

Dear Montgomery County Council,

July 20, 2022

I am writing to express my support for the County's Comprehensive Building Decarbonization legislation, Bill 13-22, which would require the County to issue all-electric building standards for new construction, major renovations, and additions by Jan. 1, 2024. I have worked in the private sector field of energy management and HVAC for 20 years, utilizing my engineering expertise in building systems, automation technology, and energy efficiency to help Federal, Commercial Real Estate, Higher Education, and County Government clients design short- and long-term plans and projects to improve operation of their buildings, their bottom line, as well as meet energy mandates and goals.

Legislation such as Bill 13-22 increases the visibility of the concept of electrification and will push the market and community to become more educated on it and the benefits associated. This legislation will also push the market to respond with more, better, cheaper solutions – solutions that will benefit not just Montgomery County but the world. Our local architecture, engineering and construction community will advance their skills, knowledge and marketability in the area of electrification and net zero design. Building systems and equipment providers will develop new technologies and solutions to comply with these new designs, and the more they're used, the more economically viable they will be. As we saw with LEED, at first those buildings were much more expensive to build, now they're commonplace in our area and generally cost neutral.

Going all electric offers important community, stakeholder, and environmental benefits. In addition to reducing emissions, using the right electrification technology can decrease energy use overall and therefore reduce building life cycle costs. Technologies such as ductless VRF (Variable Refrigerant Flow) systems that have high heating capacity at low ambient temperatures (down to 0-5deg F) are more energy efficient but have a higher up-front cost. Traditional heat pumps in our area require supplemental electric heat, and because of our low winter temperatures, this electric heat is used as a primary source during much of the winter. This is not energy efficient and stresses the electric grid. Another benefit of ductless VRF high heat systems is that you can properly size the units for smaller spaces (such as apartments) since they go down to 6-9 mbh cooling capacity versus a traditional residential split system where the minimum is 1.5 tons. This is oversized for many smaller living spaces, but they're frequently used anyway. Rightsizing the HVAC equipment for the space maximizes energy efficiency.

Another electrification technology is air-source or water-source chiller-heaters and storage source heat pumps. A building with this system stores and recovers waste heat to deliver heating and cooling. Instead of rejecting heat outside, waste heat is recovered and circulated to the building. This essentially taps into the energy the building already has – energy from the sun the previous day, as well as energy already purchased for lighting, appliances, and cooling. This technology in a retrofit application would require up front investment, but can reduce carbon emissions by 78% CO₂e and reduce cooling and heating costs up to 40% (reference [SSHP Infographic \(trane.com\)](#)).

Electrified buildings lower the building's (and our county's) carbon footprint, increase asset value, increase comfort and health for building occupants and the surrounding community, and contribute to the building and business's marketability.

Regarding the community and non-financial benefits of electrification and energy efficiency projects in buildings, I have the advantage of seeing many of them firsthand in our community. First, as a Montgomery County resident, my family and I have benefitted. I work at a Montgomery County based company that implements these projects, and my salary pays for my family's needs as well as our taxes to the County. The projects I have been a part of have employed countless area workers with all ranges of skilled and unskilled labor. They require engineers, project managers, CAD and graphics designers, journeyman steamfitters, welders, warehouse employees, forklift drivers, accountants, administrative staff, IT professionals, and many more. These projects employ local area subcontractors ranging from professional engineering firms to equipment rental companies to electrical contractors, who employ area residents as well.

I hope this letter encourages passage of this electrification legislation, resulting in a positive change financially for our County residents and business owners as well as contributing toward Net Zero environmental goals.

Thank you for your consideration.

Sincerely,

Julie L. Wolfington

Julie Wolfington, CEM

Energy and Sustainability Leader

Boland