

BOARD OF SUPERVISORS ENVIRONMENTAL COMMITTEE

June 12, 2018

11:00 A.M.

Government Center Conference Room 11

Board of Supervisors Members Present:

Board Chair Sharon Bulova
Committee Chair Penelope A. Gross, Mason District
Supervisor John Foust, Dranesville District
Supervisor Cathy Hudgins, Hunter Mill District
Supervisor Jeff McKay, Lee District
Supervisor Linda Smyth, Providence District
Supervisor Cathy Smith, Sully District
Supervisor Pat Herrity, Springfield District

Others Present:

Bryan Hill, County Executive
Flint Webb, Fairfax Federation of Civic Associations
Ray Crabbs, IBC Renewables
Randy Bartlett, DPWES
Davood Majidian, FCPA
Meena Bhatia, DPWES
Susan Weltz, Sierra Club
Ken Lanfear, EQAC
Barbara Bacon, Faith Alliance for Climate Solutions
Goldie Harrison, HMD
Tiya Raju, DPWES/CAP/BDB
Vrushali Oak, DPWES/CAP/BDB
Noel Kaplan, DPZ
Carey Needham, DPWES
Pamela Clements, Climate Reality
Peter Shogren, FMD
Jose Comayagua, FMD
Norbert Pink, Sierra Club
Peter D., Recurrent Innovative Solution

Phil Covell, Exposure Reduction Analysts
John Crow

June 12, 2018 Meeting Agenda:

<https://www.fairfaxcounty.gov/boardofsupervisors/sites/boardofsupervisors/files/assets/meeting-materials/2018/june12-environmental-agenda.pdf>

June 12, 2018 Meeting Materials:

<https://www.fairfaxcounty.gov/boardofsupervisors/board-environmental-committee-meeting-june-12-2018>

The following is a summary of the highlights of the discussion from the June 12, 2018 meeting.

Today's meeting was called to order at 11:06 am.

Opening Remarks & Item I

As part of the opening remarks, Supervisor Gross welcomed students from George Mason University and their professor – Dan Sklarew - who are visiting today and will be here to observe the committee. Welcome!

After a brief welcome and introduction from Supervisor Gross, Committee Chair, the minutes from the February 13, 2018 meeting were accepted into the record. Supervisor Gross also announced that if anyone has any change to the meeting minutes from February 13, 2018, please send them directly to Kambiz.

Supervisor Gross mentioned that we have four items on the agenda, the Fairfax County Government Operational Energy Strategy, the Commercial Property Assessed Clean Energy (C-PACE), which we discussed in November, the Fairfax County Sustainable Development Policy and Stormwater & Wastewater Facility.

Item II

County Government Operational Energy Strategy

The first topic on the agenda was a presentation regarding the county's draft Government Operational Energy Strategy (Strategy).

Kambiz Agazi, Environmental Coordinator, provided the committee with a detailed overview of the Strategy. As part of his presentation, Agazi noted that the draft Strategy has two intended goals. First, it's designed to reduce operational energy consumption and lower utility costs. In doing so, the Strategy also reduces both air and climate emissions in support of the climate and energy related objectives in the Environmental Vision. Agazi noted that while the Strategy contains ten Focus areas, today's presentation will highlight the Energy Use and Efficiency, Green Buildings, Innovative Energy Solutions and Electric Vehicles Focus areas. A matrix summarizing costs and benefits across a range of target values was provided for each of the highlighted Focus areas. A staff recommendation is also included. The Fairfax County Public School's goal is shown in **RED** at the bottom of the matrix and a Cool Counties regional proportional commitment was provided at the end of the presentation.

Agazi also noted that today's presentation addressed questions from the Board committee members following the February 13th Environmental Committee meeting:

1. How does this strategy fit into overall Board Commitments? Make sure that other BOS commitments are tied to the energy strategy.
2. For budget – ROI needs to be clear to ensure that the investment is economically feasible.
3. How do we line up with Fairfax County Public Schools (FCPS) vision for capital improvement? Make sure that both county and schools are aligned from a goals standpoint.

