

Arlington County C2E2 Energy Committee

Meeting Summary

Wednesday, February 9, 2022

7:30 am – 9:30 am

Agenda Items

1. Greetings and introductions (7:30)

- Tim Effio provided introductions and welcomed everyone to the meeting

2. Review/approve agenda and January meeting summary (7:35)

- The February meeting agenda was approved after the agenda wording was changed to note a “January” meeting summary that needed to be reviewed and approved.
- The January meeting summary was also approved.

3. Public Comment on General Topics (7:40)

- None.
- The EC members discussed Community Choice Aggregation (CCA).
- CCAs – do we want to discuss those in detail at an upcoming meeting?
 - Yes – ALX, Loudoun, and others are also interested
 - Vince: We do not need an overview. We should have someone come in and provide the EC with specifics as to what we should do to help get a CCA started
 - Claire The thought is that CCAs are permitted legally in VA, but we are waiting for a letter from the State (?) to help launch a CCA. Is there a jurisdiction willing to stick their neck out to pursue this?
 - Scott S.: Does Loudoun already have such a letter from the AG?
 - Tim E.: Are there other, easier ways for us to reach our renewable electricity goals? For example, create competition at the retail level.
 - Greg B.: Who provides the service in a CCA scenario if there is a power outage?
- **ACTION:** Build in this type of session into future EC agendas

4. Monthly update from the AIRE team (7:50) – Rich Dooley

- The County is conducting interviews for the open Energy Program Specialist position
- The Energy Assurance Plan (EAP) project’s chapters are undergoing review. Staff will continue to review chapters and send them to the consultant for the consultant to incorporate comments and make a draft final EAP.
- The draft CEP Roadmap is being reviewed, with final edits being made by the consultants.
- Solar PV & EV Charging co-op cycle starts up again on April 1.
- The Decarbonization of Transportation (DecTrans) Plan is starting up soon.
- Tracking legislation through this legislative session bills that could impact OSEM efforts
 - RGGI and VCEA are under attack – we are contributing to a regional letter in support of RGGI

- The federal infrastructure bill has \$1.8B available for energy, with a large amount available for electric school buses; we passed that along to APS. We are working with consultants to assess potential funding opportunities across the board from the infrastructure bill. We aim to address multifamily and affordable housing issues through a possible project.
- Jonathan M. – Regarding the whole-of-government effort and letter asking the County Manager to participate in an EC meeting. Can you update whether the County Manager has seen the EC letter?
 - Demetra: The County Manager did receive the letter and the CMO responds to Greg. We apologize you did not receive a reply. This is budget season, so things are quite busy in the CMO these days. Greg or Mike Moon could come to speak at C2E2’s next meeting – Feb. 19th should be when the CMO releases the draft budget to the CB. The C2E2 meeting could be a discussion about what shows up for OSEM activities in the FY24 budget.
- Stephanie B.: Grants for school buses and other monies? Can we ask to ensure that GHGe reduction are part of whatever grants we pursue? The grants seem to want to get GHGe reductions done as part of the overall RAISE grant opportunities.
 - Demetra: DES Transportation is assessing options and planning on coming forward to the CB this Spring. Also, when pursuing the grants, we need to emphasize those goals the grants aim to achieve.
- Scott S.: Regarding the CMO – we wanted to make Mark personally aware that the CEP that the CB approved is important to the community as well as to the EC and C2E2. Instead of the County Manager coming to us, should we individually reach out to the County Manager to have those various discussions?
 - Demetra: The plan is to have the County Manager come to a future EC meeting.

5. Biogas and biosolids meeting update (8:10) – Claire Noakes

- Last night was an Advisory Group meeting
- Memo from Jan 20th (see Attachment 1) – there were still a lot of outstanding questions not answered by County staff and/or consultants.
- The tables, charts, and report addressed everything, except they did not provide forecast for risk on Renewable Identification Numbers (RINs) pricing. They also did not explicitly state how the CEP goals would be achieved through this project.
- Staff indicated that staff’s recommendation is to pursue Alternative 3A – to create renewable gas and pump it into the pipeline (not to send it to the ART Bus facility, nor is it to send any of the renewable gas to a new CHP on-site plant). Staff are comfortable with the uncertainties of future renewable gas pricing.
- The CB is not expected to vote on this decision – it will not officially weigh in. It appears that item 3A will be the project that will move forward.
- Bigger than the biosolids issue: One argument being made through this project is that being a biogas producer reduces overall GHGe because it displaces fossil fuel usage. “Biogenic”¹ is a word that they use. The idea is that it is better if you have GHGe that are biogenic, that results from burning life forms from the past 100 years, which is better than fossil fuel emissions using fuel from life forms from millions of years ago. The biogenic emissions are less harmful than emissions from using fossil fuels.
 - Is this concept of biogenic emissions built into all of our County projects, such as how such fuels are used in the transportation sector?

