Memorandum

To	Dr. Francisco Durán, Superintendent, Arlington Public Schools
From	Superintendent's Advisory Committee on Sustainability
Topic	2025 Annual Memorandum
Date	June 30, 2025

Executive Summary

The Superintendent's Advisory Committee on Sustainability (SACS) is pleased to share several sustainability highlights from the past year across Arlington Public Schools (APS), including:

- Alignment with the APS Strategic Plan,
- A proposed district-wide sustainability initiative,
- Environmental performance achievements, and
- Progress in the Sustainability Liaisons Program.

APS continues to make strong progress toward the Environmental Sustainability goals outlined in the Strategic Plan. Notable progress includes:

- 37% reduction in greenhouse gas (GHG) emissions from 2007 levels - *Goal is 67%*
- 9% reduction in natural gas usage - *Goal is 20%*
- 51% of schools meet the Site Energy Use Intensity (EUI) - *Goal is 75%.*

At the direction of the Superintendent, SACS reviewed several ongoing projects led by Sustainability Liaisons and students across APS to identify one that could be scaled district wide as a new sustainability initiative. Each project was evaluated against a set of criteria, and the implementation of "Share Tables" emerged as the most viable option.

Share Tables provide a designated space where students can place unopened, uneaten, or sealed food items from the school's breakfast and lunch programs. These items are then available for other students to take, reducing food waste and supporting food security within the school community. The initiative to expand Share Tables across all APS schools is also endorsed by the School Health Advisory Board (SHAB), which is currently recommending it to the School Board.

We are delighted to see the continued positive impact of our fully funded Sustainability Liaison Program across nearly every school. The wide range of projects led by these liaisons and their students remains truly impressive. We are also grateful to Dr. Duran and the APS administration for their active participation in meetings this year.

SACS is also pleased to see several APS initiatives featured in the latest Arlington Initiative to Rethink Energy (AIRE) Accelerate Report. We applaud the APS staff who collaborate with the County and local organizations to highlight and educate the community about APS's achievements in reducing environmental impact.

We would also like to recognize the ongoing commitment of APS staff, the School Board, and the Superintendent to sustainability and student wellness, especially in the face of today's many challenges. Thank you for your continued dedication to fostering a positive and healthy environment both inside and outside the classroom.

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APS Strategic Plan

Environmental Sustainability (by 2030):

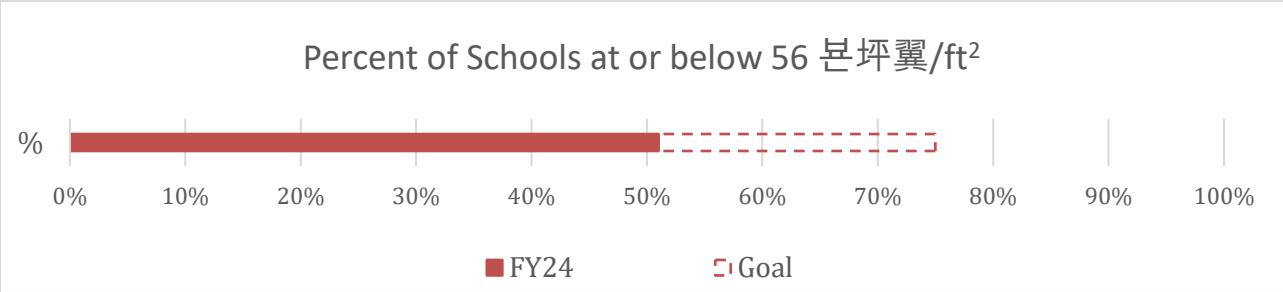
Transition 5% of the current bus fleet (9 buses) to zero-emission with a goal to reach 100% by 2050

All funding has been secured to add a total of eight battery electric school buses (BESBs) to the APS fleet. Currently, six BESBs are in operation, with two more scheduled for delivery in the coming months. Due to manufacturing and warranty issues, three of the buses have experienced recurring downtime for repairs.

Maintaining a reliable school bus fleet is essential to ensuring on-time student transportation. APS's initial experience with a BESB reliability rate of under 66% highlights the need for continued monitoring and improvement to meet operational expectations.

Ensure 75% of current APS facilities will have a site energy use intensity at or below 56 kBtu/ft^2.

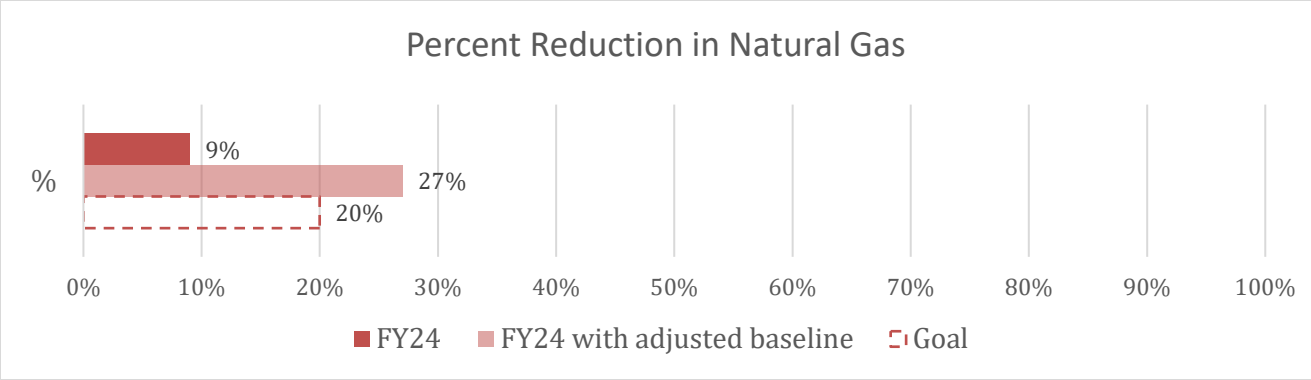
In FY24, 51% of schools were at or below the APS goal of 56 kBtu/ft^2. Please see the "Energy" section below and Appendices attached for more information.



Reduce natural gas use by 20%.

In FY24, APS achieved a 9% reduction in total natural gas consumption compared to the 2007 baseline—marking significant progress toward the district's goal. For more details, please refer to the "Energy" section below and the attached appendices.