The first Focus area discussed was Energy Use and Efficiency. Agazi stated that this Focus area provides the biggest benefit in terms of payback and also in support of the Board's Cool Counties commitment. Agazi noted that the target range of options (low to high) for this Focus area represents an improvement over "business as usual or ½% per year on average" for the low range to achieving our

Cool Counties proportional commitment for the high end of the range. The projects associated with this Focus area are the one off energy improvements such as lighting retrofits or similar projects with quick pay-back that are not up for capital renewal within eight to ten years. These projects would represent opportunities outside of the Capital Renewal process that is discussed in the Green Buildings Focus area below.

The high end was also chosen as it relates to current staff capacity. Agazi stated that if the board of Supervisor were to agree to the high end of this range, this would include a significant utility cost-avoidance of over \$40 Million over ten years, support the Board's proportional commitment to Cool Counties and stay within the existing staff capacity. **The staff recommendation was the high end of the range which amounted to a 20% reduction over ten years in total county operational energy use based on 2016 data.**

The next Focus area presented was Green Buildings. For new capital buildings or major renovations of existing buildings, staff recommends retaining the Leadership in Energy and Environmental Design (LEED) Silver certification recognizing that LEED has elevated the energy efficiency baseline standards from version 3 to the new version 4 by up to 25%. Agazi also mentioned that in new construction there was no way to obtain LEED Silver without some renewable energy. Agazi also pointed out the anticipated additional costs. In an average year the county's undertakes approximately 65,000 square feet of capital renewal. Based on staff preliminary findings, we are anticipating over \$300,000 in additional construction costs associated with energy efficiency and renewable energy.

Agazi noted that although staff has provided the Board's committee with the target range for LEED **Gold**, staff is not recommending **Gold at this time**, but the range is there as a choice. Agazi mentioned that until the first projects to achieve LEED Silver Version 4 are constructed in approximately 4 to 5 years, we won't really have a sense of the impact of the new LEED version. **The staff recommendation at this time is to retain the county's LEED Silver certification for county owned facilities.**

The third Focus area is Innovative Energy Solutions. **Staff is not recommending the range of targets shown in the presentation at this time** although we are providing the board's committee with a range so you can see the costs and benefits. Staff is currently reviewing opportunities that may reduce or eliminate

the upfront costs for solar. There are also some legislative opportunities that if adopted by the General Assembly would support the county's ability to do more solar. The renewable energy target range shown in the presentation represents existing opportunities as of today. If the renewable opportunities change, we will provide that information once it becomes available. In the meantime, **staff is recommending the Board fund a solar pilot project** that will provide staff an opportunity to monitor the solar installation for future project considerations.

The Electric Vehicle (EV) focus area target has two parts to it. There's electric vehicle charging infrastructure and the purchase of electric vehicles. When we first discussed this Focus area back in February of this year, the Electric Vehicle Focus area was for county vehicles only. Staff has had some conversations with vendors that we deal with and realize now that there is an opportunity for the county to provide both public and county vehicle charging capabilities at our major government facilities.

Also building on past experiences including those of Tokyo, Japan, **staff is recommending that the county establish its charging infrastructure first before purchasing electric vehicles.** The target range hasn't changed but since staff is anticipating that it will take up to five years to install publically available charging infrastructure at up to 20 major county facilities, the number of electric vehicles purchased by 2030 would equal to five percent of the eligible passenger vehicle fleet as the purchase part would not take place until midway through the 10-year strategy.

Again, the Board would need to first fund EV infrastructure which staff is anticipating could take up to 5 years to assess, design, permit and construct at up to 20 major county facilities. These would be open to the public and they would be open to county vehicles. Once we get the infrastructure in place, we would be incentivizing county departments to purchase electric and plug-in hybrid electric vehicles. Currently 5% of our passenger vehicle fleet is approximately 33 vehicles. The county purchases on average 23 passenger vehicles per year. We currently average less than one plug-in hybrid or electric vehicle per year. So we have a lot of room for growth in this area.

Board Discussion:

Foust: What do you mean by Staff capacity?

Agazi: That's a good question. This is an energy strategy with targets. This is not a project spending plan. What we did to develop these targets was to look at a vast array of potential projects across several agencies and from this list to develop an order of magnitude estimate for these ranges. The targets are based on real projects but we extrapolated to develop an order of magnitude estimate that would represent all potential projects over a ten-year period covered in the Strategy. By staff capacity, I am talking about our project management capacity to manage and construct the vast array of projects.