¹ Biogenic means produced or brought about by living organisms.

- Scott S.: He teaches on this topic. Using renewable gas onsite helps deal with reducing methane emissions. However, inputting the renewable gas into the pipeline does not displace fossil fuels being used by the WPCP. We should note that the CEP principles are not being met through this project.
- Tim E.: We have made our position clear – the data and assumptions in the report are dubious, incomplete, and unclear.
- John B.: John was also in the meeting last night. This is an extremely complex project. Staff did share with the Advisory Group a lot of data in response to the EC and C2E2 questions. It is apparent that the CHP approach alternative is competitive with option 3A. What makes a difference is the RINs and the sale of them. The accounting being used involving those RINs are hard to follow.
- Demetra: Raised the issue internally about calculating methane avoidance in the project, and Mike Moon agreed that the final report should do that.
- Claire: Will the status quo GHGe emissions for the overall process (an LCA) be included in the report, and comparison of that LCA to the LCA of the alternative project options? Do we want this project report to set a precedent about the concept of biogenics saving the day for us?
- John B. and Claire: Since CB approval is not necessary, it seems as though the process to selecting an option will be updating the CB in late Spring, staff selecting the project by summer, and then signing a contract thereafter to start the project.
- John B.: Agrees with staff that displacing overall use of fossil fuel by injecting renewable gas into the pipeline moves natural gas produced by fossil fuels out of the pipeline.
 - Scott S.: Thinks that the maximum GHGe reduction benefit comes from using a CHP on-site due to gas leakage that occurs in the pipelines and overall shipping of renewable gas in the pipeline.
- Next steps: Tim E. asked what the EC role is moving forward. Claire noted that Joan M. and C2E2 could send in a letter to the CB in advance of County staff briefing the CB later this Spring.
- **ACTION:** Tim E. asked to talk with Claire offline to determine the next steps.

6. One-on-one results and EC structure for 2022 (8:30) – Tim Effio

- Tim E. summarized the discussions he had with each EC members, though he was unable to speak with all EC members (see Attachment 2).
- Thanks for everyone who did participate.
- Overwhelming interest in seeing implementation and tracking of the implementation of the CEP. A handful of other interests got lesser but similar votes for goals for 2022.

Discussion:

- Scott S.: Thrilled with those three 2022 goals. Through his public speaking in Arlington, the community does not know about the CEP and does not have a good feeling how the CEP is relevant to each community member. Metrics are also very important.
- Stephanie B.: Do we want to set actual projects for the group to achieve as opposed to general mission of the EC?
- Kip M.: Agrees that these are great goals. Supports seeing actual target for GHGe. Agrees with Scott S. that what the County is doing is helping the community to reach its goals. He supports developing a video and is willing to help make those videos.
- Tim E.: He heard through the discussions that measuring progress in CEP implementation is key. Electrification of transportation is an example of the key metrics of interest.

- There is a proposed set of four Working Groups to lead a larger group discussion on four different EC efforts: Tracking CEP implementation; Electrification of transportation; Increasing Renewable Electricity usage; Community engagement
- Stephanie B.: Liked the four Working Groups (WGs), plus if EC members are passionate about tracking something else not covered by those four WG, then that could be a possibility, too.
- Tim E. is asking EC members to volunteer for the Lead and Support roles for the four WGs. **ACTION:** Each EC member should send Tim a note telling him what you are interested in *Leading or Supporting*.
- Demetra noted the issues surrounding the solar PV industry and how they can impact CEP implementation. She also suggested a conversation with County staff prior to moving forward with this.
- The slide deck concluded with a suggested framework for the four WGs and timing regarding how each WG could inform the larger EC on the respective WG topics.

