

Climate Change, Energy, and Environment Commission (C2E2)
Draft

Summary of December 13, 2021 Meeting
Virtual Meeting

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

Members Absent: Gilbert Campbell, Shawn Norton, Linda Delgado
Guests: Nicholas Cumings, Kip Malinosky, Judy Collins, Eric Harold, David Smith, Jen Wolf, Nick Anderson, Mark Greenwood, Doug Snoeyenbos, JD Harper, John Beinert, Nastaran Zandian, Doug Brenner

Staff Present: Adam Segel-Moss (DES), Aileen Winqvist (DES) Demetra McBride (DES), Rich Dooley (DES), Stephen Burr (DES), Charles Njoku (DES), George May (DES), Pierre Holloman (DES), Lynn Rivers (DES), John Mir (DES), John Lawson (DES)

1. Public Comment on General Topics

-None-

2. Civic Federation Stormwater Discussion

Mark Greenwood and Eric Harold provided an update on stormwater issues that the Civic Federation is focused on. Specifically, they are exploring options for neighborhood-level guidance for planning, integrated planning, evolving technologies, and a sustainable dedicated funding source to address these issues.

Civic Federation members expressed a desire to collaborate with C2E2 on these issues.

David Smith noted that flooding and stormwater management are the issue of our age. He noted that out west has fires and we have floods. Every new and bigger house or commercial building contributes to further environmental impacts.

Mark also noted that it is not infrequent that perfectly meritorious County projects collide with each other. As an example, he noted that trees are this kind of issue. Arlington's mature tree canopy sometimes conflicts with solar or where engineered solutions need to be put in place to manage stormwater.

Joan noted that these issues do need to be dealt with more wholistically and thanked the Civic Federation members for their thoughtful input.

The C2E2 and Civic Federation discussed the possibility of a joint resolution on stormwater. Both groups will continue to be in touch and consider further collaboration on this and other issues.

3. 2025 Clarendon Site Plan (Wendy's Site)

The project provided an update on the site plan and sustainability elements. The Greystar project as designed is 165 feet tall, has 231 multi-family housing units, plans for 5% electric vehicle charging, 245 bike parking spaces, 75 total parking spaces, and 3,500 sq. ft. of ground-floor retail.

The project is targeting LEED BD+C v4 Multifamily Gold certification. Some other project highlights include:

- 20% energy cost savings
- ENERGY STAR score of 80 and 10 years of utility data reporting
- In-unit ENERGY STAR appliances and fixtures
- WaterSense plumbing fixtures
- EV Charging for 5% and EV ready charging for 15%
- Biophilia elements
- Bird-friendly façade
- Renewable Energy off-site purchase
- Light pollution reduction
- Advance metering
- LCA analysis
- Air leakage testing

Carrie asked to hear a bit more about the mechanical systems and their fuel use and the EV-ready threshold of 15%. That seems low and a missed opportunity while building the project.

Project staff noted that it is the baseline, or floor to work from, and will evaluate more as it goes through design.

Kevin added that only 4% of EV charging will be lagging at project completion when it is built. It is in the interest of the project to design and build more now. Kevin also noted that smart charging is the best way to install EV charging. The Greystar project agreed. Kevin again noted that it would be a mistake to only design 4% of charging. The project agreed and noted that this is the baseline in the incentive policy and will look to increase it if possible during design.

Timothy asked how the project plans to buy RECs. The project noted that they hadn't yet detailed the types of RECs they plan to specify. Once the project moves forward the owner will further detail the types of RECs they plan to buy. Timothy offered to support the project and provide resources on how best to select high value RECs.

Joan asked if the project did a zero carbon assessment and if all electric systems were analyzed for use instead of natural gas. No zero carbon assessment was

completed. There was no requirement to do so. According to project staff, heat pump technology needs to make some advancements for projects like this in order for the project to go all electric. At the time of study of this building the all-electric solutions for water heating and HVAC were not mature enough and would take up too much space in the limited site footprint.

John Bloom noted that this project doesn't align with Arlington's Community Energy Plan. At a minimum, John noted that it should be designed for the swap of all-electric equipment when the mechanical systems need to be updated.

