



# County of Fairfax, Virginia

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To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

DATE: November 1, 2022

TO: Board of Supervisors

FROM: Stella Koch, Chairman  
Environmental Quality Advisory Council

SUBJECT: Community-wide Energy and Climate Action Plan (CECAP) Priorities

EQAC recognizes the many recommendations in the CECAP report may pose a challenge to implement, especially all at once. Staff indicated that EQAC recommendations on prioritization could be helpful and so EQAC prepared a prioritization of CECAP strategies. These recommendations are attached to this memorandum for the Board of Supervisor's consideration upon adoption of the CECAP Implementation Plan.

SMK:LJZ:nhl

cc: EQAC  
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Attachment: EQAC Recommendations for Prioritization of CECAP Strategies based on GHG Emissions

## Attachment

### EQAC Recommendations for Prioritization of CECAP Strategies based on GHG Emissions

While the CEPAC report was issued in September of 2021, plans to implement the recommendations in the CECAP report have not yet been adopted, which EQAC believes is urgently needed. The CECAP report provides an abundance of recommendations to provide a Fairfax County response to climate change. Recognizing that the County is in the process of developing recommendations with a detailed plan for implementation of CECAP, EQAC has prepared these recommendations to assist in prioritizing climate related recommendations outlined in the CECAP.

EQAC supports the CECAP's recommendation to shift from energy production that emits Greenhouse Gases (GHG) to renewable energy sources (which do not emit GHG) by 2050. Achieving 2030, 2040, and 2050 goals identified in the CECAP report is critical to this purpose. However, we must not give the naive impression that achieving these goals in Fairfax County will, by itself, prevent or reverse the devastating effects of climate change; global success will require widespread global action well beyond the control of Fairfax County. Recognizing the need for leadership in this area, Fairfax County led Virginia Counties in the adoption of the July 13, 2021 Carbon Neutral Counties Declaration, which provides a commitment of the signatories to take immediate steps to mitigate county government GHG emissions.

The CECAP workgroup is to be commended for establishing goals for the reduction of GHG. Their recommendations nicely complement the goals of the Virginia Clean Economy Act and July 13, 2021 Carbon Neutral Counties Declaration. More specifically, they recommended:

- Fairfax County will reduce GHG emissions by 50% by 2030, from a 2005 base year.
- Fairfax County will reduce GHG emissions by 75% by 2040, from a 2005 base year.
- Carbon neutrality by 2050.

EQAC recommends that these goals be highlighted in the plans for CECAP. These goals help to explain the benefits of the actions to be taken, which is important for public support.

We believe the CECAP report should have better emphasized 2030 and 2040 as key milestones for checking the plan's success to that date and for adjusting as necessary our course towards 2050. The 2030 evaluation, will be an important reality check on whether we can achieve the "Scenario E+" goal of 87% GHG reduction by 2050. EQAC recommends that reviews to assess goals the year after each target year (i.e., 2031 for 2030).

The Virginia Clean Economy Act of 2020 calls for a 100% clean energy grid by 2050. This act not only compels Dominion Energy and Appalachian Power to provide clean energy, it also promotes

the installation of wind and solar power. If the goals and milestones of the Virginia Clean Economy Act are met, then electricity from the grid would be from renewable sources by 2050 leaving transportation as the major source of GHG emissions for Fairfax County.

Other sources of GHG that could be addressed include emissions from buildings that use onsite power from fossil fuels, and other emissions from sources like methane from landfill gases (which are also very potent greenhouse gases) would be the main remaining sources. Assuming that the Virginia Clean Economy Act goals and milestones are met,

Table 1 lists the strategies recommended in the CECAP report. This table also provides EQAC's priorities to address climate change. Based on the information reviewed, EQAC recommends that priorities be placed on:

- support for increasing electric vehicle (EV) adoption and use to 15% by 2030, 42% by 2050 (Strategy 7);
- Increase the amount of renewable energy in the electric grid (suggest that this should include activity to support the implementation of the Virginia Clean Economy Act within Fairfax County) (Strategy 4); and
- increasing the production of onsite renewable energy (Strategy 5).

The GHG emissions associated with the above strategies include GHG emissions from the vast majority of the County's GHG emissions.

The CECAP report provides an estimation of the 2050 predicted GHG emissions reduction for each strategy. While these estimates appear to be reasonable, it is important to recognize that they are based on assumptions and that there are other reasonable assumptions that might also be applied. For example, if the Virginia Clean Economy Act should result in 100% renewable energy through the grid in 2050, then the need for reductions from S1 and S3 would be minimal if any because all electricity from the grid would be from renewable sources.