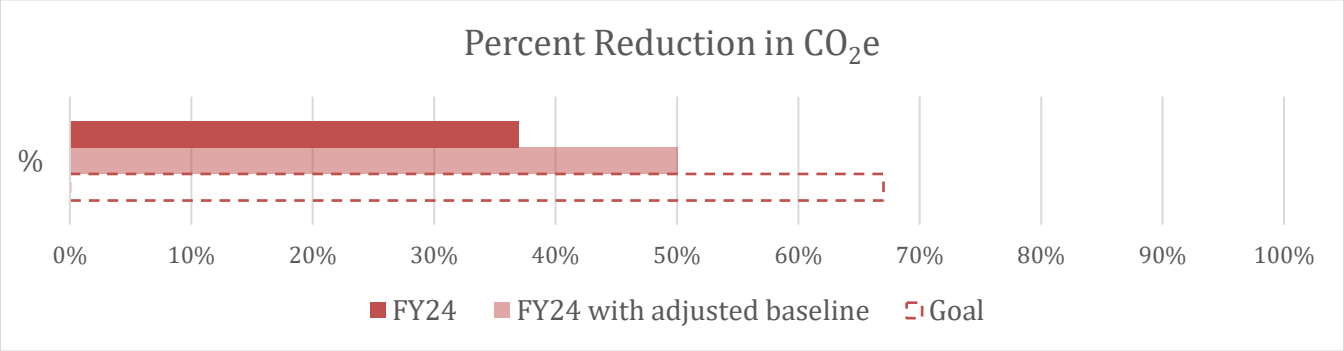
SACS notes that since 2007, APS has grown from approximately 4.14M sqft to 5.20M sqft. Similar to the GHG Protocol, it is advised that APS revise baselines to account for material portfolio changes over time. When the baseline for natural gas is adjusted for size to account for the larger APS portfolio today, the result is a 27% decrease since the adjusted baseline year.



Reduce CO_2e 67% below 2007 levels

In FY24, APS has seen a 37% decrease in the metric tons of total GHG emissions ($MTCO_2e$) since the 2007 baseline year. Please see the "GHG Emissions" section below and Appendices attached for more information.

SACS notes that since 2007, APS has grown from approximately 4.14M sqft to 5.20M sqft. Per the GHG Protocol, it is advised that APS revise baselines to account for material portfolio changes over time. When the baseline for emissions is adjusted for size to account for the larger APS portfolio today, the result is a 50% decrease since the adjusted baseline year.



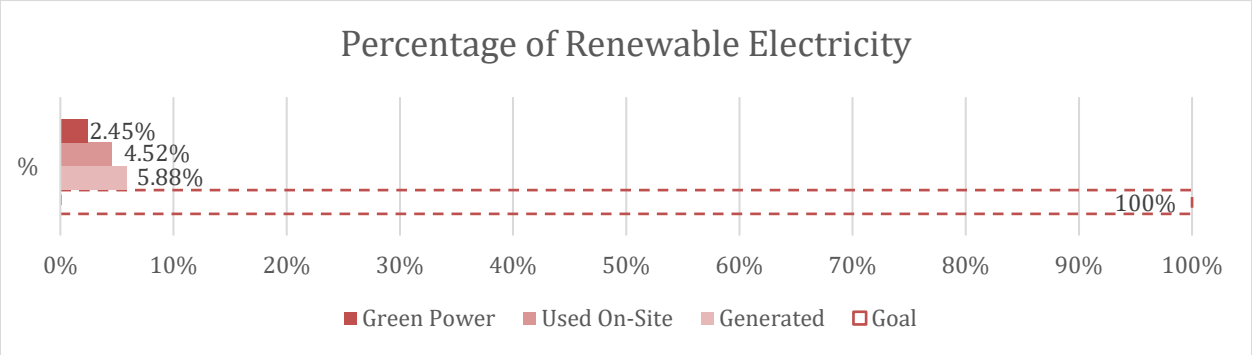
Achieve 100% renewable electricity

In FY24, APS generated over 3.2 million kWh of solar electricity on-site across various schools. However, most of this electricity cannot be classified as "Green Power" because APS does not own many of the associated Renewable Energy Certificates (RECs)—which represent the legal rights to claim the environmental benefits of that energy. RECs are a common strategy to improve the financial viability of solar projects; however, this means that much of APS's solar generation does not count toward its renewable energy goals.

FY24 Electricity Overview:

- Total Electricity Used (Grid + Solar): 54,713,361 kWh (100%)
- Solar Electricity Generated On-Site: 3,215,985 kWh (5.88%)
- Solar Electricity Used On-Site: 2,474,665 kWh (4.52%)
- "Green Power" Counted Toward Goal: 1,341,999 kWh (2.45%)

To meet its renewable energy targets, APS could consider financial instruments such as purchasing off-site RECs or entering into a Virtual Power Purchase Agreement (VPPA), similar to strategies used by Arlington County. However, these options would likely increase overall energy costs. Alternatively, APS may choose to revise its renewable energy goal, such as adjusting the target to 10%, while continuing to prioritize on-site solar projects that have a direct impact on schools.



Community Partnerships:

Virginia Cooperative Extension Master Gardeners

Virginia Cooperative Extension Master Gardeners (EMGs) continue to support garden education and gardens in a number of Arlington Public Schools through our Youth Education Program (YEP). During the 2024-2025 school year, the number of programs has continued to increase as well as the number of events and total number of students impacted. We also modified our time accounting method and record keeping for our YEP events. This new method allows us to better track learning events at each school location, numbers of students and adults impacted, and totals for all activities. During the school year, we had approximately 115 events over 10 schools, totaling over 400 volunteer hours across and engaged over 1,800 students.

For each school, we designate a lead EMG who has a relationship with the teacher who leads the gardening program, often a science or exemplary teacher. The curriculum is focused on gardening activities with specific topics developed for the age group and time allotment with the goal of both in-classroom instruction and outdoor activity. These programs occur as is requested by the school program and coordinate with the EMG; some programs include instruction throughout the year and others are occasional or infrequent. We have year-round programs at: Barcroft ES, Carlin Springs ES, Discovery ES, Fleet ES (2 programs), Glebe ES, Innovation ES and Williamsburg MS. We have also added instructional programs at several pre-schools including Carlin Springs Montessori and Department of Park and Recreation Pre-Schools at Carlin Hall, Fairlington, Gunston, Lubber Run and Madison.

The curriculum has been developed for age-appropriate instruction about all aspects of gardening and native ecosystems. We cover aspects of soil, compost, water cycle, photosynthesis, propagation, plant components, pollination and the relationship between each element and the entire ecosystem. We focus mostly on growing vegetables but also discuss the importance of native plants and their role in the environment and the detrimental aspects of invasive plants. Our goal is to offer a comprehensive outlook on growing plants in our environment that adds benefit to nature and our surroundings.

Last November, the Youth Education Program was recognized by the State of Virginia, receiving the Governors' Volunteerism and Community Service award for 2024. https://servevirginia.org/stories-of-service/youth-education-program/

ECOACTION Arlington

EcoAction Arlington provided 10 presentations this fiscal year, reaching nearly 400 students at 9 different APS schools, primarily elementary and middle schools. These presentations have provided hands-on education about energy efficiency and renewable sources of energy, caring for our watershed, the importance of tree canopy, individual actions for students to learn how to reduce, reuse, recycle, and how action, advocacy, and policy ultimately drives change for a sustainable future.

They have also worked closely with high school students through their Student Board and Student engagement committee, and in partnership with the Arlington Students for Climate Action, many of which attend Arlington Public Schools.

Sustainability Liaison Program

SACS is proud of the successes in APS Facilities & Operations, but sustainability embodies more than the built environment. The true heartbeat of sustainability at APS comes from the extraordinary Sustainability Liaisons. This program began in FY2016 with 10 pilot schools and is now in its third year of being fully funded at all APS schools. This school year there were 42 Sustainability Liaisons supporting 39 schools and programs.

