Climate Change, Energy, and Environment Commission (C2E2)

Summary of May 23, 2022

Virtual Meeting

Members Present: Joan McIntyre (Chair), Carrie Thompson (Vice Chair), Liliana Duica, Timothy Effio, Jonathan Morgenstein, John Bloom, Emily Emery, Joshua Griset, Kevin Vincent, Mikaila Milton, Stephen D'Alessio,

Members Absent: Shawn Norton, Gilbert Campbell, Majdi Shomali

Guests: Sean Shanley (Viridiant), Stephen Dareing, (Viridiant), Miranda Osterheld, Judith Collins, Patricia Heyn, Doug Snoeyenbos, Katherine Roberts

Staff Present: Rebecca Moser (DES), Adam Segel Moss (DPR), Drew Stilson (DES), Rich Dooley (DES), Demetra McBride (DES), Stephen Burr (DES), Charles Njoku (DES), Helen Reinecke-Wilt (DES)

1. Public Comment on General Topics

None

2. New AIRE Staff Introduction

Drew Stilson is new to the AIRE team and joins as an Energy Program Specialist to help support the team's programmatic goals pertaining to the Community Energy Plan (CEP), data management and analytics and tracking metrics around these goals. He comes from a consulting background with experience in GHG accounting, climate action and energy planning for state and local clients with a focus on quantitative analysis.

3. Viridiant Virginia

Stephen Dareing introduced Viridiant, a non-profit born out of their previous organization, Earth Craft Virginia. Their mission is to advance sustainability, energy efficiency and affordability in the built environment. The organization is growing rapidly. Stephen introduced Sean Shanley, Viridiant's Director of Operations, to present on their experience with working with high-rise buildings, zero energy ready, and the certification process.

Viridiant works to electrify high rise buildings in the multi-family sector primarily around low and mid-rise buildings, but more so increasingly high-rise buildings. They work with affordable housing via the low-income housing tax credit. They have certified over 3500 dwelling units across the United States.

3 Primary Areas – Biggest Challenge to Remove Gas From Buildings to Electricity

Water Heating

Common gas equipment: boilers, tankless gas, storage water heaters (developers like these because it switches the cost from the owners to the tenant). Other equipment types less common: tankless electric, electric boiler, heat pump water heaters.

Electric tankless: highly efficient, but unfortunately have a high draw and increase the buildings demand on the grid. Taking street temperature water and raising it to 120 degrees or so.

Gas tankless: See these in central plants predominantly where there will be a large number of these that serve an entire building. Highly efficient and their source energy use is lower. Long runs of pipe that go to the central water heating plant, thus a lot of losses in heat, despite it being insulated.

Electric standard storage hot water heaters: relatively efficient, but less efficient than the tankless ones. Not centrally located unless serving a couple apartments. Relatively high source use.

Electric 50 gallon heat pump water heater: Slower recovery time. These are highly efficient because using heat pump technology, might be in a central location to serve 4-5 apartments.

Central systems with gas boilers: Fairly efficient, stand-by losses from the tank

When there are central systems, they usually have research systems. The energy use from the research system is not included in these calculations.

Things to consider when switching from gas to electric 1. The recovery ability of the system. 2. Pipe insulation levels. 3. Peak electric demand.

Heat pump water heaters: they are your standard electric storage tank with an AC unit on top working in reverse. Like a heat pump, it uses a refrigeration cycle to generate hot and cold air. Heat pump water heaters are more expensive than a standard water heater but the operating costs are much lower. Manufacturers want to drive adoption and demonstrate how long they last, so they have a 10-year warranty which is longer than most standard electric water heaters.

Space Heating

There is reluctance to move away from gas because one of the systems favored is the water loop heat pump which relies on boilers to generate the hot water. For mid-rise buildings, it is a lot easier with standard split systems. For example, there will be an air handler in the apartment and then the outdoor units either on the roof or down at ground level. The limitation is the line set length. Set lengths can only be so long, and they are not appropriate for high rise buildings unless there is a system in place where half go to the roof and the other half towards the grounds. Not a lot of available ground space in Arlington.

Packaged units: instead of separate units outside, it is all built into one single piece of equipment. Biggest drawback to these is that they are not very efficient.

VRF Systems: can be used in tall buildings. More allowed line set length, great for high-rise buildings. This system, along with the packaged units is that they allow the HVAC to be sized appropriate to the apartments, which can be a huge issue. The mechanical designers are used to doing things the same way and replicating.

Mechanical Ventilation

DOAS systems (dedicated outdoor air systems): 100% outdoor air coming in through them, brought up to set point temperature (usually room temperature) then distributed to units to provide fresh air. Heating source for these is typically gas, but lately seen an

uptick in ones that are heat pumps. The technology does exist and is seeing a small shift.

