

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

February 26, 2019

The Honorable Christian Dorsey, Chair
Arlington County Board
2100 Clarendon Blvd.
Arlington, VA 22201

Re: E2C2 Urges County Board Support for Carbon Neutral Goal in the Revised Community Energy Plan

Dear Chair Dorsey:

The Environment and Energy Conservation Commission (E2C2) and its Energy Committee support plans to revise the Community Energy Plan (CEP) to reflect new energy and climate realities. This letter addresses two issues:

1. E2C2 recommends that the County Board provide policy guidance to staff to facilitate selection of an overall 2050 CEP greenhouse gas reduction goal. As outlined below, setting a goal for Arlington to be **carbon neutral¹ by 2050** is both achievable and consistent with what climate science indicates is necessary. This goal also is likely to advance Arlington's reputation for leadership on energy and climate issues.
2. E2C2 reinforces its support for achieving net 100% renewable electricity for Arlington by 2035 and recommends that this goal be included in the CEP as an important step toward becoming carbon neutral by 2050. E2C2 advised the County Board on this issue in its [letter](#) dated December 20, 2017.

These two issues, discussed below, are the only ones we will raise at this point in the CEP revision process. We will communicate about other aspects of the CEP after the proposed revisions are available for review.

1. Make Arlington a Carbon Neutral County by 2050

Selecting a prudent 2050 greenhouse gas reduction goal establishes the direction of the CEP as a whole and is central to the success of the Plan. In reaching its recommendation, E2C2 found consideration of three questions to be helpful:

- a. What goal best reflects scientific consensus about what is required to avoid catastrophic climate change?*

¹ The terms "carbon neutral" and "net zero carbon" are used interchangeably and refer to a state in which any greenhouse gas emissions within Arlington County are offset by a certified method.

The International Panel on Climate Change (IPCC), the preeminent global scientific body concerned with climate change, concluded in 2018 that the risks and likely impacts of exceeding an average rise of more than 1.5° Celsius (2.7° Fahrenheit) are more severe than previously understood. To avoid these catastrophic impacts, the IPCC concluded that greenhouse gas emissions should be curtailed by about 45% by 2030, and that the global economy should “reach net zero by about 2050.”² E2C2 recommends that Arlington adopt a carbon neutral 2050 goal consistent with IPCC findings.

b. What goal best reflects what is achievable by 2050?

E2C2 is aware of the challenges of setting long-term goals. However, those who study the pace of technological advancements and cost reductions in renewable energy, energy efficiency, energy storage, transportation, and related sectors express confidence in the feasibility of reaching carbon neutrality by 2050 across the U.S. if concrete actions begin soon.³

A Stanford-based research team has created a projection of how Arlington could achieve 100% renewable energy – *a more ambitious goal than carbon neutrality* – by 2050. The projection shows an economic gain of \$7,156 per person per year due to health and climate cost savings while energy costs rise by only \$36 per person per year.⁴

A carbon neutral goal allows flexibility in approaches, including a possible role for non-renewable sources such as nuclear energy or carbon capture and storage. This goal also allows for offsetting any remaining fossil fuel use in 2050 by “overachieving” in another area (e.g. tree planting, renewable energy production) or by buying certified carbon offsets.⁵

c. What goal will help advance Arlington’s role as an energy and climate leader among localities?

As scientists have clarified the urgent need to reduce carbon emissions, and as renewable energy has become cost effective throughout the U.S., there has been a decisive shift by leading jurisdictions toward goals of carbon neutrality or 100% renewable energy. Entire U.S. states, including California, New York, and Hawaii, have set a goal to become carbon neutral by 2050 or sooner; so have major

² IPCC, *Global Warming of 1.5 Degrees Centigrade*, Oct. 8, 2018. The official Summary for Policymakers states that in order to hold average global temperature below 1.5° Centigrade, “Global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching ‘net zero’ around 2050.” <https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/>.

³ See, e.g., National Geographic, “A Blueprint for a Carbon-Free America,” <https://www.nationalgeographic.com/climate-change/carbon-free-power-grid/#>; Jacobson et al., “100% clean and renewable wind, water, and sunlight (WWS) all-sector energy roadmaps for the 50 United States.” *Energy Environ. Sci.*, 2015, 8, 2093. <http://web.stanford.edu/group/efmh/jacobson/Articles/I/USStatesWWS.pdf>.