Storck: Are you talking about countywide? Private and Public?

Agazi: Just the county government operations.

Storck: Are these numbers per capita. Any sense of the per capita increase in energy use within the county? I don't need that now.

Agazi: We don't have that number for the entire county. However, the regional GHG inventory that is produced by COG has emission numbers for the entire county. The Energy Use and Efficiency Focus area has a \$48 Million ask over 10-years. Energy efficiency is one of those focus areas where there is a significant and relatively quick payback. I have provided both an investment chart as well as investment graph. The graph is essentially graphing the data in the chart. It is the exact same data. What this shows is although there is a steady annual cost, over the 10-year period, we have an expected reduction in our Utility cost. It is pretty substantial. What we are really talking about is – for energy efficiency, a \$45 million investment over 10 years and \$82 million payback over the same 10 years.

Storck: So it is free?

Agazi: The expected \$82 million represents a utility cost avoidance. We are expecting our utility costs to rise if we do nothing. This year alone we are expecting a 5% increase in our utility costs. That amounts to about \$1.5 million

in additional electricity costs assuming we have a similar year next year as this year in terms of weather. We are anticipating conservatively an escalation of 2.5% for utility costs over the next 10 years. I know the board is grappling with difficult questions during the budget process. We are talking about millions of dollars here not tens of thousands of dollars here.

Gross: Let me ask Jose a question. Remember when we changed the chillers on the top of this building and channel 16 did the wonderful film about that whole process. The replacement part of the original equipment in this building, didn't it?

Jose: Yes madam! So by replacing those chillers with the newer, more efficient ones, where we needed a crane, it was a lot of heavy work.

Gross: Did our electric consumption go down?

Jose: Absolutely! It went down in this building when we replaced those chillers because they are more efficient.

Gross: What is the life span they would have? The others were in there for about 20 years.

Jose: Chillers range from 15 to 30 years – for the most part average 20-25 years. We have another 20 years on the ones we just put in.

Gross: Thank you. I just wanted to use that as an example. I think we saw the video that was done to document that process. It was excellent.

McKay: I have major charging stations being built by the private sector in my district. I am struggling to figure out the county's cost. If we provided space for these people to be installing these on the county facilities, this could be a profit generator for us in rent. I know the cost of us buying the vehicles, but we were talking about payback earlier, where is the gasoline avoidance in the figures? I want to make sure we are paying attention to what is happening nationwide and we should not, in my opinion, be buying the EV infrastructure. This seems like an area where we could end up making money. We need to figure out a way so that the county does not have to pay and we could generate some funds out of this renovation.

Gross: I know that Police would like to buy these electric vehicles for their personal use and I think that this presentation has lot of good recommendations and we need to figure out how to permit and pay for these charging stations.

Foust: I am not sure how the Tokyo experience is relevant. If the Board wants more EVs then it's not relevant. Our issue is what is the right goal for Fairfax County?

Gross: The challenge has always been the infrastructure. We don't have enough charging stations. We don't have enough charging stations to incentivize people to actually purchase so I appreciate the Tokyo example. We simply need to figure out how to pay for the charging stations.

Foust: You indicated that you met with all of the environmental groups and EQAC. EQAC had five recommendations. You didn't include a single one in this report. I don't know why you refuse to work numerically with the commitments we have made through COG and other places for the 20% reduction in greenhouse gas emissions by 2020 and 80% by 2050 but we need those – those are the commitments we made. We are comfortable with making these commitments and we were asking you to tell us how we do could get there. And you haven't done that. There is not one attempt to tier things in. So we weren't happy in February 2018 and today is a step backwards. You reduced the objectives and some of the goals, for example, with the electric vehicles. Now the Fairfax County, 1.1 million people, renewable energy commitment is a recommendation for one roof top solar pilot project at the Springfield Warehouse. That is not enough. We have a bigger commitment and obligation. All I am going to say is that we talked in our last presentation when zoning people were here and they gave us a list of their community outreach and it was very impressive. Your document does not have this information. We need to reach out to the advocates and listen to the advocates and reflect, at least give the board the option of considering the opinions of those who are trying to fight climate change versus those trying to avoid costs and mitigate and do the things. We need to deal with the 3% of greenhouse gases that we generate as a county but then we also need to move into the community with these groups and come up with a communitywide action plan. I am really disappointed in the lack of outreach. I appreciate the fact that you did meet with advocates after we asked you to.