7. On-bill financing (9:00)—Scott Sklar

- Attachment 3 contains the slide deck shown on this topic.
- Renting or leasing a building presents significant barriers toward achieving GHGe goals.
- On-Bill Financing helps address this hurdle. The person paying for the electricity can get a loan for energy efficiency or renewable energy projects to benefit your apartment, condo, and reduce energy usage at the end-user standpoint.
- We know that energy efficiency is our first fuel and the most effective way to reduce GHGe, we should find a way to make programs like on-bill financing happen.
- Scott would love VA jurisdictions to start up an on-bill financing program to help low-income households, in particular
- Scott has heard that the concern of the CB has been how incentive programs have free riders. How can we develop programs to ensure that they are income-based?
- Tim E.: Who regulates the interest rate on these loans?
 - A: It depends – sometimes left up to the SCC/PUC, to the localities, or to the utilities.
- Demetra – If a renter leaves before the loan is paid, will the loan carry over to the next renter?
 - A: Yes – the fee is tied to the meter, and the fee plus energy usage is less than the cost of energy usage without the project that the loan paid for.
- John B.: To clarify, could the SCC do a pilot program without legislative fixes?
 - A: Scott thinks the SCC could approve a pilot program to do on-bill financing.
- Tim E. asked EC members to consider working with Scott S. to draft a 1-2 pager with recommendations and examples of where those approaches have been done elsewhere in the US

8. Adjourn (9:30)

- Meeting was adjourned at 9:30 am

ATTACHMENT 1
EC MEMO REGARDING THE WPCP SOLIDS MASTER PLAN

memo

To: Climate Change, Energy, and Environment Commission (C2E2)
From: Energy Committee (EC)
Date: January 20, 2022
Re: Review of Biogas Utilization and Recommendation dated 10/7/21

Background

- Several members of the EC have participated in the Biosolids Advisory Panel, which met to discuss the Biogas Utilization and Recommendation dated 10/7/21, which is provided as an email attachment.
- The EC has discussed the proposal during its November, December, and January meetings. Although there are several outstanding questions that remain, the EC is informing C2E2 of its preliminary views.

Main Takeaways

- Arlington County's Water Pollution Control Plant (WPCP) is considering upgrades to install an on-site biogas producing facility, which would use anaerobic digestion to create methane in various grades of quality.
- The consultant-produced Recommendation describes three alternatives: #1 process and building heat; #2 generation of on-site electricity and heat for wastewater treatment processes; and #3 production of renewable natural gas for use offsite. The presentation concluded with a recommendation to pursue Alternative #3 because it offered the lowest present worth cost, the highest non-economic score, the lowest onsite emissions, and the lowest carbon footprint.
- The EC disagrees with these conclusions because the Recommendation does not perform a true apples-to-apples comparison across the three alternatives for the cost and environmental impact of all inputs and outputs. Instead, the comparison cherry picked which factors counted for each alternative:
 - Greenhouse gas emissions of burning the biogas was included in Alternatives #1 and #2 but not in Alternative #3 because that activity would technically take place "offsite," which means just across the street from the WPCP.
 - The comparison did not include the market risk that is tied to the price of Renewable Identification Numbers (RINs) under the EPA's Renewable Fuel Standard Program.
 - The cost of energy inputs from purchased gas and/or electricity were not reflected uniformly across the three alternatives.
 - Adherence to the Community Energy Plan was not one of the non-economic factors considered.
 - No comparison was run against the status quo option of maintaining existing facilities without a biogas facility, or trucking the biosolids to an already existing biogas production facility.

- The offset revenue for selling RINs is only available if the RIN is used for transportation fuel purposes. Choosing Alternative #3 creates an incentive for local use to fuel vehicles, despite this being inconsistent with the transition to electrified replacement vehicles for the County fleet.
- The EC wants true comparisons to be completed, including against an Alternative #4, which would be to fix or replace end-of-life equipment with energy efficient upgrades without paying to build a biogas production facility. Currently, biosolids are trucked offsite for composting, which involves aerobic digestion. Aerobic digestion avoids creation of methane, although the carbon footprint of trucking the biosolids offsets the benefit of composting. The EC would like to better understand the financial and environmental costs and benefits of the status quo arrangement in order to better evaluate any proposed changes. The EC urges heavy scrutiny of this proposal due to the fact that the presentation omits several important facts from the discussion and uses inconsistent factors for comparisons.