⁴ Jacobson et al., “100% clean and renewable Wind, Water and Sunlight (WWS) all-sector energy roadmaps for 53 towns and cities in North America,” *Sustainable Cities and Society*, 42, 22-37 (2018) <http://web.stanford.edu/group/efmh/jacobson/Articles/I/TownsCities.pdf>. For an infographic of the results for Arlington County, see: “100% Arlington, A vision for the transition to 100% wind, water & solar energy”: <https://thesolutionsproject.org/why-clean-energy/#/map/cities/location/Arlington>.

⁵ For an overview of major cities working toward carbon neutral goals, see <https://carbonneutralcities.org/cities/>.

cities, including New York, Atlanta, Boston,⁶ Los Angeles, Seattle, Portland, Chicago, and many others.⁷ Additional states are actively considering similar goals.⁸

Locally, Washington, D.C. recently enacted a law requiring its utility to deliver 100% renewable electricity by 2032.⁹ Montgomery County declared a Climate Emergency and is studying ways to rapidly eliminate greenhouse gas emissions from its economy.¹⁰ Alexandria has committed to achieve net 100% renewable electricity in City operations by 2023.¹¹

E2C2's analysis shows that the answers to each of the three questions – *on climate science, achievability, and Arlington's role as an energy and climate leader* – point toward carbon neutrality as the 2050 CEP goal that would best meet Arlington's needs.

2. Include a Net 100% Renewable Electricity Goal by 2035 in the CEP

E2C2's December 20, 2017 letter recommended that the County Board adopt a goal of net 100% renewable electricity use community-wide by 2035.¹² E2C2 supports this goal for the reasons provided in the letter, and recommends its inclusion in the CEP. In addition to support from the Sierra Club, EcoAction Arlington, and other groups, this goal is backed by several civic associations and the Arlington Civic Federation.¹³ Nationally, more than 90 cities and counties have set goals to achieve 100% renewable electricity by 2035 or sooner; six cities already have achieved 100% renewable electricity.¹⁴

The IPCC states that greenhouse gas reductions of about 45% over 2010 levels are necessary by 2030. Being on a pathway to achieve net 100% renewable electricity by 2035 will ensure that Arlington meets this important IPCC target.

Conclusion

E2C2 believes it would be a mistake for Arlington to propose revised CEP goals that fall short of what climate science tells us is needed, what experts say is achievable and prudent, and what many communities, states, and nations already have committed to doing. Because several policy options

⁶ For a detailed 2019 report on how Boston plans to become carbon neutral by 2050, see <https://www.greenribboncommission.org/document/executive-summary-carbon-free-boston/>.

⁷ Many cities have adopted the more ambitious goal of achieving 100% renewable energy in all sectors.

⁸ <https://cleantechnica.com/2018/11/12/7-incoming-governors-strongly-support-renewable-energy-goals/>.

⁹ <https://mayor.dc.gov/release/mayor-bowser-signs-historic-clean-energy-bill-calling-100-renewable-electricity-2032>.

¹⁰ The Washington Post, "Maryland's Largest Jurisdiction Aims to Eliminate Greenhouse Emissions by 2035," Dec. 5, 2017.

¹¹ See Alexandria's Environmental Action Plan (EAP), Phase II Update, October 13, 2018: <https://www.alexandriava.gov/Eco-City#EnvironmentalActionPlan2030EAP>.

¹² "E2C2 Position in Favor of Arlington County Commitment to 100% Renewable Electricity by 2035," <https://commissions.arlingtonva.us/letters/>.

¹³ Arlington Civic Federation, The Civic Voice, "Resolution in Favor of Arlington's Transition to Renewable Electricity by 2035," March 6, 2018, p. 8.

¹⁴ For an updated list of U.S. cities and counties that have set goals to achieve 100% renewable energy, see <https://www.sierraclub.org/ready-for-100/commitments>.

are available and technically feasible, we recommend that the Board provide staff with policy guidance as they develop the revised CEP.

We welcome any questions about our recommendations. We also request that the Board ensure that Arlington's AIRE team has the resources it needs to develop effective plans and to assist the community in implementing them, now and in the future.

Respectfully,

A handwritten signature in black ink, appearing to read "K Michael Hanna". The signature is written in a cursive, flowing style.

Mike Hanna, Chair
Environment and Energy Conservation Commission