General limitations: Mechanical engineers need to feel knowledgeable enough to design it and stand behind it. The system will need to be commissioned. Maintenance staff need to be educated and know who can service it. Tenants need to be educated.

No all-electric high-rises in the area, due to clients largely not comfortable with pushing the technology. Sizing of the system is a big fight.

Commission members asked questions regarding total electrification in buildings, the limitations, hardships, training installers, other areas in the US who have success in total electrification, and ease of process.

4. Feedback on Solid Waste Management Plan

The County is accepting inputs for the Solid Waste Management Plan (SWMP). The SWMP was launched in 2004 as a 20-year plan. It expires in two years. The state mandates that local jurisdictions have solid waste management plans in 2015. The mandate this year is to not only develop another SWMP but rather develop a Zero Waste Plan. May 31st is the deadline for public comment.

Feedback from members included: regarding process, there was not enough allotted time to gather input from Arlington County residents, lack of community engagement, the County doesn't do enough solid waste education for those living in multifamily homes and for commercial buildings. Further feedback included concern about glass recycling, perhaps having more collection points, or a separate collection for glass, supporting businesses that support reuse, DoorDash/Uber and other food delivery services could help provide local businesses with reusable containers, encouraging better waste practices by construction workers, and concern over food waste.

Carrie Thompson will take this feedback to the Solid Waste Committee.

5. Discussion on the CIP

The Capital Improvement Plan (CIP), the County will return to a 10-year planning cycle. The County Manager briefed the County Board last week at its recessed session. The presentation is online. The full community investment improvement plan, or capital improvement plan has not yet been shared yet, expected to come out later this week (late May).

Big point from last year was that the CIP was not very transparent and resulted in the County Board directing the County Manager. The Commission would like the CIP to be more transparent in terms of how the CIP is going to align and address CEP goals.

The Energy Committee (EC) will also be reviewing the CIP and have comments that they can provide to C2E2.

John Bloom suggested recycling the letter drafted from last year as many of the same issues still apply.

Joan McIntyre strongly urges the Commission to be very clear in terms of what kinds of data and information the Commission should be asking for so as to not obscure issues.

6. Return to In-Person Commission Meetings

Electronic Meetings Bill goes into effect September 1st. CMO hopes to lift the emergency declaration at the end of August 2022 if all things go well.

Virtual Meetings

- Commissions & Advisory Boards appointed by the County (*with some exceptions) can conduct 2 meetings or 25% of meetings virtually.
- We are allowed to round up. So C2E2 holds 11 meetings/year. 25% of 11 comes out to 2.75 so 3 virtual meetings per year.

Parameters:

- Virtual meetings **cannot** be held consecutively
- Information about public access & comment must be provided prior to the meeting
- An electronic meetings policy must be adopted* There is a template that can be provided to assist with drafting. Staff and the Chair can work on the draft to bring it to the Commission for review/approval in the coming months.

Hybrid Meetings – Virtual participation for individual members

- Member/commissioner has a temporary or permanent disability or medical condition that prevents physical attendance
- Member/commissioner has a family member with a medical condition that requires constant care that prevents physical attendance.Individual commissioners can attend no more than 2 meetings of 25 percent virtually for personal reasons.

**Note that there is no condition for number of times an individual meets virtually due to a medical condition

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Parameters:

- Physical quorum MUST be available to meet in-person** (50% +1, so 8 people in person)
- Similar to a virtual meeting, an electronic meeting policy must be in place
- The commissioner who joins virtually must notify Chair/Liaison in advance of meeting
- Minutes must reflect reason for virtual participation*

Lastly – No more than **two members** may meet together in a remote location, unless the remote location is a public space (i.e., a public park).

Other Notes:

- Public may attend virtually or in-person to hybrid meetings.
- The meeting will be moved back to **7pm** for hybrid meetings.
- Masks will be voluntary at this time, as per the County and CDC guidance
- Room 715 will be reserved for the time being. There is an air purifier in the meeting room.
- Staff and presenters will be able to join virtually via Teams.
- Commissioners may join the meeting from a computer in the room, but will need to mute themselves.
- The Commission needs to decide when virtual meetings will happen this CY and then for the next CY at the end of this year.
    - Suggested approach: Oct and Dec virtual this CY, and Feb. in 2023 – specifically to help reduce pressure on limited rooms and allow for a transition back to in-person.

8. Meeting Minutes

No meeting minutes were available to approve at this meeting.

9. Old/New Business

John Bloom sent around invitations to upcoming Sierra Club events. A solid waste and recycling webinar Thursday, good time to ask questions and continue the discussion. There is a picnic the following Thursday.

Liliana Duica reported on collaboration between Arlington and Sifet regarding tree canopy. They discussed four main topics: county management, zoning, developer incentives and equity. Duica uploaded a folder with all the documents to share. She also uploaded letters, such as concept notes prepared by David Howell and one for the missing middle study.

Meeting ended: 8:33pm