EQAC's review of the CECAP recommendations has relied upon the reductions in GHG emissions associated with the various strategies to undertake this prioritization. However, supporting and prioritizing these activities does not mean that other actions do not benefit meeting the GHG reduction goals and the other strategies may also have significant environmental benefits in other areas beyond GHG emission reductions.

Also, some of the CECAP recommendations will need to rely upon advances in technology and it is important that the County remain vigilant regarding such advances. For example, Strategy 9, which is increase fuel economy and use of low-carbon fuels for transportation, may prove to be very important but would likely be tied to technological advances that are not available today. The priority of strategies relying upon technological advances should be reviewed in the future, especially 2040 and 2050.

As among the most affluent counties in Virginia, the private sector and other localities will look to Fairfax for leadership. Therefore, clear decisive action is needed not only for Fairfax County to do its part but also to influence other localities that will look for Fairfax County for leadership as they did in the 2021 Carbon Neutral declaration.

In summary, EQAC's recommendation for priorities on CECAP strategies places recommendations the following 2 recommendations as the highest priorities:

- support for increasing electric vehicle (EV) adoption and use to 15% by 2030, 42% by 2050 (Strategy 7) and
- Increase the amount of renewable energy in the electric grid (suggest that this should include activity to support the implementation of the Virginia Clean Economy Act within Fairfax County) (Strategy 4).

In addition, it is important to track general milestones with the Virginia Clean Economy Act as the extent to which its recommendations are achieved will affect actions that would be needed to achieve GHG reduction goals.

Table 1. Summary of Strategies for Reducing GHG and EQAC Priorities

Strategy	EQAC Priority to address Climate	2050 Predicted Reduction	Workgroup (WG) Comment	EQAC Comment
<b>S1: Increase energy efficiency and conservation in existing buildings</b>	High	12.6%	WG Priority	Meeting the goals in the Virginia Clean Economy Act should deliver clean energy to address these emissions.
<b>S2: Electrify existing buildings</b>	High	10.9%		Given an estimate 10.9 reduction in emissions in 2050, converting from coal or other energy sources to electricity is important to reducing carbon emissions.
<b>S3: Implement green building standards for new buildings</b>	Medium	1.2%		See S1 Comment
<b>S4: Increase the amount of renewable energy in the electric grid</b>	High	13.2%	WG Priority	Given an estimated 13.2% reduction in GHG emissions in 2050, these actions should support or compliment the actions required under the Virginia Clean Economy Act

Strategy	EQAC Priority to address Climate	2050 Predicted Reduction	Workgroup (WG) Comment	EQAC Comment
<b>S5: Increase production of onsite renewable energy</b>	Medium	4.4%		See S4 Comment but this recommendation is especially important if the Virginia Clean Economy Act falls short of goals.
<b>S6: Increase energy supply from resource-recovered gas, hydrogen, and power-to-gas</b>	Low	7%	Somewhat redundant	This strategy would rely on the use of best practices, which should be employed in the future and the costs should be modest
<b>S7: Increase electric vehicle (EV) adoption</b>	High	19.4%	WG Priority	Transportation constitutes a significant part of the County's emissions inventory and EVs must be an important part of addressing transportation emissions.
<b>S8: Support sustainable land use, active transportation, public transportation, and transportation demand</b>	Medium	3.7%	WG Priority	These actions would help to reduce transportation emissions.

Strategy	EQAC Priority to address Climate	2050 Predicted Reduction	Workgroup (WG) Comment	EQAC Comment
management (TDM) to reduce vehicle-miles traveled				
<b>S9: Increase fuel economy and use of low-carbon fuels for transportation</b>	Low	9%	WG Priority	Important for sources like aviation, however, this is a national need that many parties should help to address.
<b>S10: Reduce the amount of waste generated and divert waste from landfills and waste-to-energy facilities</b>	Medium	2.4		We should divert more waste from landfills and waste to energy facilities as other localities have successfully done.
<b>S11: Responsibly manage all waste generated, including collected residential and commercial waste, wastewater, and other items</b>	Low	0.04%		This seems to be a best practice, which should be implemented but the GHG emissions reduction is small.

Strategy	EQAC Priority to address Climate	2050 Predicted Reduction	Workgroup (WG) Comment	EQAC Comment
<b>S12: Support preservation, restoration, and expansion of natural systems, green spaces, and soil quality</b>	Low	2.4%	WG Priority	Modest reduction in GHG emissions but these activities are sound practices for other reasons, including OneFairfax principles.