The Commission discussed writing a letter about this project in early 2022 to the Board.

4. ART Bus Operations and Maintenance (AOMF) Update and Letter

County staff provided an update from their previous presentation. Greg Shipley detailed the mechanical systems to include the water heating and HVAC systems. The project also shared their energy model.

Greg noted that both buildings are being designed for solar on the roof of each. He also noted that it is very likely that the AOMF will reach LEED Gold certification.

The energy model information is located below.

Preliminary Energy Model

Energy End Use	Fuel Type	Baseline (Mbtu)	Proposed (Mbtu)	% Reduction
Internal Lighting	Electricity	450.87	212.58	53%
Exterior Lighting	Electricity	170.22	65.31	62%
Receptacle Equipment	Electricity	686.04	686.04	0%
Space Heating	NG	2,145.07	841.78	61%
Space Cooling	Electricity	306.96	273.40	11%
Pumps	Electricity	43.14	48.81	-13%
Heat Rejection	Electricity	1.33	-	0%
Vent Fans	Electricity	1,367.90	1,353.45	1%
Domestic Hot Wtr	NG	221.84	186.82	16%
Total Electricity		3,026.64	2,639.59	12.79%
Total Fossil Fuel		2,366.92	1,028.59	56.54%
Total Energy Consumption		5,393.55	3,668.18	31.99%
Total Energy Cost		\$ 103,309	\$ 81,688	20.93%
EUI (kBtu/sf)		115.11	78.29	31.99%

Energy Use Intensity (kBtu/sf/yr)	78.29
Energy Savings over ASHRAE 90.1 2010, App G	31.99%
Energy Cost Savings over ASHRAE 90.1 2010, App G	20.93%
LEED EAp2 met?	YES
LEED Points under EAc2	8

Targeted weighted EUI:

$$\bullet (28.3 \times 16,908) + (116.5 \times 28,298) / 45,206 = \mathbf{83.5 \text{ kBtu/sf per year}}$$

The project is planning for natural gas boilers for water heating and furnaces. The project team explored an air-to-water heat pump system for the HVAC. This was

infeasible due to technology cost, equipment size, operating costs, lack of available equipment, and lack of reliable technology.

The project is designing the project with lower operating temperatures so when more mature and tested electric equipment is available and this equipment reaches their life, it can be upgraded.

The project was also given guidance that new battery electric buses are coming. Therefore, the project will incorporate charging infrastructure from day one.

Jonathan asked if the project was going to use low-carbon concrete. The project agreed to look into this with staff and the project.

Carrie asked about when it will change the County Facility Sustainability Policy to upgrade it to LEED Gold. Carrie noted that there is an optics issue where the county is lagging instead of leading here. Demetra noted that the policy would be changed in 2024. Carrie suggested that staff explore a basic administrative change on this in the interim to Gold before the update to the policy occurs.

The Commission asked a number of questions about the rationale for proposed gas HVAC and hot water systems. Questions focused on whether options for minimizing or eliminating gas use had been fully considered. The Commission was told that electric systems were fully considered, and were proposed for the building by the design team, but that County staff opted for gas systems for a number of reasons. Staff elected to end discussion and to follow up in writing regarding the decision to rely on gas systems.

5. Marbella Apartment Site Plan Letter Discussion and Approval

The Commission discussed and amended the draft letter. The Commission decided to wait on the approval of the letter until additional information can be provided from staff. Staff agreed to connect with Vicky Kiechel and CPHD staff to get additional info to inform this letter.

C2E2 will revisit this letter in January 2022.

7. Old / New Business

Jonathan noted that the Energy Committee has questions regarding the Chief Climate and Sustainability officer that are unresolved. The budget guidance and the subsequent proposal have not been made available. The Energy Committee is putting together a letter that will be directed to the County Manager with an ask, again, that the draft budget include this position.

Joan noted that there is another EcoAction Arlington event next week on creating zero carbon buildings. She invited commissioners and asked that they share the invite.

Meeting ended at 9:09 p.m.