

BOARD OF SUPERVISORS ENVIRONMENTAL COMMITTEE

December 14, 2021

11:00 A.M.

Government Center Board Room

Board of Supervisors Members Present:

Board Chair Jeffrey C. McKay
Committee Chair Daniel G. Storck, Mount Vernon District
Supervisor Walter L. Alcorn, Hunter Mill District
Supervisor John W. Foust, Dranesville District
Supervisor Penelope A. Gross, Mason District
Supervisor Pat Herrity, Springfield District
Supervisor Rodney L. Lusk, Lee District
Supervisor Dalia A. Palchik, Providence District
Supervisor Kathy L. Smith, Sully District
Supervisor James R. Walkinshaw, Braddock District

Others Present:

Bryan J. Hill, County Executive
Christina C. Jackson, Chief Financial Officer
Elizabeth D. Teare, County Attorney

December 14, 2021, Meeting Agenda:

[December 14, 2021 Environmental Committee Agenda \(fairfaxcounty.gov\)](#)

December 14, 2021, Meeting Materials:

[Board of Supervisors Environmental Committee Meeting: Dec. 14, 2021 | Board Of Supervisors \(fairfaxcounty.gov\)](#)

The following is a summary of the discussion from the December 14, 2021, meeting.

Today's meeting was called to order at 11:00 A.M.

Item I Opening Remarks

After a brief introduction from Supervisor Storck, Committee Chair, the Environmental Committee was asked if there were any changes to the minutes of September 28, 2021. Supervisor Lusk requested that a reference to Street Simple in the minutes be amended to Street Simplified. The amendment was accepted, and with no further changes, the meeting minutes were accepted into the record.

Item II Electric Vehicle Charging Infrastructure Update

The second item on the agenda was an update on Electric Vehicle Charging Infrastructure, presented by Susan Hafeli, Deputy Director, Office of Environmental and Energy Coordination (OEEC).

Ms. Hafeli first provided an overview of Board direction related to electric vehicles (EVs) and charging infrastructure. The Operational Energy Strategy (OES), as first adopted in 2018, included targets for both, including a target that EV charging infrastructure be installed at up to 20 major government facilities by 2025. A 2021 update to the OES included new targets to accelerate the transition to EVs, including a target that fleet vehicles be electric or a non-carbon emitting alternative by 2035.

To date, the Board has approved \$3.046 million to support the design, construction, installation, and activation of the infrastructure needed to charge EVs. Following the adoption of the 2018 OES, staff began a procurement process to locate a vendor to provide and install Level II EV charging stations as county facilities. In November 2020, a five-year contract with renewal options was awarded to National Car Charging, whose team includes ChargePoint.

Next, Ms. Hafeli presented a list of the EV charging installations that are currently underway in county parking garages. Once completed, there will be 37 parking spaces with EV charging capability.

Deployment of the EV charging infrastructure at county government properties raises a number of challenges and considerations. One is equipment shortages and

supply chain disruptions occurring at the national level. While the county is not currently experiencing this issue, the increasing demand for EV charging infrastructure may lead to shortages in the future. Another concern relates to permitting and review. Although the county has experienced some delay on this front, these delays appear to be declining as county agencies and contractors become more familiar with the process and requirements.

Ms. Hafeli then turned to upcoming projects. Staff has compiled a list of 79 county government and Park Authority locations where EV charging stations could be installed. Factors considered for site selection included location, modifications needed to accommodate additional electrical load, expected demand, and proximity to other EV chargers. A first tranche of 24 projects includes new construction or major renovations with estimated completion dates by or before mid-2023, DVS facilities and other operational facilities, and Board member priorities where feasible.

Charging stations located in county-owned parking lots and publicly accessible garages will be available for use by the public or employees for a fee. They will also be available for county fleet vehicles. Charging stations in parking garages with restricted access will only be available to fleet vehicles.

Ms. Hafeli then touched on wider EV charging accessibility in the region. She noted that there are already a number of available EV charging stations in Fairfax County. When compared with nearby Montgomery County, Fairfax County has a similar number of publicly accessible Level II charging stations, even though Montgomery County has about three times the number of registered EVs.

In early to mid-calendar year 2022, staff anticipates presenting a proposal for the Board to consider EV charging rates. Prior to requesting approval, staff is considering a rate per kilowatt hour to charge and a dwell time rate to discourage drivers from parking in EV charging spaces while not actively charging.