The Sustainability Liaison Program is the cornerstone of merging the sustainable practices in our built environment with the educational and habit building sustainability practices inside our schools. This year APS Sustainability Liaisons championed and helped facilitate over 27 recycling projects, 22 reduce and reuse projects, 16 composting activities, 31 gardening activities, 13 energy conservation activities, and hosted 9 educational sustainability speakers. They continue to increase outdoor learning activities with wildlife connections, invasive plant species removals, and litter clean ups around their schools. Liaisons and their students also created sustainability educational newsletters, videos, and posters for their communities.

Many of the Liaisons have established environmental clubs within their schools and often partner with community groups. In the Community Partnership section above, we highlighted two long-standing partner organizations that have consistently supported APS over the years, along with a summary of their contributions during the past school year. Additional organizations that partner with APS schools include, but are not limited to, the Smithsonian Migratory Bird Center, Arlington Regional Master Naturalists, Tree Stewards of Arlington and Alexandria, Sierra Club, Arlington County Department of Environmental Services, and the Chesapeake Bay Foundation. SACS will continue to support APS Sustainability Liaisons in cultivating these valuable partnerships and hope to collaborate with APS School and Community Relations to further strengthen these connections.

The work these Liaisons do to embed sustainability practices into the culture of their school cannot be understated. Appendix C illustrates the breath of sustainability activities occurring at APS Sustainability Liaisons have led for the past 3 school years. In addition you can visit our SACS webpage to see the full PowerPoint Presentation of this year's Liaison project highlights.

APS-Wide Program Suggestion: Share Table

Background:

At the direction of the Superintendent, SACS reviewed numerous projects led by the Sustainability Liaisons and students across APS to identify one that could be implemented district wide as a new sustainability initiative.

Projects were evaluated using the following criteria:

- Physical needs and feasibility (space and equipment)
- Cost and budgetary implications
- Technical training required
- Difficulty/complexity of implementation
- Number of stakeholders required for continued success
- Difficulty to maintain during times of leadership/personnel change at school
- Alignment with Virginia Standards of Learning
- Overall Impact on students and school sustainability
- Student Engagement opportunity
- Alignment with other advisory committees (such as the School Health Advisory Board)
- Input from APS staff (including Sustainability Liaisons and Food and Nutrition Services)

Recommendation:

Based on this evaluation, SACS recommends the implementation of **"Share Tables" across all schools** as the most viable and impactful initiative.

Share Tables are a place where students can place unopened, uneaten, and/or sealed food that they choose not to eat during the school's breakfast and lunch program, providing other students an opportunity to take additional helpings of food that would otherwise be thrown away.

While serving a greater need for nutrition within schools, these tables also help in the reduction of food waste which ends up in landfills, as well as help mitigate increasing costs from waste hauling services for larger quantities of waste.

The initiative to implement Share Tables across the entirety of APS is also supported by the School Health Advisory Board (SHAB), who are recommending it to the School Board.

Strategic Plan Alignment:

- ***Community Partnerships****:* Share Tables have already been implemented in multiple APS schools, in partnership with local community groups, the Healthy Community Action Team (HCAT) and DC Food Project.

- ***Free Meals:*** While Share Tables do not provide free full meals, they do offer greater opportunities for free snacks and supplemental food for students, reducing overall hunger which can impact students' focus.

- ***School Climate and Mental Health:*** Share Tables can help improve nutritional status of children through consumption of more fruits, vegetables and other nutrient-dense foods like

hummus, yogurt and cheese. Additionally, every Share Table has a nutrition education component, complementing the educational mission of schools by extending education from the classroom to the lunchroom. Habituating children to share their uneaten food is a public health "nudge" that can influence dietary choices at home and the behavior patterns they will carry into adulthood. Share Tables can also cultivate an ethic of empathy, building a strong, connected school community among the student body.

Budgetary Implications:

Minimal/None. This was a key factor in selecting this initiative. APS can leverage the existing model already successfully implemented at other APS schools with Share Tables. Implementation can be supported using existing staff, along with assistance from HCAT, SACS, and SHAB.

Proposed methods:

Based on conversation with HCAT, SACS recommends the following:

- Create or revise an APS policy requiring all schools to implement Share Tables, signaling the long-term focus and importance of this initiative
- Working with SHAB, SACS, and APS employees, develop guidelines for the program to be utilized at each school, including but not limited to:
- Identifying a point person(s) for the program who is responsible for managing the program, including monitoring the food table, disposing of any expired food, and removal of all food at the end of the school day.
- Designate a launch date and educate staff/students ahead of the date on what can be placed on the Share Table. Guidance can be shared by SHAB or other schools already implementing the program. Educational materials (such as posters) can be shared by SHAB, as well as developed by school staff and students.
- Decide if and where students can access Share Tables outside of lunch hours.
- Connect with and encourage higher grades/groups/clubs to be champions and assist with monitoring of the Share Table, as well as educating peers.
- Decide if the school will have a dedicated fridge for the Share Table, if available.
- One week per school year, the Share Table Leader should coordinate the logging and recording of all items placed on the Share Table, and all items taken or disposed. This will help APS understand the impact and effectiveness by providing key metric data.
- The US Department of Agriculture supports the use of Share Tables, and provides safety requirements and other best practices which can be referenced and included in APS guidance.

Environmental Performance

Energy

In Appendix B, both the site and source energy use intensity (EUI) can be observed for each school for FY2023 and FY2024, as well as FY2019 as pre-covid reference.

Site EUI refers to the amount of energy used per square foot annually. It's calculated by dividing the energy consumed by the building in a year by the total gross floor area. Like miles per gallon for cars, EUI is an important indicator of a building's energy performance.

Similarly, Source EUI refers to the amount of energy needed to power the building per square foot annually. However, it's calculated by dividing the total energy generated to power the building in a year by the total gross floor area. This includes not only the energy directly consumed by the building, but also the power lost across transmission lines on the grid, known as 'grid loss'.

Across the APS portfolio, both site and source EUI **decreased by ~16%** from FY19 levels to FY24, however **increased by ~1%** from FY23 levels to FY24.

APS applauds the Barcroft lighting and HVAC renovation that was completed in FY25. APS notes that energy use has already dropped due to the LED lighting upgrades, and SACS is eager to monitor continued energy reductions now that the HVAC system is fully installed and operating. SACS is also hopeful to hear that geothermal heating and cooling may be utilized in the Hoffman Boston HVAC upgrade and will continue to support projects like these that improve energy efficiency and healthy environments for APS students.

APS Strategic Plan - Renewable Energy:

APS has a goal of consuming 100% renewable electricity by 2030. In FY24, APS generated over 3.2 million kWh of solar electricity on-site at various schools, using 77% of this electricity while exporting 23% to the local grid system (which lowers electricity bills). Furthermore, only a portion of the electricity can be labeled "Green Power". This is because APS sells the Renewable Energy Certificates (RECs), or essentially the rights to call the energy "green", from the solar panel systems across many of the schools. Selling RECs is a common practice that often allows for a solar project to be financially viable, however technically it does not allow many of the solar panels across APS to contribute to this goal.

