12 of 21 seated members present at the start of the meeting, a quorum was established.

MINUTES:

The minutes of the June 22, 2021 CCAC meeting were presented to the committee for approval. A motion to approve the minutes was made by Mr. Graff and seconded by Mr. Bossert. There were no requests to edit the minutes by any members. The motion to approve the minutes carried by a voice vote and passed.

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

Summary of CCAC Letters

Ms. Byron gave an overview of the letters received from CCAC members. DEP received letters from eight members to be appended to the final 2021 CAP. Mr. Graff inquired when the final report would be released. Ms. Byron answered the target is the week of September 20th.

2021 GHG Inventory Report

Ms. Byron gave a presentation on the 2021 GHG Inventory Report. The 2018 data shows a net emissions increase from 2017. This is the second consecutive year with a GHG increase. Emissions increases occurred in the Residential, Commercial, Industrial, and Agricultural sectors. Emissions decreases occurred in the Transportation and Electricity Production sectors.

Committee members had several questions regarding the 2021 GHG Inventory Report. Mr. Mondor asked if the dramatic decrease in GHG emissions from electricity production could be caused by more efficiency in combustion or transmission or is it just from moving from coal to gas. Ms. Byron answered that she thought it was primarily caused by the change in fuel source but would need to check the data to confirm.

Mr. McCarter asked if there is a way to expedite reporting in the future, so reporting is not three years behind. Ms. Byron answered that DEP has been participating in workgroups with the U.S. Climate Alliance where this topic has been brought up. There is no solution at this time, but DEP is hopefully in coming years this will be addressed. Mr. Mondor added that there are other variables to keep in mind in terms of emissions reduction, such as the economy during that time.

Mr. Henderson commented that term renewables could be broken down more in the future. Mr. Henderson also asked going forward any context could be provided in terms of how many customers or homes were served. Ms. Byron answered that she did not have that information readily available, but she can look into it.

Ms. Byron mentioned that the 2021 GHG Inventory Report has not been finalized yet so if committee members have any feedback on the presentation, they can email her by the end of the week. Mr. Graff asked if the State Inventory Tool needed to be used. Ms. Byron replied that there is no requirement to use this tool, however it is the one most readily available and has been used in the past. Ms. Kipin-McDonald asked if there is ever any consideration for importing greenhouse gas data using CDP (a greenhouse gas disclosure system). Ms. Byron replied that no, not that she is aware. Ms. Kipin-McDonald commented that she thought it might be useful to consider in the future. Mr. Krug asked when the final report would be published. Ms. Byron answered that it would be posted online next week.

Public Comment(s)

There were no public comments provided at this meeting.

Hydrogen Technology Presentation

Dr. Satyapal of DOE gave a presentation on Hydrogen Technology. She started the presentation with a brief introduction to hydrogen as an energy carrier that can be produced from diverse resources, and which has many applications. She then discussed the DOE initiative, H2@Scale and

provided a snapshot of hydrogen and fuel cell applications in the U.S. She continued by giving an overview on the analysis that determines market potential scenarios and went over pathways to reduce cost of clean hydrogen. She also talked about the focus on benefits in underserved communities. She ended the presentation by providing information on the global center for hydrogen safety and mentioned upcoming opportunities for engagement.

Mr. Bossert inquired about the safety of hydrogen since it is highly flammable. Dr. Satyapal responded that, like other fuels, hydrogen is flammable, and proper handling is important. The industry has safety procedures in place.

Mr. Graff asked what the threshold price for hydrogen would make it competitive as a fuel source for passenger vehicles. Dr. Satyapal answered that \$4/kg was calculated. Mr. Hill (member of the public) asked where the presentation shows the 2025 and 2030 hydrogen cost goals, what load factor is being used to assume the breakdown of electricity vs. electrolyzer capital costs. Dr. Satyapal responded that the challenge with electrolyzers is low capacity factors, over 40% or 50% is needed to recuperate the capital costs.

Mr. Merritt asked what the technical issues are when burning hydrogen and what emission problems do you see, such as thermal and NOx. Dr. Satyapal answered that it is true you can see NOx emissions and that is one of the areas of research that is being looked at. She said that there have been developments for vehicles that have resulted in low criterial pollutants.

Mr. Czarnecki questioned the carbon footprint of blue hydrogen, citing a study that came out last week in the Journal of Energy Science and Engineering. Dr. Satyapal agreed that the upstream emissions and the fugitive methane emissions contributed to the conclusions of the study. She also mentioned the study was a little misleading, due to the assumptions that methane would be used to synthesize hydrogen and that hydrogen would be used to power turbines, rather than the methane being used to power the turbines directly. Mr. Henderson made a comment that reduction of emissions is only one factor with respect to energy, but it is not the only one (affordability, diversity of portfolio, energy poverty, national security/geopolitical implications, etc.). A fuel source's carbon output should not be the only factor in evaluating its worth.

EPO's Clean Energy Program Plan Presentation

Mr. Althoff gave a presentation on EPO's Clean Energy Program Plan. The plan was developed in collaboration with EPO partners and consultants. The plan includes EPO's purpose and mission, near-term planning suggestions and tools, suggestions on measurement and evaluation, and forward-looking priorities. The plan also has an emphasis on equity, with an understanding that the effects of climate change are growing, and the burdens of climate change are not equally distributed. The plan also includes guidance on ensuring success. Mr. Althoff finished the presentation by going over project recommendations that are included in the plan and discussing progress on some specific recommendations.

Mr. Krug asked if there are any scholarship opportunities for technical schools, apprenticeships, and internships. Mr. Althoff answered that these conversations are currently taking place with PA's

Department of Labor and Industry. Mr. Henderson commented that the term clean energy can be a bit of a misnomer when some sources are not looked at in terms of a full life cycle. Mr. Henderson inquired on the education front; what efforts are in place to increase energy awareness within the community. Mr. Althoff responded the name of the document was chosen to link it to energy and DEP's mission. Regarding education and outreach, general information is shared with the public through things like the Farm Show and local communities to make the connection to energy. Mr. Merritt questioned if the Oil and Gas Office has been preparing any work based on the Federal infrastructure bill that passed in the Senate. Mr. Althoff answered that while he is sure that the Oil and Gas Office is aware of potential opportunities that may be resultant of the infrastructure bill he has not had any conversations with the Oil and Gas office specifically regarding their preparation.

New Business/Next Steps

The next meeting is Tuesday, October 26th, and will be held both in person in room 105 of the Rachel Carson State Office Building, and via WebEx.

Adjournment

A motion to adjourn was made by Mr. Mondor and seconded by Mr. Czarnecki. The motion carried, and the meeting was adjourned at 11:25 PM.

DRAFT