In conclusion, staff has been moving forward with the design, permitting and installation work associated with the county's EV charging infrastructure and will continue to do so.

Board Discussion:

Supervisor Storck asked how many EVs are currently in the county fleet.

Ms. Hafeli stated that there are currently 16 EVs in the fleet. The Department of Vehicle Services has a request for additional vehicles in the upcoming budget.

Supervisor Storck asked for more details on how dwell time charges are assessed.

Ms. Hafeli responded that charging stations can monitor the vehicle's charging status. Staff is reviewing how other suppliers handle their dwell time rates.

Chairman McKay asked about the Montgomery County EV information presented and asked for more information about how Maryland has incentivized the use of EVs.

Ms. Hafeli stated that she would follow up on this question and provide that information to the Board.

Supervisor Walkinshaw stated that he believes an EV tax credit was in place in Maryland. Given that the number of charging stations in Fairfax and Montgomery are so similar, he noted that the driver of EV adoption in Montgomery County appears to be the tax credit, not access to public EV charging stations, as important as that might be. He asked about the charging stations for the county's fleet vehicles within county facilities and whether staff looked at the installation of Level III charging stations.

Ms. Hafeli responded that there is a significant cost differential, and increased electrical infrastructure demands for Level III charging stations. She believes the county's contract allows for the purchase and installation of Level III chargers, and this is something staff can look into going forward.

Supervisor Walkinshaw also asked if maintenance of the ChargePoint charging stations was included in the contract.

Ms. Hafeli responded that ChargePoint is indeed responsible for the repair and maintenance of its charging stations.

Supervisor Walkinshaw noted the importance of looking at the language in the contract to determine how quickly ChargePoint would come out to repair stations. Ms. Hafeli responded that there is a service charge that the vendor collects for each charging session, so if the station is not operable, it will result in lost revenue.

Supervisor Alcorn noted the need for EV charging at home and the challenges involved in installing chargers at HOAs and other multi-family residential buildings. He would like to see the county develop outreach materials to entities like HOAs on how to install EV charging infrastructure and what issues are involved.

Supervisor Storck echoed Supervisor Alcorn's comments and added that the county has a role to play in working with the private sector to encourage adoption of EV charging infrastructure. He also asked about the need for additional staff and whether we could use the private sector to undertake some of this work.

Ms. Hafeli responded that the practice has been to hand off completed construction and renovation projects to the Facilities Management Department (FMD) to install EV charging stations. One option staff is looking at is for the general contractor to install the charging stations, prior to handoff of the project. She also noted that the rollout of the federal Infrastructure Bill, signed in November 2021, could encourage and provide guidance on the use of the private sector in installing EV charging stations.

Supervisor Storck asked about the time estimate for Dominion Energy to perform upgrades to facilitate installations of the charging stations.

Ms. Hafeli responded that a six-month timeframe presented earlier was specifically in reference to the surface lot of the Government Center. It may take around four months to do these electrical upgrades, depending on the site.

Item III

Off-Site Solar Power Purchase Agreement Opportunity

The third item on the agenda was a presentation on an Off-Site Solar Power Purchase Agreement Opportunity by John Morrill, Division Manager, OEEC.

Mr. Morrill noted that his presentation will explain why on-site solar installations at county facilities will be insufficient in meeting the OES goals for government operations. His presentation is intended to introduce the concept of off-site power purchase agreements (PPAs) and seek Board direction on the pursuit of such agreements. Achieving the ambitious efficiency goals in the OES will help reduce

electricity use in buildings, but the parallel objectives of electrifying the vehicle fleet and replacing the use of natural gas with electricity will offset those gains.

Mr. Morrill provided an overview of annual electricity use by Fairfax County Government. It uses about 250 million kilowatt hours of electricity each year. Nearly half of the electricity is used in government office buildings. Another 35 percent is used in Public Works facilities, some of which are very energy-intensive, such as the Noman Cole Wastewater Treatment Plant. Fifteen percent is used by the Park Authority, including energy-intensive aquatic centers that serve the community.