- **Total Electricity Used (Grid + Solar):** 54,713,361 kWh *(100%)*
- **Solar Generated:** 3,215,985 kWh *(5.88%)*
- **Solar Used On-Site:** 2,474,665 kWh *(4.52%)*
- **"Green Power":** 1,341,999 kWh *(2.45%)*

In December 2024, APS installed their 10th solar array at Cardinal Elementary. We recommend to the Superintendent that all roofs across APS are investigated for solar array potential, especially during roof replacements, to help meet this goal.

Achieving the goal of 100% renewable electricity via on-site systems only (solar, etc.) will be nearly impossible with current technology, space availability, and the sale of RECs from the systems. APS could review the use of financial instruments, such as the purchase of off-site RECs and Power Purchase

Agreements (PPAs), to meet this objective, similar to Arlington County. However, this would increase energy costs. Alternatively, APS can investigate revising this goal, such as lowering it to 10%, and remain focused on on-site opportunities with direct impact on schools.

APS Strategic Plan - Site EUI:

APS has a goal of 75% of schools having a Site EUI of 56 kBtu/ft^2 (or below) by 2030. Across our portfolio, the average Site EUI for our schools was 54.8 kBtu/ft^2, with **51% of schools at or below the goal Site EUI**.

As a point of reference, 41% of schools are below the national median of 48.5 kBtu/ft^2.

APS Strategic Plan - Natural Gas:

For natural gas specifically, APS has a goal of reducing natural gas use by 20% from the baseline 2007 levels by 2030. In 2007, APS used 1,190,817 therms of natural gas, while in FY24 they used 1,083,012, resulting in a 9% **decrease since the baseline year**, over halfway to the goal.

SACS Comment - Adjusted baselines:

APS has grown from approximately 4.14M sqft to 4.96M sqft, around 20% larger today than in 2007. When the baseline year (2007) is adjusted for size to account for the larger APS portfolio today, the revised baseline is 1,424,634 therms, resulting in a 27% decrease since the adjusted baseline year, well exceeding the goal.

It is advised that APS revise baselines to account for material portfolio changes, similar to the GHG Protocol.

GHG Emissions

The Greenhouse Gas (GHG) Emissions Intensity is similar to EUI, where APS measures the amount of GHG emissions per square foot to normalize data across schools of various sizes.

GHG emissions intensity follow a similar pattern as energy. Across the APS portfolio, GHG emissions intensity **decreased by 19%** from pre-covid FY19 levels to FY24 and **decreased by less than 1%** in the past year from FY23 levels to FY24.

APS Strategic Plan – GHG Emissions:

APS has a goal of reducing total Scope 1 and 2 GHG emissions from schools (not including transportation) by 67% of schools from the 2007 baseline levels by 2030. In 2007, APS emissions equaled 33,347 $MTCO_2e$, while in FY24 they totaled 20,867 $MTCO_2e$, resulting in a **37% decrease since the baseline year**, over halfway to the goal.

As a point of reference, the 13,303 $MTCO_2e$ reduction in emissions is equivalent to planting nearly **220,000 trees** and is equivalent to the amount of carbon that over **13,000 acres** of US forest sequester every year. That is a larger area than **six times the size of all public parkland put together in Arlington County** (County-owned: 950 acres; Regional/NOVA Parks: 135 acres; Federal: 947 acres).

SACS Comment - Adjusted baselines:

APS has grown from approximately 4.14M sqft to 4.96M sqft, around 20% larger today than in 2007. When the baseline year (2007) is adjusted for size to account for the larger APS portfolio today, the revised baseline is 39,893 $MTCO_2E$, resulting in a 50% decrease since the adjusted baseline year.

Per the GHG Protocol, it is advised that APS revise baselines to account for material portfolio changes over time.

Water

The Water Use Intensity (WUI) is similar to EUI, where APS measures the amount of water (in gallons) per square foot to normalize data across schools of various sizes.

WUI across the APS portfolio saw a **13% decrease of WUI from FY19 to FY24,** thanks to water conservation efforts across APS. In total, **APS saved nearly 3 million gallons of water in FY24 compared to FY19.**

While APS has seen an overall decrease of WUI from FY19 to FY24, they did experience an **increase in WUI from FY23 to FY24 by 6.6%**. Most of this increase was due to a malfunction in a stormwater cistern which was used for toilets and irrigation at Wakefield High School. It was discovered that domestic water from the county was flowing into the cistern continuously, and the issue was addressed after discovery.

Appendix A: SACS 2023-2024 Membership

SACS meets on the third Tuesday of each month, except for July and August. All meetings are open to the public. Members are appointed to two-year terms and participate on a volunteer basis.

