

Climate Change, Energy, and Environment Commission  
(C2E2)

Summary of June 24, 2024

Hybrid meeting

**Members Present:** Joan McIntyre, Vice Chair; Eric Gibbs, Mark Greenwood, Doug Snoeyenbos, Jonathan Morgenstein, Elizabeth Whitney, Joe Trivette, Mikaila Milton, Rob Sandoli, Kevin Vincent, Trevor Montano

**Members Virtual:** Majdi Shomali

**Members Absent:** Cindy Lewin, chair, David Evans

**Guests Present:** Paul Snodgrass, resident; Jen Hazen, resident

**Guests Virtually:** Demetra McBride (DES-OSEM)

**Staff Present:** Jenna Peabody (DES-AIRE)

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**Public comment**

No public comment.

**Carbon Neutral Transportation Master Plan (CNTMP)**

Demetra McBride gave a presentation on the prelaunch review of the Carbon Neutral Transportation Master Plan for stakeholders, starting with C2E2. She provided a background, discussed the development process, core goals, objectives, key initiatives, proposed budget initiatives, and next steps. She also discussed the county's first comprehensive greenhouse gas inventory conducted in 2000, the launch of the county's first community energy plan in 2010, and the adoption of the first Community Energy Plan (CEP) in 2013. She mentioned the launch of the Carbon Neutral Transportation Master Plan, which was a primary action under the first CEP roadmap.

Demetra also discussed the top-level policy documents for transportation, including the master transportation plan and the Community Energy Plan. She mentioned the supportive implementation frameworks and operationalization plans that roll up into these grander policy documents. She also mentioned the ART Zero Emissions Bus study, and the transit strategic plan. She discussed the development process of the Carbon Neutral Transportation Master

Plan, which included formative workshops, development, internal workshops, outreach to key stakeholders, and bringing everyone together to look at core actions and implementing the five-year action program. She mentioned that they would be briefing the county manager soon and continuing the dialogue with C2E2.

Demetra also discussed the dedicated initiative to APS under the Carbon Neutral Transportation Master Plan, which included a technical memorandum on their bus fleet and the decarbonization infrastructure. She mentioned two different scenarios for parking at the Trade Center to accommodate the charging infrastructure. She also discussed their method for EV site charger siting and showed a map of where there were already clusters of public chargers. She mentioned three different greater corridors where there would be concentrations. She ended by discussing how and where they should map and cite public use.

Demetra had discussed where the transportation corridors for Electric Vehicle Supply Equipment (EVSE) were and where they thought there would be growth in localized EV ownership or circulation of EV ownership. They considered the traffic corridors and the main origin and destination points in these areas. They had conducted a great deal of analytics and metrics that went behind the siting of the EVSE. They had done an actual deep drill down study for the area in orange and looked at where they might site specific charging infrastructure, not just in public spaces or government facilities that have public access for public use, but also they looked at the possibility of public-private partnerships. They had looked at private areas and other areas such as churches. They did not have the data that was necessary to really do this kind of analytical mapping.

Trevor Montano had asked how these charging stations would work, who would be paying for them, how much they cost, and if they were renting real estate.

Demetra had explained that they had an interim rate ordinance that they had adopted. It was never intended to really be in place for more than a year - 18 months and they were in the process of starting to talk about the permanent rate ordinance. This would be on public sites that they could control. Other than that, the market would control. If there was charging infrastructure on private land, they would be in charge along with it. It could be a number of different vendors that they may use in the market right now. They were just starting out early on in developing a proposal for the adoption of the permanent ordinance and not just an interim one. Theirs was at 14.5 cents per kWh. In the interim, they were looking just to cost recovery in the program and actually that hadn't happened. But what they got out of that, which was really important, was a number of different sites that they had been tracking the metrics up. So they did have a sense of, at least in those areas and if those sites such as the Aquatic Center, what was the general usage pattern of that charging infrastructure. They were probably going to be saying more about this soon. They just got the data and they were crunching it, but it looked like the actual use of those chargers was anywhere from 7% on up to 20%. And oddly enough, the national average for charging infrastructure in a public space for public use was generally at the high end of around 15 to 18%. So 20% was actually high. And not surprisingly, that area, those chargers were in Fairlington.

Trevor asked about the cost of charging a car at home with Dominion power, which was around \$0.12 per kilowatt. He also inquired if Fairfax's rate of 28 or 32 cents was meant to be profitable. Demetra McBride guessed that they were probably not making any profit as most homes use a level 1 charger, while public spaces often use more expensive level 2 or level 3 chargers.