Additional Considerations

Inaccurate present worth cost

The EC notes that factors assessed under capital costs, operation and maintenance costs, and environmental costs across the alternatives were inconsistent, making the final comparison inaccurate. For example, the potential value of selling RINs should have been reflected across all three alternatives, either as an offset (Alternative #3) or as a lost opportunity cost (Alternative #1 and #2). The cost of energy inputs for the WCPC facility also should have been reflected across all three alternatives – not just the cost savings of using biogas to run WCPC processes under Alternatives #1 and #2 and the RIN offsets under Alternative #3. It is not clear whether the cost of connecting to a pipeline to sell the refined biogas under Alternative #3 was included, but these costs are not insignificant. Without a true apples-to-apples comparison, it is impossible to correctly assess this proposal and make any conclusions about which project offers the lowest present worth cost.

Additionally, one important factor was left out of the formal analysis – market risk. Although the consultant ran Monte Carlo simulations for both low RIN costs and/or high electricity costs, those assumptions will impact each of the three alternatives differently, because Alternative #3 has the highest overall exposure to market risk (the risk of market values changing significantly for both the energy inputs and outputs), whereas Alternative #2 has the lowest overall exposure to market risk (being the self-sufficiency option). Failing to quantify the market risk of an energy project is a glaring omission, especially when the risk could be significant because the “demand” in the RIN market is entirely manufactured by policy – there is no innate demand for an environmental credit (unlike the innate demand for fuel). Alternative #3 could put Arlington County directly into a boom and bust cycle of producing environmental credits when there is a glut of supply or a drop in demand. Indeed, even the EPA itself recognizes that the volatility of RIN market prices means it “takes a certain type of investor with a particular risk profile to be comfortable with financing an RNG [renewable natural gas] project.”² The proposal does not explain the assumptions that went into the expected value of RINs, including whether such assumptions reflected the fact that the number of producers of recovered biogas is expected to double in the short term (194 U.S. facilities are currently producing, with 149 new facilities under construction and a further 103 currently planned).³ According to a Stifel research report on renewable natural gas,⁴ a huge number of producers are

² See https://www.epa.gov/sites/default/files/2020-07/documents/lmop_rng_document.pdf.

³ See <https://www.rngcoalition.com/>.

⁴ See “Energy & Power – Biofuels: Renewable Natural Gas: A game-changer in the race for net-zero,” Stifel Equity Research (March 8, 2021), available at: <https://static1.squarespace.com/static/53a09c47e4b050b5ad5bf4f5/t/60ad5a8802a04b71ca252414/1621973643907/Stifel+RNG+Analysis.pdf>

expected to enter this market in the next 20 years,⁵ potentially depressing the value of RINs. Not all renewable natural gas sources are the same either – the County is at a disadvantage of competing with the agricultural sector to sell the environmental benefits of capturing methane, because agricultural sources are recognized as far less carbon intensive relative to wastewater/sludge.⁶ Alternative #3 has the potential of being the most expensive approach, and the County may want to avoid the trap of a potential glut in RNG producers driving the value of RINs down or a change in policy causing the market to disappear altogether. Alternative #2, however, would allow Arlington County to insulate itself further from energy consumption cost spikes, and avoid the prospect of stranded assets. The EC believes that it is irresponsible to proceed without quantifying the market risk exposure costs of these three alternatives.

Selective framework used for the non-economic score, onsite emissions, and carbon footprint

The EC appreciates assessment of non-economic factors because issues like localized emissions, noise, visual aesthetics, footprint, flaring of gas, safety, resiliency, and others are highly relevant to residents. However, the EC notes that adherence to the CEP was not one of the non-economic factors considered. Alternative #2 may support the goals of the CEP because it allows County government operations to shift towards a resilient and renewable source of energy, consistent with the objectives of making Arlington’s energy infrastructure more resilient and making County government operations achieve 100% renewable energy by 2025.⁷ It is not clear whether Alternative #3 supports the goals of the CEP because it does not utilize the produced biogas as a source of renewable energy under local control.