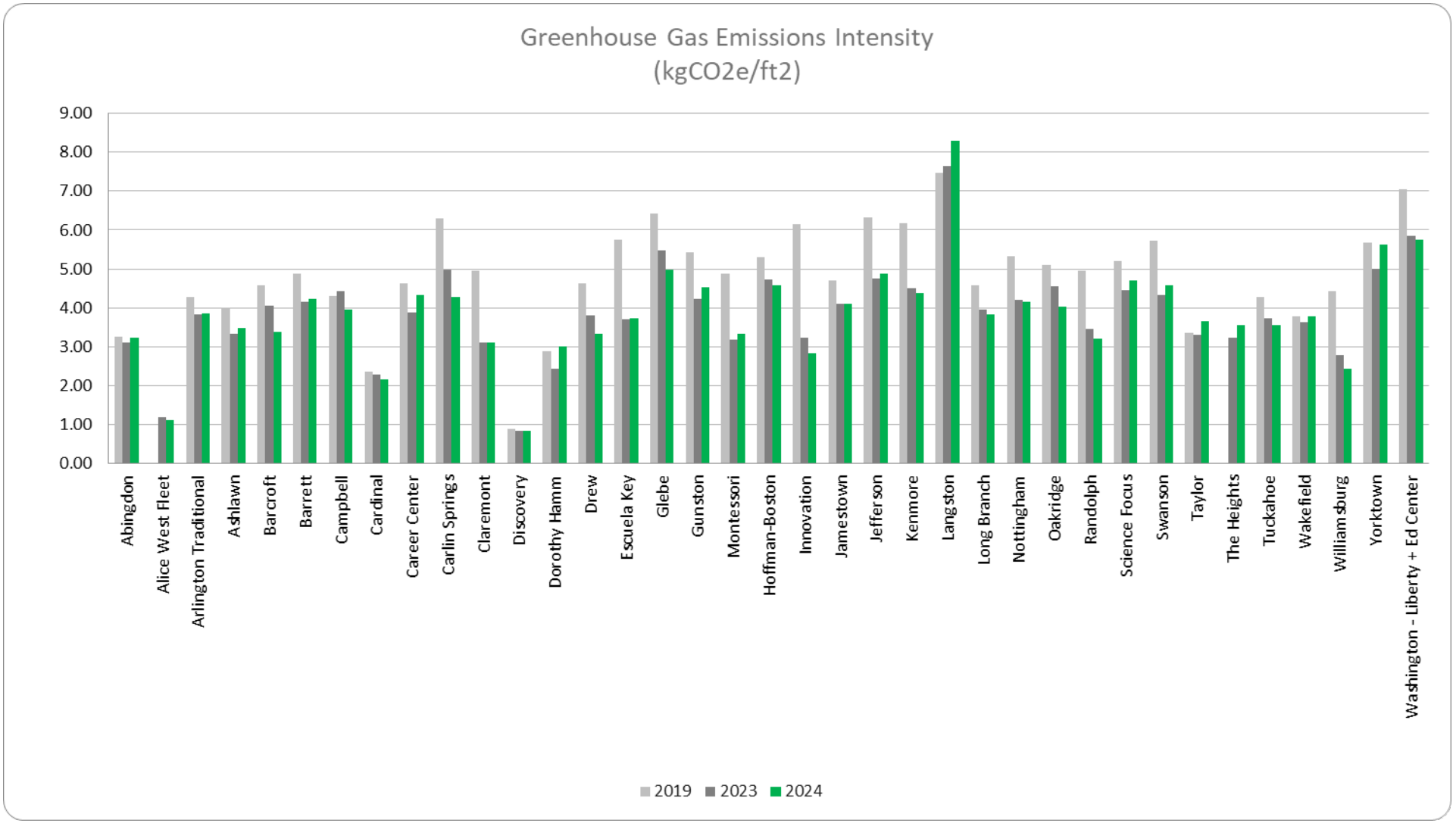
Appointed Members

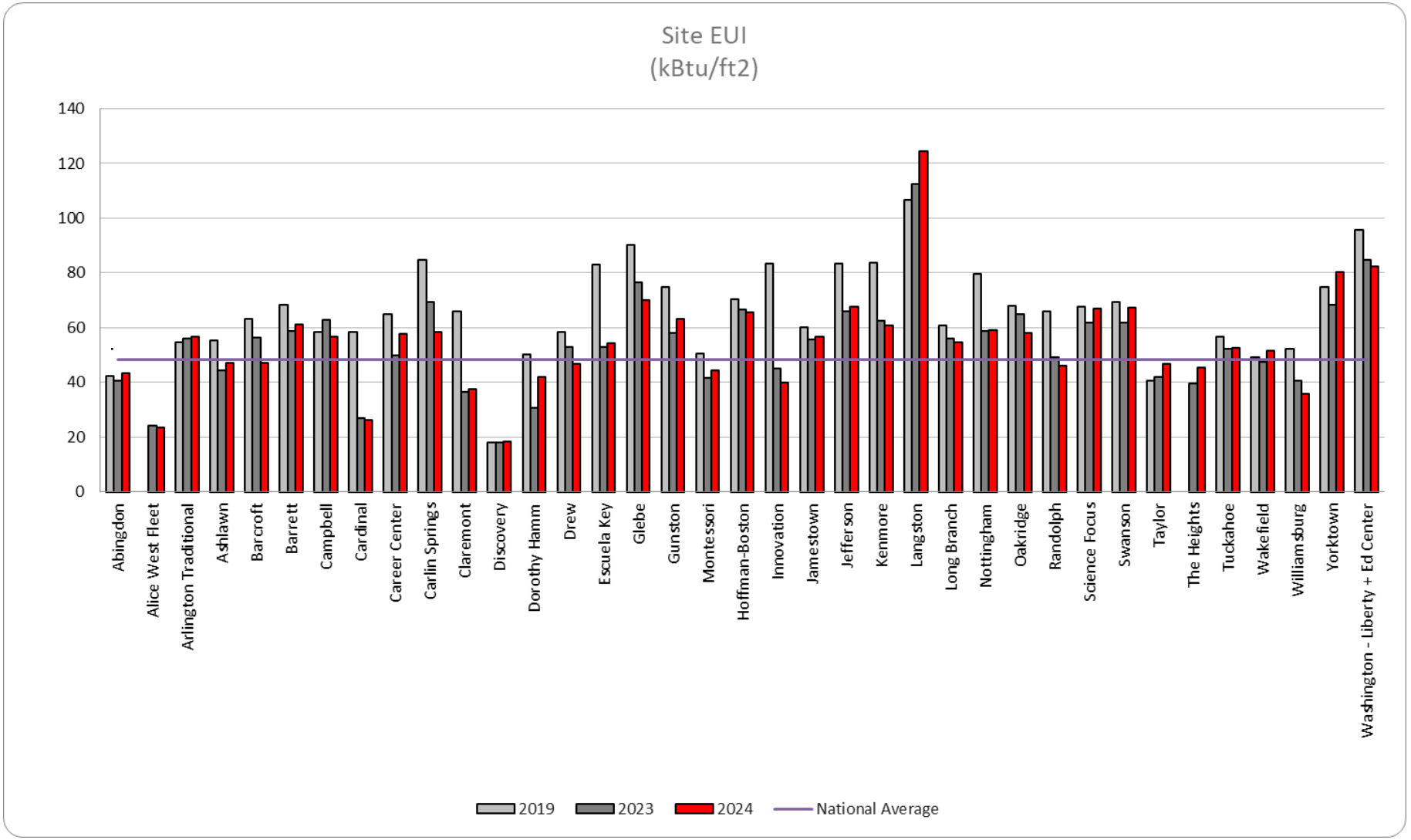
Meredith Allen	M. Ed, Senior Instructional Technology Coordinator, Tuckahoe Elementary School
Richard Derbyshire	Retired, Technology Specialist and Architectural Consultant. Extension Master Gardener.
Elenor Hodges	M.Ed., Executive Director, EcoAction Arlington
Paul Kaplowitz	Retired pediatric specialist, member of the Executive Committees of the local Sierra Club group and Tree Stewards of Arlington and Alexandria
Gregory Lloyd	CCM, LEED AP BD+C, TRUE Advisor, Construction Manager, Wesley Housing
Leah Nichols	Ph.D., Executive Director, Institute for a Sustainable Earth, GMU
Cynthia Palmer	JD, MPH, Senior Analyst for Petrochemicals, Moms Clean Air Force, EDF
Eric Tilden	PE, Director of ESG, Playa Hotels and Resorts
Sara Ibrahim	JD, Policy Advisor for a Nonprofit Organization, APS Parent, Dr. Charles Drew Elementary School
Laura Watchman	M.S., LEED AP Neighborhood Development, Board Member, Faith Alliance for Climate Solutions