Mikaila asked about incentives for apartment buildings to include parking. Demetra mentioned that existing buildings probably didn't have incentives due to the high cost of installing chargers. She cited an example from 2023 where the cost of installing a handful of chargers in a building ranged from \$110,000 to \$250,000.

Trevor Montano brought up that some buildings, like his office in Ballston, offer free charging for a limited time. Demetra noted that sometimes employers in buildings with tenants might have transportation incentive programs.

Rob Sandoli asked about Fairfax County's calculation of \$0.32 per kWh and whether they were trying to subsidize other programs with the extra revenue. Demetra said they would be talking to Fairfax and others about this as they delve deeper into their work.

Joan McIntyre asked about the extent to which Dominion was an issue in terms of getting access to power in Virginia. Demetra brought up a recent Energy Committee meeting where they discussed the issue of grid capacity, especially with the upcoming data centers in Prince William. She expressed concern about the impact on the renewable portfolio standards and benchmarks under the VCEA.

Jon Morgenstein mentioned that Loudoun County was supposed to be adding 1.8 gigs in the next few years, but Prince William was expected to surpass that. Demetra asked about the timeline for this expansion.

Elizabeth Whitney noted that the timeline for SMR to produce and perform to scale probably didn't line up with the current needs. However, she mentioned that tech companies were willing to invest due to their own clean energy commitments, even if they had to power them with new fossil fuels in the near term. Elizabeth Whitney expressed doubt about having a Small Modular Reactor (SMR) online anywhere in the country before 2030. She noted that data centers, particularly in Northern Virginia, were coming online now and increasing demand for power resources. Demetra McBride echoed these concerns, mentioning that the electrification of buildings and transportation was also imposing new demands. Elizabeth Whitney brought up concerns about the availability of transformers, which was already a problem. She mentioned that some parts of the country couldn't hook up new developments to the grid due to a lack of transformers. This was a concern for chargers, especially if many were being installed at individual locations.

Demetra McBride questioned how Dominion was going to handle this type of demand and what it meant for the electrification of transportation. She was looking forward to the release of Dominion's Integrated Resource Plan (IRP) in October to gain more insight.

Jonathan Morgenstein asked about demand charges and escalating costs per kWh based on the amount of energy a consumer uses. He suggested that data centers, which consume significantly more energy than other entities in Northern Virginia, shouldn't be paying the same kWh rate. He mentioned that tech companies were prepared to enter into Power Purchase Agreements (PPAs) for as much as \$150 if it's clean energy. Demetra agreed with this point.

Demetra also mentioned that she had asked Drew Stilson to include scenario building in the new greenhouse gas inventory based on these concerns. She expressed concerns about the impact of data centers and AI, which is a real energy hog, on the resource portfolio. She speculated that fossil fuels might be used to bring these data centers online without causing a permanent blackout. She also wondered if there would be a pecking order in the grid amplification. These were big questions that they were starting to discuss internally.

Demetra McBride discussed the shift in focus and priority on Electric Vehicle Supply Equipment (EVSE). She mentioned that a year ago, there was a strong focus on what the government could do to drive the market for electric vehicles (EVs) and decarbonize transportation. However, she noted that there had been some rethinking of the focus on EVSE and the investments in it.

Doug Snoeyenboes asked if there had been any pushback from the public about taking up prime parking spots for EV chargers. Demetra responded that they hadn't received any complaints yet, but anticipated some after the chargers were installed. She also mentioned that they had included EVSE in two major grant applications and were exploring other forms of decarbonized transportation.

Demetra mentioned that they had recently submitted a large EPA community change grant application that included an EV car share pilot. They were also waiting for the Department of Energy to give them their media kit so they could formally launch the EECBG program, which is strictly an E-bike rebate program. They were also looking at micro-mobility and had included 'beechy boxes' in the community choice grant for secure storage of E-bikes in apartment buildings. She expressed her anticipation for potential questions and concerns from the public regarding these initiatives and changes. She also mentioned the possibility of exploring car shares and car rides as alternatives to car ownership. She emphasized the importance of familiarizing neighborhoods with EVs and looking at micro-mobility solutions.

Joe Trivette asked how public chargers were defined on a map, noting that some chargers in his neighborhood required parking passes. Demetra McBride clarified that public chargers were located at government community centers and libraries. She also mentioned that the black dots on the map represented clusters of existing charging, mostly in buildings and garages.