For an illustration of the energy intensity of our electricity use, the Government Center would require about 40 acres of solar panels to meet its annual needs, even though energy efficiency improvements implemented over the last decade have cut electricity use by 20 percent. The maximum practical capacity of on-site solar panels would only satisfy 10 percent of the government's annual electricity use. County electricity use is likely to remain level in years ahead, as efficiency gains are offset by increased electrification. Mr. Morrill showed a chart comparing current (2018) energy use to projected energy use in 2040, assuming the targets of the OES are met. While fossil fuel use will decrease, the chart demonstrates how electrification of vehicle fleets and buildings will offset gains made from implementing energy efficiency targets.

He then showed a chart showing a possible mix of sources to achieve 100 percent renewable electricity and noted that an off-site PPA could more than satisfy the OES goals. In fact, it could help the county achieve 100 percent renewable electricity by 2030. Off-site PPAs are designed to be cost-neutral to the customer.

Mr. Morrill showed a graphic illustrating how an off-site PPA transaction works. The county, as the customer, would seek a partnership with a renewable energy developer that wishes to build a large solar or wind array. Following negotiations, the county would agree to pay a fixed amount for wholesale renewable electricity from the project developer. Electricity generated from the solar or wind array would be sold into the wholesale electricity market. The project owner passes the market price received from the wholesale market to the county. If the price from the wholesale market is higher than the fixed price agreed to by the county and the project developer, the county makes net revenue. If the wholesale price is lower than the fixed rate, the county has a net cost. Over the course of a year, as wholesale electricity prices move dynamically with the market, the expectation is

that the county will break even. The key point of the transaction is that the county receives the renewable energy credits for the electricity generated by its purchases. The county would continue to purchase electricity and receive service from Dominion Energy. The off-site PPA transaction is fundamentally financial but it also generates high-quality renewable energy credits. Arlington County executed a similar agreement in 2020 with Amazon with Dominion Energy acting as the project developer.

In our region, the wholesale market for electricity is coordinated by an organization called PJM Interconnection. The amount of carbon pollution generated from electricity generation varies by state, depending on the mix of coal, nuclear, gas, and renewables in the state. A solar or wind array in a neighboring state may offset much more carbon than a similar facility in Virginia.

Staff recommends exploring the idea of an off-site PPA more deeply and engaging additional agencies with this work, including finance and legal. Staff recommends discussing options with Dominion Energy to engage their interests and begin preparing a Request for Proposal (RFP). Among the considerations in the RFP are what social and environmental requirements would the county wish to include in the transaction, and where the project should be located.

In conclusion, the county will continue to pursue on-site solar energy systems at government facilities. Those installations will not be enough, and staff seeks direction from the Board to continue exploring off-site renewable options in a manner beneficial to county government to meet or exceed the OES goals.

Board Discussion:

Supervisor Storck asked Mr. Morrill to address how to limit the environmental impact of renewable energy projects (like cutting down trees to build solar fields).

Mr. Morrill stated that would be an important consideration should the county pursue an off-site PPA. The county would include criteria and requirements for minimizing impact on wetlands and tree removal. There could also be considerations for the workforce involved with construction.

Supervisor Walkinshaw thanked Mr. Morrill for an excellent presentation and confirmed his support for the efforts proposed. He asked if we impose any social

and environmental considerations on the fossil fuels we purchase indirectly from Dominion Energy.

Mr. Morrill responded that we are unable to do so.

Supervisor Walkinshaw asked that we consider the social and environmental aspects of any renewable energy project but noted that these are not standards currently applied to fossil fuels. In terms of the location, he stated that we should go where we can get the best value.

Supervisor Gross requested that we use the term solar arrays, not farms. The MWCOG and VACo legislative packages discussed the use of non-agricultural lands for solar arrays. She agreed that we should not use productive agricultural lands for solar arrays. She asked that we consider who would be responsible for dismantling the renewable energy equipment after its useful life.

Supervisor Lusk asked about the Arlington PPA project and how many megawatts were going to the county versus Amazon, where the project will be located and what costs the county will incur.

Mr. Morrill stated that the project is a 120 megawatt solar array in Pittsylvania County. Amazon will receive the output from about 80 megawatts; Arlington will receive the output from about 37 megawatts. The site is under construction and expected to begin delivering next summer. The anticipated cost to the county is limited to consultants to help advise on the transaction of this size.

Supervisor Lusk asked of the megawatts Arlington County will receive from the project, what percentage of their total megawatt usage does that represent.