Staff

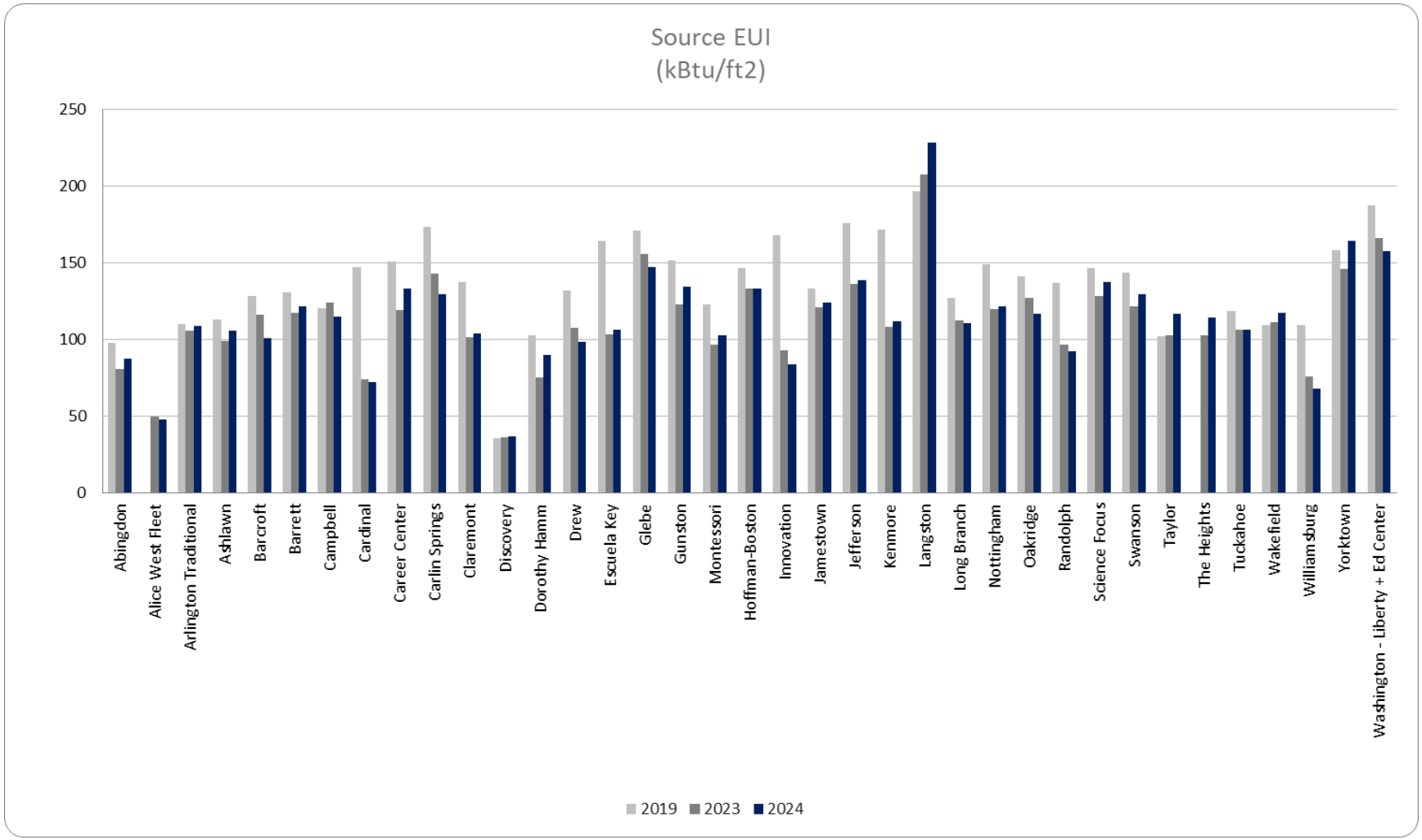
Cathy Lin	CEM, APS Director, Facilities and Operations
Dat Le	Ph.D., APS Science Supervisor
Tanner Prime	CEM, APS Energy/Stormwater Program Manager

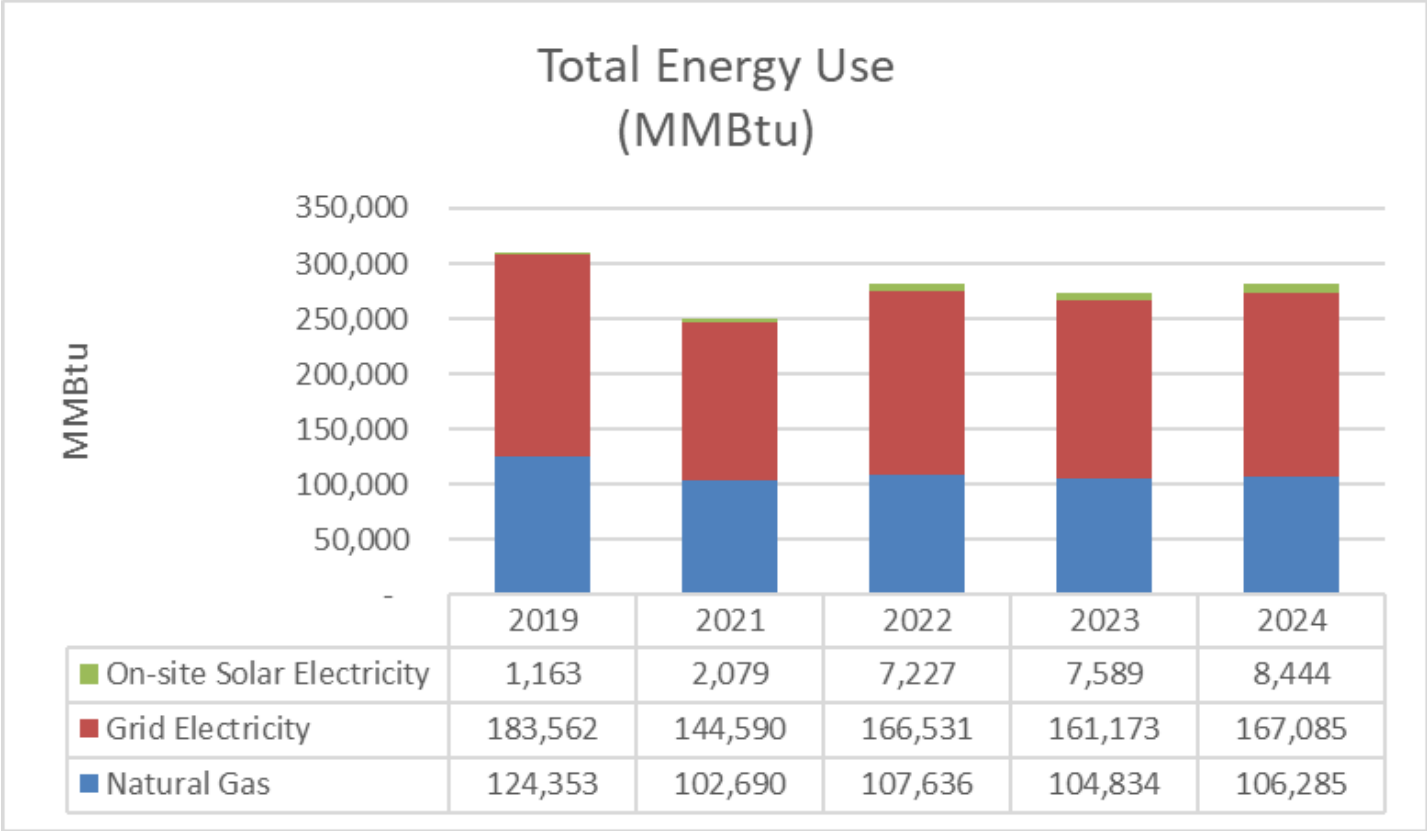
Appendix B: Energy, GHG Emissions, and Water Graphs