Gross: I think one of the challenges we have here is we are addressing this as what the county can do with the county facilities and the county operations. Doing a strategy for the entire 1.1 million people, we don't have the authority to force them to do that. We need to set an example quite frankly and that is what we are trying to do with the energy strategy is setting an example so we can go out to folks in the community and say this is what we are doing. A good example, actually, I will say on the solar side, the Solarize strategies in Northern Virginia including Solarize Fairfax County has resulted in hundreds of people putting solar on their homes. Solar is coming into its own now. It is a renewable resource that more and more investment is being made. So, I think from the standpoint of the county on the solar, we have advocated. We have provided information. We have looked at the tax credit piece. And the county, this is a pilot project for the warehouse, I believe.

Agazi: The Operational Energy Strategy is a significant step forward. The summary of the Energy Use and Efficiency target is \$48 million over 10 years, the expected utility cost-avoidance over that same period is \$82.5 million. For the Energy Use and Efficiency Focus area, that commitment equates to 23% greenhouse gas emissions reduction over the next 10 years. So the proportional reduction would be 2.3% reduction each year over 10 years. The energy strategy was provided to EQAC for their comments and I believe that the board received EQAC's comments as well as other environmental organizations. We certainly incorporated some of their comments.

Agazi: Yes, this solar installation is a pilot project. It is a significant installation. There are legislative issues right now that are a roadblock for Fairfax County. We are working with the Serra Club to remove the legislative hurdles so we can do more solar on our county property. Our staff would like to go solar throughout the county. Our regional commitment is not just local governments but the region (private sector), state governments and Federal government. The board is on record asking the governor of the state of Virginia to adopt a regional greenhouse gas initiative which is a cap-and-trade program. The document given to the board is what the county government can do and in the meanwhile, because of the utility cost avoidance, these strategies will also pay themselves back very quickly. So there is actually a considerable net positive benefit.

Smyth: It would be useful for us to see a list of future opportunities where we are looking at the new facilities. Where are we getting solar systems – like new fire

stations in Tysons? We need to plan these kind of opportunities for our solar systems.

Patteson: We are looking at the new buildings and checking we can save money and we are studying all of our buildings for opportunities.

Gross: Dan will provide us the link of George Mason University new building where we can see the interesting things about solar.

Bulova: I am looking through the presentation and the goals and I want to say “Thank You” to Kambiz for sharing all the goals and pilot program that we have in our handouts and especially a pilot project for the Springfield Warehouse. I know that this is not the only pilot program but I am supportive of this action for reducing energy by 20%. Our community is continue to grow and making sure that our new buildings are at least to LEED Silver if not better is a good thing. Installing EV charging stations at our major facilities, I am with Jeff to make sure that we are looking at this issue. So I am supportive of this direction and that we are setting achievable targets for future and not settling for less. Fairfax County Government including the Schools is about 3% of our jurisdictions greenhouse gas emissions. If we really want more changes, then we really need to work with the private sector also. Every ribbon cutting ceremony that I go to now is LEED Silver or Gold and the private sector is very proud. So I am supportive of this Kambiz. I think you have done a good job and we will continue to work on stretching when we are able to do so and be mindful of the cost of meeting these targets.

Gross: Thank you, Madam Chairman. One of your predecessors had a favorite saying that is don’t let the perfect get in the way of the good. I know that there is not total agreement on this proposal but I am wondering if there is enough endorsement with this to move forward to the board for an action.

Storck: I don’t think it is ready – I absolutely appreciate the effort but there are things that are missing: One is that I think we have not really leveraged the private sector the way we could. I think we could clearly look for investment opportunities. If we have an ROI of 10%, within five years, that is something most private sector companies would go for.

Foust: I did want to address the Chairman’s comment about the budget, which is obviously relevant in everything we do. This report should address some of the 3rd party options that are available out there. This is why this report is not

comprehensive enough to go forward. We have budgetary options we can take advantage to allow us to do more and not cost us more.

Gross: I am concerned that we will not be able to take this up again until our next meeting in October. It would seem to be the approach might be to bring an action item forward that tells staff to keep going instead of just letting it stop here at the committee and waiting until the next time we have a committee meeting to discuss further. So we need to do the action item, adopt the strategy with the understanding that it is going to continue to change. We can give additional guidance to staff and wouldn't have to wait till October or November to adopt a strategy.