Joan McIntyre raised the question of how much the county should be involved in the private development of EV chargers. Demetra McBride responded that the county was working closely with transportation and transit, but couldn't drive that bus. She mentioned that the transit strategic plan was the main place to generate and incubate ideas for reimagining transit.

Demetra also discussed the main goals of reducing reliance on single occupancy vehicle trips, supporting an array of EV charging options throughout the county, and supporting the phased decarbonization of the county fleet. She mentioned that they had included EVSE in two major grant applications and were exploring other forms of decarbonized transportation.

Elizabeth Whitney asked about the transition of the county fleet of vehicles. Demetra McBride confirmed that the transition was happening and that they were not planning to buy any more internal combustion engine vehicles unless there was a compelling public safety reason. She also mentioned that the turnover of vehicles was happening on their regular schedule when their useful life was up.

Joan McIntyre asked if there was a schedule for when the anticipated decarbonization would take place, based on vehicle replacement rates and when the technology would be ready for the heavier equipment. Demetra said she could provide information on the sedans and passenger vehicles and would check with Chris Allison about the medium and heavy vehicles.

Joan also asked when they would get copies of the whole study. Demetra said they would probably get copies of the whole study and all of the appendices, which are the technical memoranda, by the end of July. She also mentioned that they would hopefully have a good working draft of the five-year action program.

## **FY 2025-2034 Capital Improvement Plan (CIP)**

Joan asked Demetra if she had any thoughts on the CIP or things they should know about what's in the CIP that they hadn't already seen. Demetra said she would try to answer any questions to the best of her ability but didn't have any comments as they were the Ports? Advisory Commission.

They also discussed geothermal energy. Joan mentioned that they had discussed encouraging a pilot project for geothermal somewhere and that they had found out that Lubber Run already has geothermal. Elizabeth confirmed that the county has good experience with geothermal and has several schools with geothermal. Despite the success of geothermal, every time they propose it, they come back and say it's too expensive and there's not enough room for it. Demetra added that in a recent briefing, a board member asked a question about geothermal and was given a similar answer.

The Commission had a discussion about geothermal energy. They noted that it doesn't require a lot of space and can be implemented in various settings, including schools and campus-like environments. They also mentioned the possibility of using companies that provide geothermal as a service. They discussed the limitations of certain areas for geothermal implementation, such as a new housing apartment complex being built. They also touched on the concept of tapping into sewer pipes for heat, which they referred to as waste heat.

They then moved on to discuss the importance of investing in natural resources. They talked about the allocation of funds for different environmental issues, including reforestation

and invasive removal. They also discussed the concept of natural areas in the context of a dense region and the need to think broadly about access to nature.

The conversation then turned to the topic of green infrastructure. They emphasized the need for creativity and expansiveness in this area, noting that simply adding more trees to natural areas would not mitigate urban heat island situations. They also discussed the concept of micro forests and the mixed reactions they received from different communities.

Finally, they discussed the use of the Decarb tool for making decisions and the need for it to be publicly available. They expressed a desire to understand how the tool works and to have a systematic way of assessing energy use intensity. They also mentioned the plan to send a letter the following day and the need to echo the point of increasing budgets for land acquisition. They concluded by discussing the projections for transition and the importance of considering these in their plans.

The Commission discussed the need for a plan regarding the implementation of effective systems, including bike lanes and electric buses. They emphasized the importance of tracing these initiatives back to key environmental targets and goals, such as decarbonization of county facilities and operations, and getting rid of fossil fuels. They also discussed the need for transparency in these plans.

The conversation then turned to the topic of electric buses. They discussed the assumption that the replacement ratio for electric buses to diesel buses is 1:1, but noted that this is usually a 10 or 15-year process. They mentioned that most jurisdictions have not done an analysis of how many more buses would be needed, as it seems common sense that you can replace a diesel bus with an electric bus. They also discussed the improvements in technology and different options in fleet management that could facilitate this transition.

They then discussed the cost of infrastructure for electric buses, with Demetra McBride mentioning a price tag of \$28 million for Dominion infrastructure. Despite the lack of a bus in service, they noted that the ratio for replacement had decreased from 2:1 to 1.3:1. They concluded by reiterating the need for a plan and asking if there were any comments or thoughts on the matter.

The Commission discussed the allocation of \$75 million for additional infrastructure, arguing that it was premature and that the funds could be better spent elsewhere. They mentioned that the county manager had stated that all the money had to be spent on electrification, preventing it from being used for other purposes such as APS bus transportation for middle and high school students. They also discussed the ratio of electric buses to diesel buses, noting that the county was nearing capacity with the new bus facility and would need to expand the fleet further. They mentioned that the \$75 million was calculated to include new land, a new facility, and extra buses.