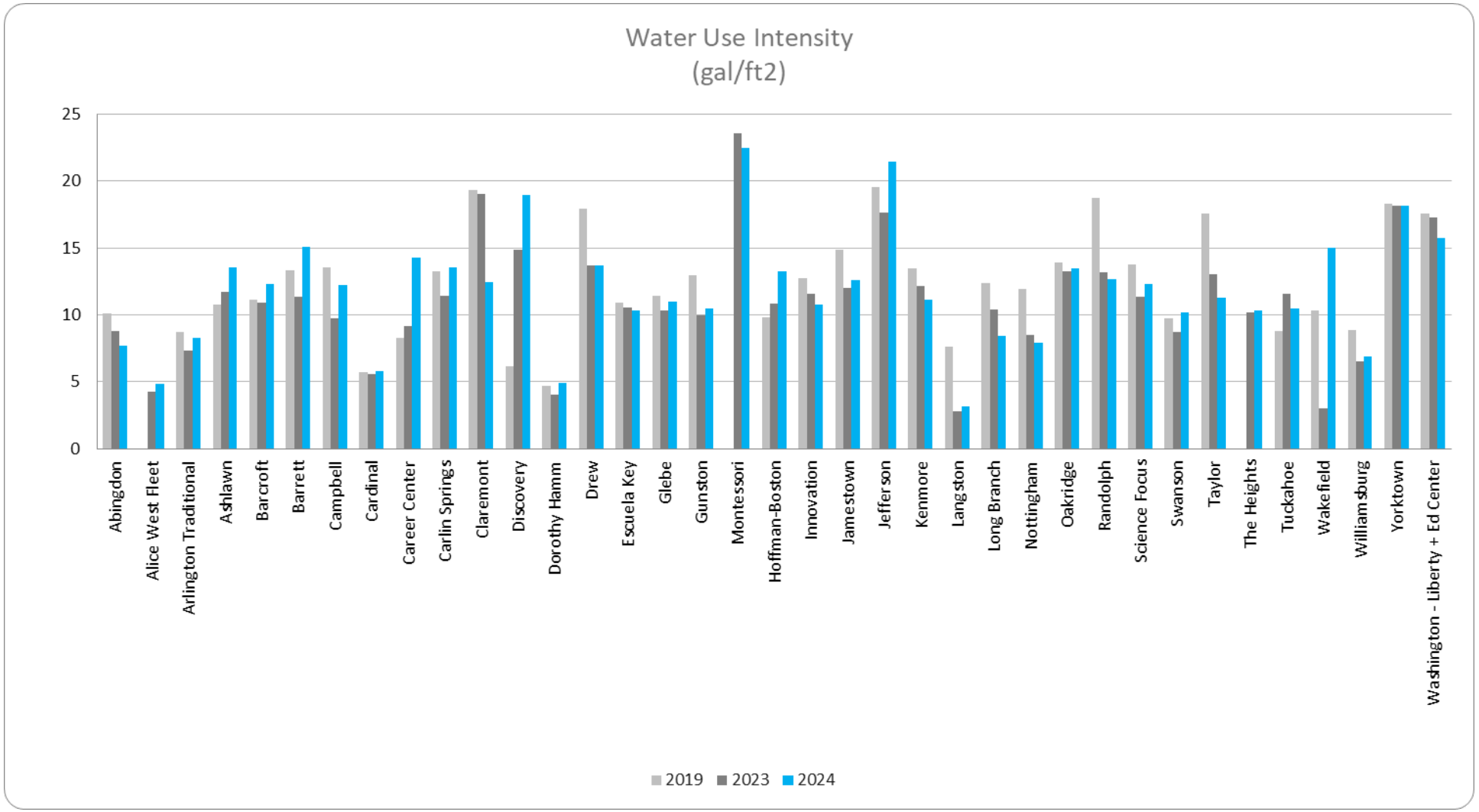
Note: The purple line represents a Site EUI of 48.5. This is the national median for K-12 schools across the U.S., per ENERGY STAR. Schools below this line are seen as more energy efficient than the national median school.
https://portfoliomanager.energystar.gov/pdf/reference/US%20National%20Median%20Table.pdf


Source EUI
(kBtu/ft2)
250
200
150
100
50
0
Abingdon
Alice West Fleet
Arlington Traditional
Ashlawn
Barcroft
Barrett
Campbell
Cardinal
Career Center
Carlin Springs
Claremont
Discovery
Dorothy Hamm
Drew
Escuela Key
Glebe
Gunston
Montessori
Hoffman-Boston
Innovation
Jamestown
Jefferson
Kenmore
Langston
Long Branch
Nottingham
Oakridge
Randolph
Science Focus
Swanson
Taylor
The Heights
Tuckahoe
Wakefield
Williamsburg
Yorktown
Washington - Liberty + Ed Center
2019
2023
2024