Bulova: Madam Chairman, what I am hearing from board members is they feel that we need to be a little more aggressive. So let's adopt an energy strategy with some guidance to staff and some suggestions.

Gross: May be we can get some information from Supervisor Storck on what they did on the school side when he was on the school board. Is there consensus that we move forward with this with some guidance for our next board meeting?

Foust: With proper guidance, sure.

Gross: Send me some language, thank you. Mr. Hill, did you want to weigh in?

Hill: As Supervisor Foust said, we can get specific guidance to what we have been discussing today. If we can get the guidance within two weeks, then we can move forward. Then we can give you all a chart of things we can do and what we can't do.

Gross: Thank you Mr. Hill. We are going now to the next item.

III

Commercial Property Assessed Clean Energy (C-Pace)

The second topic on the agenda was a presentation regarding C-PACE.

Gross: We had a lunch and learn here at the Government Center in November of last year for private sector and county staff that was enormously successful. I was

stunned by the number of people who showed up and there has been a lot of changes to C-PACE over the years since the Board first took a position on the program which has made the program workable.

McKay: I know a number of us are trying to juggle graduation schedules including myself. I have been briefed on this. I want to be fully supportive of moving forward with drafting the ordinance.

Gross: Thank you Jeff. Kambiz! You have 7 minutes now.

Agazi: This presentation will be much quicker than the last one. I will say that C-PACE is a private sector market-based financing tool for building owners and developers who would like to fund energy efficiency and renewable energy retrofits. The county is not the lender. However, the county must adopt a C-PACE ordinance to establish the program within the jurisdiction. C-PACE provides a lot of benefits and given the time I will highlight the main benefits which include: promoting sustainable energy efficient infrastructure, enhancing the real property tax base of the county, supporting employment and economic growth in the county, and reducing harmful emissions associated with air quality and climate change. There are no tax dollars paid by the county.

Arlington County was the first jurisdiction in Virginia to develop a model ordinance for C-PACE. There are currently no other jurisdictions that have developed a model ordinance. Fairfax County's ordinance will look very different than Arlington County's ordinance in many aspects. For example, the county intends to enforce the C-PACE loan in a manner similar to a real estate tax lien. Recommendation for staff is asking the board's committee to direct staff to draft a C-PACE for review and discussion at a future Environmental Committee meeting.

Gross: This item was discussed several years ago when the idea of C-Pace was an interesting program but we couldn't do it. A lot of work has been done over the years and some changes to the legislation at the state level has made it so that C-PACE is now doable for Virginia localities. Are there any questions?

Bulova: This sounds like something we should do and I am appreciative of the changes that have made it possible for us to move forward.

Foust: I think ours is going to be the best one because of the decisions you made. I want to thank you particularly on the enforcement side. The other ordinances that rely on the lender to enforce might be challenged. Thank you.

Smyth: It would be great to have a chart of how many loans/applications have been approved for this program?

Gross: I know that last November when we had the Lunch and Learn, a lot of residents were interested in this program. If there are no objections, I would like it to move forward. I am not sure if staff can provide us this by the October meeting, but may be for the winter meeting. It will take some time to make sure we have an ordinance with language that is defensible.

Storck: I am very excited about this. I like the way it accesses the private sector. I am surprised how lenders might be willing to subordinate themselves – do you have any knowledge of how this works around the rest of the country.

Agazi: It is working across the country although not every first mortgage lender will be willing to subordinate to the C-PACE loan. To answer the question about the number of applications, there are none in Arlington County at this time.

Storck: Are there certain banks or mortgage holders that are not supportive of this?

Agazi: I don't have any information about specific Bank's not being supportive. I believe it would be on a case-by-case basis.

Storck: I would like to shine a spotlight on those that are supportive and willing to work with this kind of project. I think we can do that particularly because of our size. We can help others, maybe convert other lenders to this approach, being more supportive to this.

Gross: We need to move on – since we started 10 minutes late, we will go a little bit after 12:30. Our next item is Fairfax County Sustainable Development Policy. I am going to cut this item into 7 minutes also, sorry about that.