They suggested that the Climate Action Fund should be dedicated to reducing greenhouse gasses rather than adaptation or resilience. They also discussed the complexity of reducing carbon emissions and the need for education and support for people to understand

what they need to do. They suggested looking for other sources of funding for resilience, possibly from federal or state funds or other capital funds. They concluded by discussing the role of community resilience hubs and the importance of energy-efficient homes and solar and battery storage in achieving resilience.

The Commission discussed the potential of geothermal energy as an additional resiliency option for community facilities. They mentioned the possibility of retrofitting existing buildings and the example of a neighborhood in Framingham, MA, where the utility is replacing gas lines with geothermal. They also discussed the potential of battery storage in public buildings and the need to look towards the future. They mentioned the implementation phase of the IRA tax incentives for standalone storage that could reduce costs.

They then discussed resiliency hubs and the importance of using these funds for programs that assist homeowners and businesses in reducing their carbon footprint. They also discussed the need for transparency and clear communication about the achievements and limitations of these projects.

Mark then discussed the stormwater piece, noting the basic building blocks of the program and the analysis being done by the county. He emphasized the need for staff analysis on the feasibility of options and the importance of letting the analysis speak for what is the best option for the county and for the watersheds. He also discussed the county's goal of a minimum ten-year storm protection with the goal of getting to 100 years storm protection and the need for better communication about what level of protection this means. He suggested that the county should explain when a project is completed, why it contributed, and how much better the protection is. He also mentioned the need for monitoring before and after the stream projects to see if the projected result was achieved. He concluded by discussing the impact of these projects and the need to capture more runoff before it gets to the streams.

Commissioners and Demetra McBride discussed the importance of capturing stormwater before it causes damage to streams. They noted that detention vaults, which hold water and release it at a more even flow, can help significantly. They also mentioned the need for infrastructure programs for capital maintenance and the outfalls, as well as the importance of protecting streams from further erosion and other damage.

The Commission approved the CIP letter with one abstention.

## **Review APS Curriculum Letter**

Doug Snoeyenboes then introduced the topic of the APS curriculum. He explained that the letter they were discussing grew out of a discussion in the Energy Committee about outreach and raising community awareness about climate change. He mentioned that they had reviewed the Virginia, Jefferson Barning, and Arlington curriculum documents and found very few references to climate change. He suggested that there needs to be more emphasis on climate change in the curriculum and that children need to learn about it. He also mentioned the idea of integrating climate change into the curriculum in a way that is not too granular but

provides general parameters and guidelines. He concluded by emphasizing the importance of getting the word out to the community and school administrators about the need for climate change instruction.

Commissioners noted the variability of climate change education across the county, with some schools like Discovery having a compost bin and geothermal energy, and others lacking in climate change education. They agreed that while composting and recycling are important, they are not the same as teaching about climate change. They emphasized the need for children to be taught about the causes and impacts of climate change.

Commissioners discussed the unevenness of environmental education across different schools. They noted that while some schools have composting and other environmentally friendly practices, there is a lack of comprehensive climate change education in the curriculum. They suggested that climate change education should be integrated into existing units rather than being a separate unit. They also discussed the idea of having a high school student on the Commission and the need for transparency in the curriculum. They mentioned the possibility of using the Climate Action Fund for programs that assist homeowners and businesses in reducing their carbon footprint. They also discussed the need for clear communication about the achievements and limitations of these projects. They concluded by discussing the importance of capturing stormwater before it causes damage to streams and the need for infrastructure programs for capital maintenance and the outfalls.

The Commission unanimously approved the APS Curriculum letter.

## **Review April and May Summary**

Approved unanimously.

## **Updates and Discussion**

Joan updated the Commissioners and discussed the passing of the Solid Waste Master Plan by the County Board, noting that the resolution emphasized the importance of reduction and reuse over recycling and the need for continued work on construction and demolition debris. She mentioned that the County Board was receptive to their points and other environmental groups

Mikaila and all discussed the deer management plan, noting that the primary suggestion was culling rather than sterilization. They mentioned that they had taken a survey and expressed support for sharpshooters. They also discussed the need for an ordinance for culling and the possibility of writing a letter in support of deer management. Finally, they discussed the need for testing each animal for diseases and planning for potential positive results. Meeting concluded.