As noted above, the environmental costs (or benefits) were not consistently evaluated across all three scenarios. As a generalization, the environmental benefits of biogas are attained by avoiding the direct release of methane from biosolids. However, there are also the environmental costs of burning the biogas, due to emissions. The presentation doesn’t present a full picture of the environmental costs and benefits of each alternative, because the environmental costs of burning the biogas are factored in for Alternatives #1 and #2, but not #3 because it doesn’t commit the WCPC to burn the fuel onsite. However, it is disingenuous to not include burning the biogas under Alternative #3 because the biogas will be burned by someone, somewhere under all three scenarios (which is environmentally better than releasing the methane directly into the atmosphere from a landfill, although environmentally worse than composting the biosolids and avoiding production of methane). Although WPCP staff stated that they are agnostic about what the biogas will be used for, the fact is that the offset revenue for selling RINs is *only* available if the RIN is used for transportation fuel purposes. Choosing Alternative #3 creates an incentive for local use to fuel vehicles, despite this being inconsistent with the transition to electrified replacement vehicles for the County fleet as directed in the FY 2022 budget, and yet the emissions associated with local use are left out of the calculations. Out of the choices, Alternative #3 requires the most capital infrastructure (containing embedded carbon), the most energy used onsite for refining, and the most energy inputs sourced from utilities, but the proposal claims that Alternative #3 has the lowest carbon footprint, which is hard to substantiate once the full picture is evaluated. Likewise, the EC notes that the proposal does not contain a

⁵ “RNG production has grown by a 17% CAGR over the last 15 years and is expected to grow at a 16% CAGR over the next 20 years based on the IEA’s Stated Policy Scenario.... According to the AgSTAR database, only 58 active animal manure projects were operational out of the over 22,000 potential locations. We estimate approximately 4,800 farms are commercially viable based on ICF’s economic thresholds for the low potential scenario (+1,000 cows, +5,000 pigs). Assuming only select dairy and swine farms, that represents a +80 fold increase in potential projects.”

⁶ According to the Stifel research report, animal manure has the lowest carbon intensity score of -440% relative to diesel, versus wastewater/sludge carbon intensity score of -63% relative to diesel.

⁷ Although any biogas recovery plant would be completed after the 2025 deadline, Alternative #2 would be consistent with the resilience and renewable goals of the CEP from that point forward.

comparison of the impact on neighborhood emissions levels among the three options, and does not contain an explanation on how the sale of RINs to fuel producers impacts the county's own analysis of its renewable energy usage under the CEP.

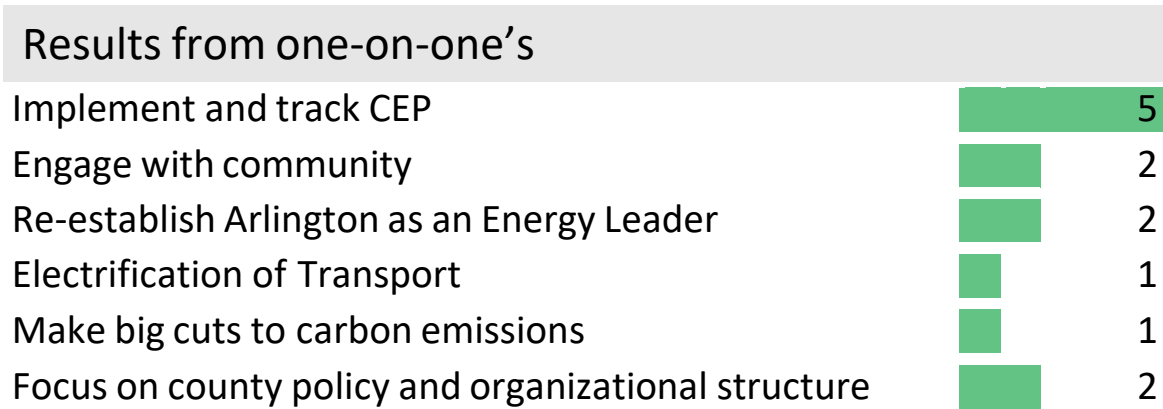
ATTACHMENT 2
EC 2022 GOALS AND FOCUS AREAS