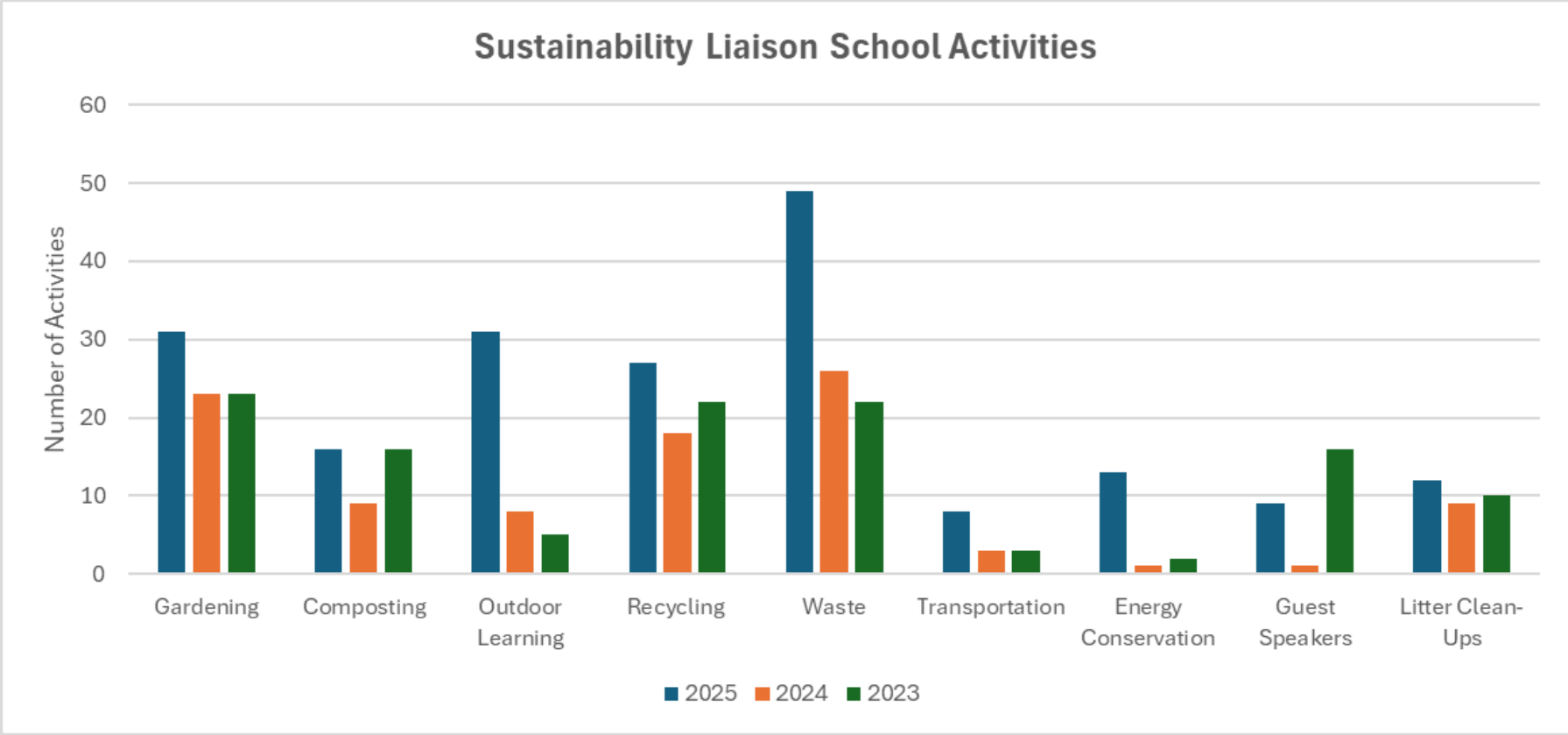
	2019	2021	2022	2023	2024
On-site Solar Electricity	1,163	2,079	7,227	7,589	8,444
Grid Electricity	183,562	144,590	166,531	161,173	167,085
Natural Gas	124,353	102,690	107,636	104,834	106,285

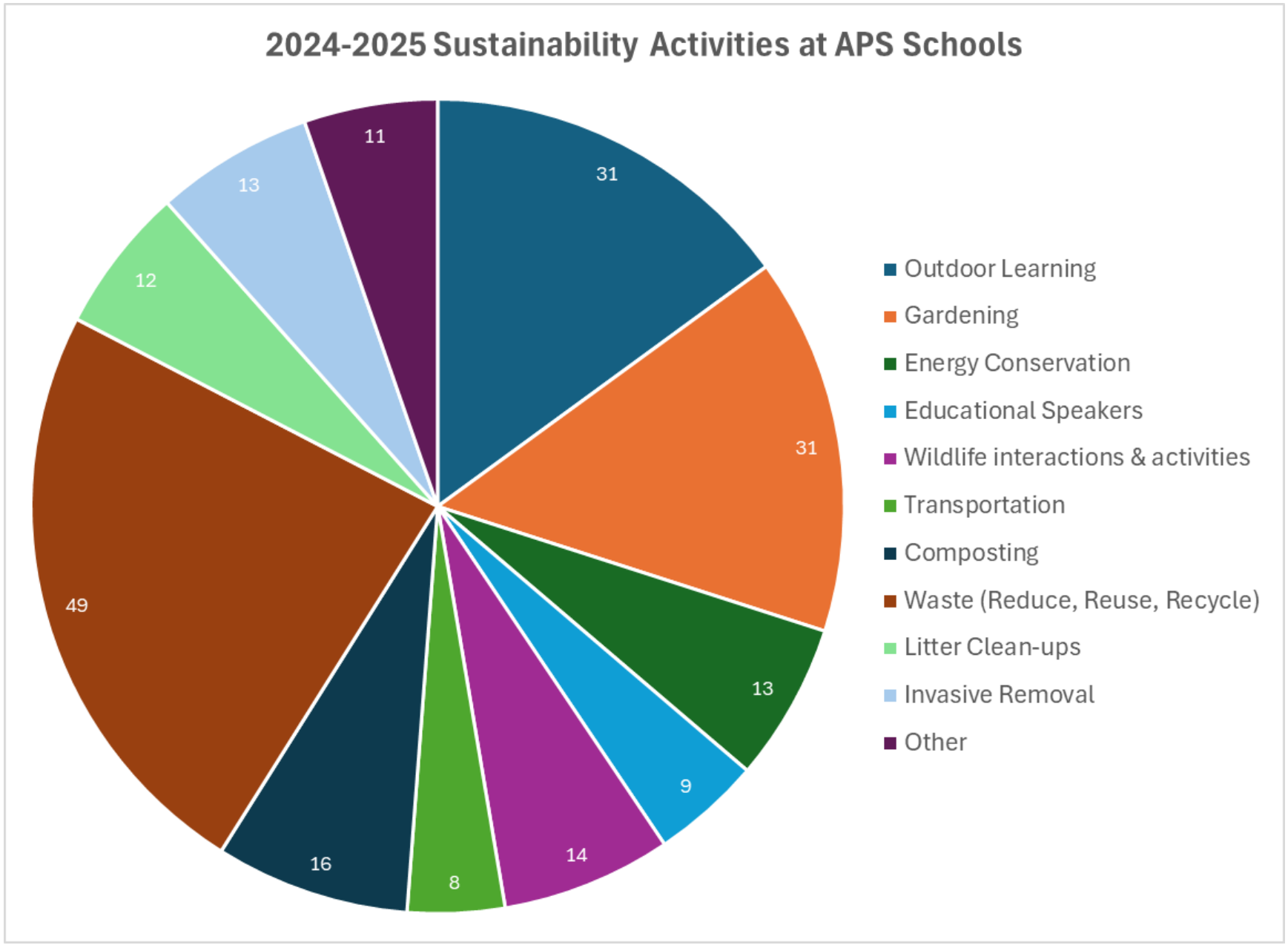
Note: "On-site Solar Electricity" shown here represents electricity generated **and used** by the school. Approximately 23% of electricity generated by APS solar panels is not directly used by the school but instead sent back to the grid, reducing the overall electricity bill for APS.



Note: FY 2019 water use for Montessori (previously Patrick Henry) has been hidden in this graph due to the building cooling system having issues resulting in extremely elevated water usage, which was resolved in 2019. Including the data skewed the graph to a point that was not useful in reviewing APS as a whole.

Appendix C: 2024-2025 Sustainability Liaison Project Presentation




2024-2025 Sustainability Activities at APS Schools
31
31
13
9
14
8
16
49
12
13
11
Outdoor Learning
Gardening
Energy Conservation
Educational Speakers
Wildlife interactions & activities
Transportation
Composting
Waste (Reduce, Reuse, Recycle)
Litter Clean-ups
Invasive Removal
Other