IV

Fairfax County Sustainable Development Policy

The third topic on the agenda was a presentation on the County's Sustainable Development Policy (LEED).

James: Thank you for the opportunity to provide the update on the County's Sustainable Development Policy. We are not asking for funding. The Board's policy is already built into the current CIP.

This is simply an opportunity for staff to highlight county success and discuss some future possibilities. LEED Silver is currently the minimum standard for anything over 10,000 square feet we renovate or build new. This has been a very successful program for the county since its adoption in 2007. The policy has resulted in not only environmentally sustainable facilities but saved the county millions in utility cost-avoidance as we have built facilities under this program. I would like to introduce Carey Needham, Tiya Raju and Vrushali Oak who helped to put this presentation together and who will be co-presenting some of the slides.

Tiya: I am going to give a brief background of our LEED program. In 2007, the board adopted our county sustainable development policy, at that time it was LEED 2.0. After a couple of years, LEED migrated to version 3.0 and we are now moving to LEED 4.0 which will be a big change.

We have 29 certified buildings at this point. 15 silver level and 14 at the gold level. Most recent is the Tysons library obtained silver certification. I don't want to overpromise but we are looking to get gold for the public safety headquarters.

Sustainable development sites touch on other factors aside from energy such as water quality rain gardens or vegetative roof system, Stormwater management, cut off light fixtures and transit opportunities. Energy is also a big part of the policy especially with the new LEED version 4. It should be noted that the Public

Safety Headquarters is the first county facilities to have all LED lighting. It also includes HVAC energy efficiency, green power, commissioning, water efficiency, low flow fixtures, and sensor operated faucets. At present, we are on LEED v4.2 which raises the bar and will take more effort and costs to achieve our silver level goals.

We did photovoltaic on the Springfield Park and Ride facility. We are planning a solar panel at the Springfield parking garage. Benefits are lower operating costs, lower life cycle costs and then value of these buildings are increased by 10%. Metrics on county program, we save 25% on energy, 35% on water and reduced greenhouse gas.

James: Some of the biggest benefits are human health related. LEED buildings ensure a certain amount of natural light, adequate ventilation for improved indoor air quality and reduced carbon. 90% of our time is spent indoors. We took people from Massey and put them to public safety headquarters, we did a survey and found that the staff are a lot happier now. There was a Harvard study and United Technologies study that tested people in terms of their memory, their response to emergency situations and their response times. Data points towards improved productivity with folks in LEED certified buildings.

Needham: People moving out of the Massey building and going to Public Headquarters are really happy. The Bailey's Crossroads Fire Station is another good example. This is illustrative of typical county projects in the recent past. These new buildings have a return on investment period of about 4 ½ years. We have a couple of pilot projects we are working on - Jefferson and Lorton Fire Stations - and also using the new LEED standard to see how we will get there under 4.0. We are constantly trying to progress and push forward under LEED and there has been a favorable feedback and satisfaction of the occupants of these facilities.

Gross: There is no action on this presentation – it was an update.

Bulova: Earlier we were talking about our energy strategy. This is a real life example of what we are able to accomplish and what we are able to save in energy. This is a great report. Thank you.

V

Stormwater & Wastewater Facility

The fourth topic on the agenda was an update to a planned stormwater and wastewater shared facility.

Randy Bartlett explained that Stormwater program has experienced significant growth as a result of the national focus on stormwater, and the Chesapeake Bay. We have significantly outgrown our space at the government center. West Drive was identified in a 2003 consultant study as, “severely undersized”.

As part of a project to provide adequate space, 12 potential sites were evaluated prior to selection of an abandoned concrete facility adjacent to the Fairfax county parkway that joins the Wastewater Collection Facility on Fred Oaks Road. Staff has met with the community, and the planning commission approved the project in February. The county has since settled on the land purchase. Construction is scheduled to start in the summer of 2020 and with full occupancy in the winter of 2023.

The plan is that the facility will be shared by the Wastewater Collection, Stormwater Planning, and MSMD, and that these three divisions will be fully integrated.

Gross: This is a wonderful example of a lot of vision, a lot of work done between agencies to make things better and more efficient.

Any questions?

If not, our next Environmental Committee meeting is on October 2, 2018 at 1:30 pm and our meeting is adjourned at 12:38 pm.