EC Goals and Areas of Focus

2022

For consideration

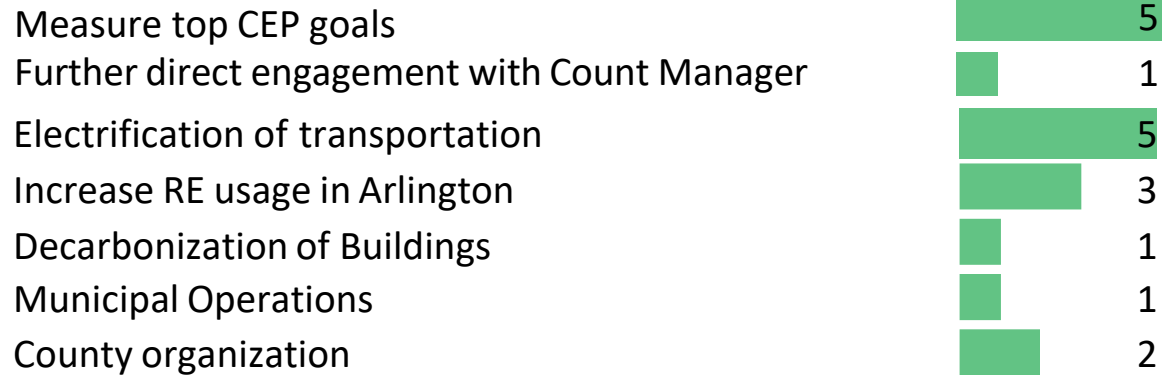
EC 2022 Goals



1. Achieve meaningful implementation of the CEP to re-establish Arlington as an energy and climate leader
2. Foster deep engagement with County staff, EC members and the Arlington community
3. Ensure County policy, organizational structure and operations can support County climate goals