Mr. Morrill responded that it is about 90 percent.

Supervisor Foust expressed his support for the project. He asked what it means to max out our solar potential in Fairfax County.

Mr. Morrill responded that staff looked at the roof area of county buildings as well as parking lots and garages to determine where solar is feasible. The county government building stock tends to be multi-story and includes equipment on the roof. The amount of on-site area for solar installations is limited. The county building stock also tends to have a lot of small and medium buildings. Installing

solar on these buildings would be more expensive in comparison to larger rooftops. It's partly a practical and physical limit, but there is also a limit of economics. The area of availability relative to the energy intensity of our consumption isn't there.

Supervisor Foust asked if there are any regulatory hurdles we have to deal with in Virginia for off-site PPAs.

Mr. Morrill stated that, at the moment, staff is not aware of any, but that is something to keep looking into. The Arlington arrangement was through Dominion Energy, and so one option is to do a competitive agreement with a third-party entity. Dominion may or may not be interested depending on its needs.

Supervisor Smith asked for clarity that the electricity that would be generated through this project would not necessarily electrify the county but would put electricity into the system.

Mr. Morrill responded that was correct.

Supervisor Alcorn expressed his support for moving forward with this effort. He noted that the county has a number of data centers; we could perhaps enter into conversations with these corporate owners or even the federal government to partner on this initiative.

Item IV Resilient Fairfax Update

The fourth item on the agenda was an update on Resilient Fairfax, presented by Matt Meyers, Division Manager, and Allison Homer, Senior Community Specialist, OEEC.

Mr. Meyers presented background information on the Resilient Fairfax planning initiative. Resilient Fairfax involves identifying the current climate conditions in Fairfax County and projections for future years; looking at where we are vulnerable in the county; auditing existing plans, policies, and programs to determine where we are resilient and identify opportunities for improvement; developing climate adaptation and resilience strategies; and developing an implementation roadmap to identify funding, staffing and timelines for these strategies.

Over 100 stakeholders are involved in the planning initiative, including a Planning Team made up of county departments and agencies, an Infrastructure Advisory Group and a Community Advisory Group.

Mr. Meyers shared a timeline of the planning initiative. The first three technical documents have been drafted and reviewed by stakeholders. These documents include the Climate Projections Report, Vulnerability & Risk Assessment, and the Audit. Drafts will be shared with the public for comment in the April and May 2022 timeframe. The Planning Team is currently in the process of developing climate adaptation and resilience strategies, with input from stakeholders.

Ms. Homer then presented some of the results from the Climate Projections Report. This report identifies what climate conditions we see in the county now and what we will face in the future. The report details the raw data of temperature, precipitation, sea level rise, severe storms, and drought. The report does not address the impacts of these hazards, which are included in the subsequent report, the Vulnerability and Risk Assessment.

The Climate Projections Report includes projections for two future time periods, 2050 and 2085. These future periods were compared to baseline and current time periods. The projections included two emissions scenarios, and were based on over two dozen climate models that were downscaled for Fairfax County specifically, which is a rare and valuable level of detail for a county plan. The future climate projections were supplemented by measured observational data, including rain gauges, tide gauges, storm data, and detailed land surface temperature measurements, thanks to a partnership with NASA Develop.

The results of the Climate Projections Report show that the county is anticipated to experience warmer, wetter, and weirder climate conditions. In the warmer category, we are expected to see an increase in annual temperature by up to eight degrees Fahrenheit. The number of hot days will also increase from seven days per year to 70 days per year. In addition to these general temperature increases, there is the urban heat island effect, which makes urbanized areas of the county significantly hotter than areas of the county that have ample green space or lower albedo.

In the wetter category, we anticipate seeing an increase of annual and seasonal precipitation amounts and intensity, and flooding of the Potomac River due to sea

level rise and coastal storm surge. In the weirder category, we expect to see an increase in the severity of storms, unseasonably warm and cool temperatures, and periods of no precipitation followed by sudden and heavy precipitation.

