CLIMATE CHANGE, ENERGY AND ENVIRONMENT COMMISSION
c/o Department of Environmental Services
2100 Clarendon Blvd., Suite 705
Arlington, VA 22201

November 20, 2020

Honorable Libby Garvey, Chair
Arlington County Board
2100 Clarendon Blvd., Suite 300
Arlington, VA 22201

Re: Green Building Incentive Policy Update

Dear Chair Garvey,

The Climate Change, Energy and Environment Commission (C2E2) recommends that the draft Green Building Incentive Policy Update ("Update") be strengthened in two important areas to help the County achieve its goal of carbon neutrality by 2050. We discuss each of these areas below and offer specific recommendations to address them. We hope these issues will be successfully resolved before Board consideration of the Update at its December meeting, and that we will be able to offer unqualified support for adoption of the Update at that time.

We welcome the following advances included in the Update:

- Maintaining a strong focus on reducing greenhouse gas emissions as the central goal of the Program
- Establishing LEED Gold certification as a baseline requirement
- Raising energy efficiency requirements, including automatic updates after June 30, 2023
- Setting 15% EV-ready parking spaces as a Baseline Prerequisite and 50% as an option on the Extra List, in recognition of the essential role EVs will play in achieving Arlington's carbon neutrality goal
- Requiring on-site and off-site solar or the option to contribute to the Green Building Fund
- Requesting automated reporting of building-specific energy use data
- Introducing equity considerations into the process
- Incorporating additional sustainability and biophilia elements

There are two significant areas where we recommend strengthening the Update.

1. **The Green Building Incentive Policy should be fully updated every 3 years**

C2E2 recommends a 3-year update cycle for this Policy, rather than the 5-year cycle that has been used historically. We would like to see a clear commitment to a 3-year update cycle. We do not support language that suggests a range of potential timelines with a decision to be made at a later date. This change is necessary for the Policy to keep pace with changes in building

technology and practices, which are evolving rapidly to address the climate crisis. This change also is consistent with commercial energy codes, which are updated on a 3-year cycle.

We recognize that more frequent updates will place a significant new workload burden on AIRE staff. Therefore, approval of the 3-year update cycle should include a commitment to provide sufficient staff and consultant resources to complete the task without harming other aspects of AIRE's important work.

We are aware that the AIRE team made a substantial effort to address this need through a proposed "automatic update" in 2.5 years, which requires a modest increase in energy efficiency at that time. However, the "automatic update" approach does not allow for consideration of future changes in technology, policy, practice or economics, and does not include any measures addressing renewable energy, electrification, or reducing embedded carbon in construction materials. We support keeping the "automatic update" as part of this Update, but it is not a substitute for conducting a full review in 3 years.

Above all, this change is necessary because Arlington recently has adopted more ambitious greenhouse gas reduction goals. To have any chance of achieving those goals, we must find ways to accelerate progress. Adjusting the update cycle for this program will allow the policy to keep up with innovations and better ensure the policy tracks with building practices needed to meet the County's climate goals.

2. More effective measures advancing building electrification are necessary

C2E2 recommends significantly strengthening the approach taken by the Update toward building electrification. Electrification refers to the process of switching building systems – heating, cooling, ventilation, hot water, cooking and backup power generation -- from onsite combustion of fossil fuels, like natural gas, to electricity. The electric grid that serves Arlington is becoming cleaner each year, so this strategy *automatically* results in a steady reduction in greenhouse gas emissions attributable to electrified buildings. As soon as the County achieves its 100% renewable electricity goal, all electrified buildings in Arlington will be operationally carbon neutral, while buildings still using fossil fuels will not. This approach also will improve public health and safety by eliminating a major source of indoor air pollution and risk of fire and explosion.[1]

A Steven Winter Associates report ("Winter Report") recently commissioned by the AIRE team states that the technologies for electrifying building systems are mostly mature and well-established, with a few still in development.[2] It provides practical information on each system and gives the priority order in which they should be electrified based on technology readiness and greenhouse gas emission reduction gains.

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[1] Gas Stoves: Health and Air Quality Impacts and Solutions, Rocky Mountain Institute, 2020.

[2] Arlington County Electrification Report: Arlington County Green Building Incentive Policy, Steven Winter Associates, Inc., October 26, 2020. Available online at https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/5/2020/10/Arlington-Electrification-Report-Draft-10-26-20.pdf.

C2E2 recommends the following changes to the Update, listed in priority order, to accelerate building electrification as a strategy and help Arlington achieve its carbon neutrality goal by 2050:

1. Require, as a Baseline Prerequisite, electric heating, cooling, ventilation and domestic hot water systems for *office buildings.*
2. Require, as a Baseline Prerequisite, that Applicants conduct a Zero Carbon Assessment. This ensures that Applicants explore steps necessary to achieve carbon neutrality.
3. For any proposed building system that relies on onsite fossil fuel burning, require as a Baseline Prerequisite, a statement describing any steps the Applicant will take toward making that system "electric ready." Making a system electric ready involves taking measures to facilitate future system upgrades, such as ensuring adequate conduit and electrical capacity. The *Winter Report* makes clear that this approach, which it calls "future proofing" a building, is a cost-effective strategy to advance building electrification.[3] All that is requested in this case is disclosure and discussion, as enforceable standards are not yet available in this area.
4. Require, as a Baseline Prerequisite, electric heating, cooling and ventilation systems for *multifamily buildings and hotels* less than 140 feet tall.[4] This proposal would make electrification of HVAC systems in tall residential buildings an Extra List option, rather than a requirement, due to current technical limitations.[5]

With these improvements C2E2 will support adoption of the Update as a critical step toward achieving Arlington's carbon neutral 2050 goal.

We thank the AIRE team for the detailed briefings they have provided to C2E2 and a broad range of stakeholders during development of this policy. We appreciate the opportunity to comment and would be happy to discuss any aspect of the issues we have raised.

Sincerely,

John Bloom
Chair, Environment and Energy Conservation Commission

[3] *Winter Report*, *at* 32-33.

[4] The *Winter Report* concludes that electrification of these systems is both most important in terms of energy savings and is the easiest to achieve given currently available technologies. It states: "Rollout of an electrification program prioritizing heat pump technology in Arlington should focus on both GHG impact and technology availability. Systems should be prioritized in the following order: 1: Heating and Cooling Systems -- these constitute the largest building end uses in Arlington County and the technology is mature and available." (*Winter Report*, p. 3.)

[5] *Winter Report*, *at* 8-9, indicates that Variable Refrigerant Flow (VRF) heat pump systems involve added complexity in buildings above approximately 150 feet, and that some other heat pump technologies create design challenges in large buildings.