



Faith Alliance for
Climate Solutions
Arlington



SIERRA CLUB
POTOMAC RIVER GROUP

December 19, 2022

Arlington County School Board
Dr. Francisco Durán, Superintendent

Re: Urgent need to reconsider use of fossil fuel boilers in the new high school

Dear Chair Goldstein, School Board Members, and Superintendent Durán:

Arlington Public Schools has been a national leader in building net zero schools—Fleet, Cardinal, and Discovery—that align with the County’s goal for carbon neutrality and demonstrate APS’s commitment to a sustainable future for their students. The new Arlington Career Center should continue that tradition of climate awareness and energy excellence. However, we recently learned that APS has decided to install methane gas-fired boilers in the new building. This decision was not disclosed during the Public Facilities Review Committee process. We are elevating our concerns about this decision because corrective action needs to be taken now before unnecessary greenhouse gas emissions are locked in for many years.

The climate crisis is real and time is of the essence if we are to meet Arlington’s commitment to a county-wide transition to clean energy and carbon neutrality. These broad goals involve two essential strategies related to buildings that must be pursued simultaneously: building electrification and transition to renewable electricity.

The decision to use a fossil fuel-based heating system violates the language and intent of specific Guidance provided by the County Board regarding fossil fuel building systems in new public facilities. The operative part of that Guidance states:

“The default policy of the County is to use high efficiency electric heating, ventilation and air conditioning (HVAC) systems, hot water systems, and appliances, in County owned facilities, when existing building systems planned for replacement or part of new facility construction projects, where use of such systems is feasible.”¹

¹ FY 2023 – 2032 Capital Improvement Plan County Board Guidance, available online at <https://www.arlingtonva.us/files/sharedassets/public/budget/documents/cip-webpage/1.-cip-final/overview/5.-fy23-32-guidance- -final- -7.19.22.pdf>.

We believe that APS should follow the County Board's Guidance in letter and in spirit not just because it is necessary, but because it is the right approach. APS should evaluate feasible systems thoroughly and in good faith to avoid locking in long-term reliance on fossil fuels.

Specific HVAC options that should be evaluated, or further evaluated, include:

Variable refrigerant flow (VRF) heat pump systems.² These highly efficient all-electric systems are widely used in schools and other buildings in hot and cold climates nationally, including the recently completed [Meridian High School](#) in the City of Falls Church. Despite the feasibility of such systems, APS instructed consultants in advance that these systems are not preferred. As a result, the consultant did not evaluate or recommend VRF systems.

Geothermal heat pump systems. This option was considered by APS's consultant to be the best option of those considered but was rejected due to uncertainty (without full evaluation) about whether enough wells could be drilled in the space available to meet 100% of building needs. If a 100% geothermal system is not possible, hybrid systems are common and should be considered. A portion of the building, chosen strategically for performance and cost, could be served by a separate all-electric system.

Air-to-water heat pump systems. If APS favors a water-based system, air-to-water heat pump systems are highly efficient, feasible and available.

Efficient electric boiler systems. If a water-based boiler system is considered essential, efficient all-electric boilers are available and should be used instead of gas.

Cost issues

APS documents we have seen recommend gas systems partly due to a stated assumption that gas will be cheaper than electricity in the future. However, the future cost of gas is highly uncertain³ and is subject to a much higher likelihood of disruptive price spikes than electricity. Moreover, as heat pumps displace gas in residential and commercial markets the expense of maintaining the gas grid will fall on fewer and fewer customers, driving up costs for those who fail to make the transition.

The analysis we have seen also pre-dated passage of the Inflation Reduction Act, which provides significant cost savings for heat pump systems.

² For more information on VRF systems see "Pandemic Shines Spotlight on VRF," available online at <https://www.facilitiesnet.com/hvac/article/Pandemic-Shines-Spotlight-on-VRF--19463>.

³ In general, gas prices are expected to rise substantially. See, e.g., <https://walleinvestor.com/commodity-forecast/natural-gas-prediction>.

Our view is that the era of spending public funds on brand new fossil fuel systems is over. APS had already demonstrated that it can build all-electric, energy efficient, net zero energy school buildings. We urge APS to fully evaluate feasible electric systems and to choose the one that best meets APS needs, consistent with County Board Guidance.

Our organizations would welcome the opportunity to discuss this issue at any time.

Sincerely,

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Julie Rosenberg
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John Bloom
Executive Committee Chair, Sierra Club Potomac River Group

cc: Arlington County Board