The second major deliverable from Resilient Fairfax, the Vulnerability and Risk Assessment, identifies where we are vulnerable given the climate projections identified in the first report. This report examined 27 subsectors, including a range of infrastructure types, public service types, and population data. Vulnerability is defined as a combination of exposure, sensitivity, and adaptive capacity. To be considered a top vulnerability, a subsector needs to score poorly across the board. From this information, we were able to identify our top vulnerabilities which were then taken to the next step, the risk assessment. The Risk Assessment evaluates the top vulnerabilities for likelihood of occurrence and severity of consequence.

From this process, we were able to identify the county's top risks that need prioritized attention. They include heavy precipitation causing inland flooding of communities, combined hazard stress on natural systems, storms and wind causing damage and safety risks, storms and wind causing power outage impacts, extreme heat causing health impacts, coastal flooding, and extreme heat causing damage to built systems.

The third major technical report being finalized is an audit of existing policies, plans, and programs. This report evaluates how we are currently doing in terms of climate resilience. The audit helps us identify opportunities for improvement that can be addressed in the strategies phase. This assessment has involved an examination of over 100 county plans, policies, and programs. Generally, Fairfax County is doing fairly well. Our programs, commitments, and policies are strong. We have room for improvement in a few categories, including energy infrastructure resilience, population services for those most vulnerable to climate hazards, buildings and site resilience, and transportation infrastructure resilience.

The strategies phase of Resilient Fairfax helps us to identify what the county should do to enhance our resilience. Our consultants and staff compiled a starter list of over 100 strategies based on the preceding assessments, stakeholder engagement, and a database of national and best emerging practices. An initial filter was applied to the starter list to identify strategies that address a top risk from the Vulnerability and Risk Assessment and strategies that are within county control. This past week, workshops were conducted with the Planning Team, Community Advisory Group, and Infrastructure Advisory Group. Based on the

feedback received, the strategies will be refined and prioritized and further fleshed out in the implementation roadmap.

Mr. Meyers concluded the presentation by providing an overview of next steps in the planning process, including the presentation of the final Resilient Fairfax Plan to the Board in the fall of 2022.

Board Discussion:

Chairman McKay asked that staff work with the Office of Public Affairs and others to make sure the upcoming public comment period for Resilient Fairfax is made widely available. He also suggested that the process be separate from the budget process in April.

Item V Litter Task Force Report

The fifth item on the agenda was a presentation on the Litter Task Force Report, provided by Jen Cole, Executive Director, Clean Fairfax Council.

Ms. Cole noted that the Litter Task Force came about as a result of a Board Matter adopted in September 2020. The work of the Task Force was conducted between January and December 2021; it met monthly to discuss and identify litter reduction strategies.

The Task Force was able to identify several “universal truths” about litter in Fairfax County: that litter is everyone’s problem, but not anyone’s responsibility; it is not confined to low-income portions of the county; most litter is not from people throwing trash out of their windows, it is a result of a system that is fractured across so many parts of the county and region.

The recommendations of the Task Force are just the beginning of something that could be a holistic look at trash, housing, commercial and industrial land uses, parking needs, and other environmental policies that contribute to or alleviate litter. She noted that illegal dumping and litter are two separate issues that require different solutions.

The Task Force developed short-term recommendations that were reviewed by stakeholders to determine costs and identify barriers to implementation. These recommendations included eliminating and reducing single use plastics at community properties and county events; putting trash cans and recycling bins at community properties and servicing the containers regularly; changing Section 109 of the Code; evaluating the trash capacity and pick-up frequency at multi-family housing and commercial sites; being more mindful of the placement of trash collection containers; and having a dedicated unit to make these environmental issues a priority. Medium and long-term recommendations were also developed and shared in the Litter Task Force Final Report.

Board Discussion:

Supervisor Lusk thanked Ms. Cole for her presentation and the work of the Task Force. He appreciated the short, medium, and long-term recommendations. He would like there to be additional discussion about implementation of these recommendations.

Supervisor Walkinshaw referred to the recommendation about illegal dumping. A dedicated enforcement unit is a good recommendation, but he noted that we should also evaluate ways to incentivize doing the right thing.

Supervisor Lusk asked about next steps and if Ms. Cole could return with an update to the Board about implementation.

Supervisor Storck responded that the best course of action is to discuss this with the Environmental Committee with the Zero Waste Plan.

Item VI
Review of Environment and Energy Not in Board Packages (NIPs)

In the interest of time, this item was not brought before the Board at this meeting.

The meeting adjourned at 12:23 P.M.