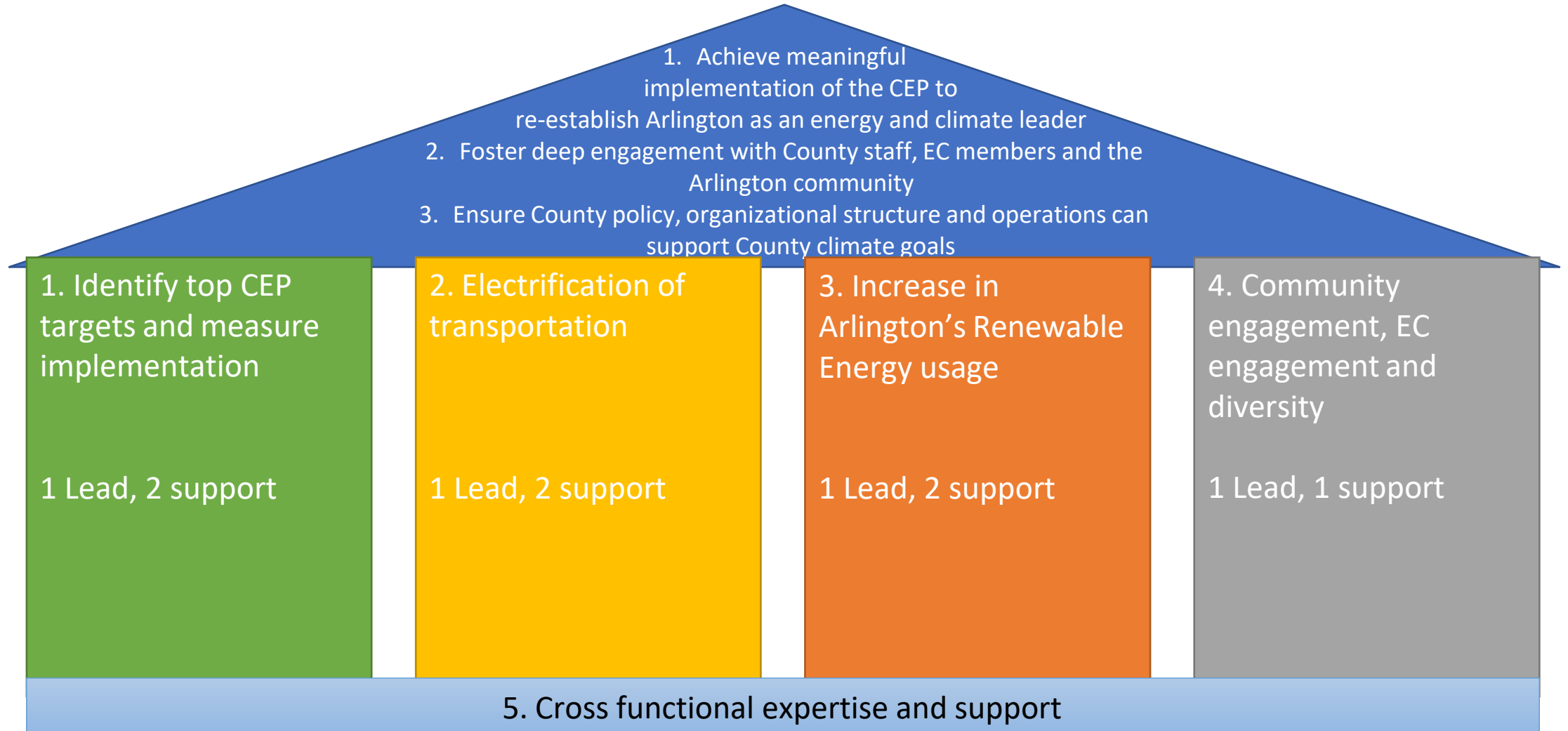
EC 2022 Areas of Focus

Results from one-on-one's



1. Identify top CEP (5-7?) targets and measure implementation
2. Electrification of transportation
3. Increase in Arlington's Renewable Energy usage
4. Community engagement, EC engagement and diversity

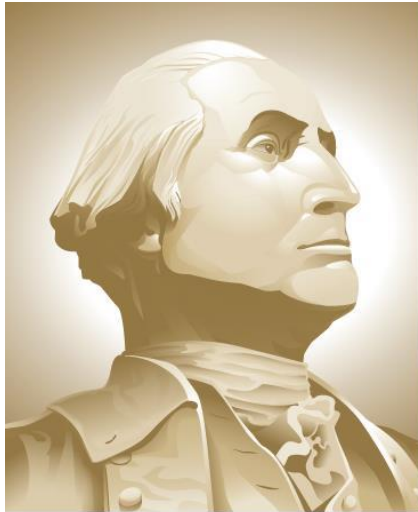
EC 2022 structure: Working Groups



Suggested Framework for Working Groups

- First stage (March): Identify current state. What are the actions and policies the county is currently undertaking to meet the CEP?
 - EX – Solar PPA with Dominion, GBI
- Second stage (April): Identify County stated future plans. What is the county trying to do?
 - EX – CCA being “talked about”, joining PPA’s with neighboring jurisdictions
- Third stage (May - June): Recommend areas that need more research and investigation.
 - EX – Recommend study on business models that foster RE generation
- Fourth stage (Q3-Q4): Provide EC recommendation on necessary work and policies to meet CEP.
 - EX – CCA, Electric Retail competition, County sponsored On-Bill RE

**ATTACHMENT 3
ON-BILL FINANCING PRESENTATION**



**THE GEORGE
WASHINGTON
UNIVERSITY**

WASHINGTON, DC

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The Stella Group, Ltd.

The Stella Group, Ltd.. is a strategic technology optimization and policy firm for clean distributed energy users and companies which include advanced batteries and controls, energy efficiency, fuel cells, geexchange, heat engines, microhydropower (including tidal and wave), modular biomass, photovoltaics, small wind, and solar thermal (including CSP, daylighting, water heating, industrial preheat, building air-conditioning, and electric power generation). Scott Sklar sits on the national Board of Directors of the non-profit Business Council for Sustainable Energy, teaches three unique interdisciplinary sustainable energy course at The George Washington University, He serves as Sustainable Energy Director of GWU's Environment & Energy Management Institute (EEMI). Scott Sklar was awarded the prestigious The Charles Greely Abbot Award by the American Solar Energy Society (ASES) and was also awarded the Green Patriot Award by George Mason University in Virginia.

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In the United States and most of the world, the private sector finances most energy projects for electric utilities, commercial & industrial campuses and buildings, and residential and government buildings.

The four choices below:

- Power Purchase Agreements (PPAs)
- Leasing
- Energy Service Performance Contracts (ESPC) by Energy Service Companies (ESCOs)
- On-Bill Financing or PACE (property tax carry-over)

INTRODUCTORY LINKS BELOW -

Resources:

PPA's International: <https://ppp.worldbank.org/public-private-partnership/sector/energy/energy-power-agreements/power-purchase-agreements>

Leases: USDOE

<https://betterbuildingsolutioncenter.energy.gov/financing-navigator/option/lease-financing>

Energy Service Performance Contracts (ESPC) by Energy Service Companies (ESCOs):

<https://www.energy.gov/eere/slsc/energy-savings-performance-contracting>

On-Bill Financing: EESI

<https://www.eesi.org/obf/main>

Property Assessed Clean Energy (PACE): USDOE

<https://www.energy.gov/eere/slsc/property-assessed-clean-energy-programs>

Why is On-Bill Financing Necessary ?

- half of all non-residential buildings in the US are leased by commercial, industrial, government, and not-for-profits
- half of all residential buildings are rented

MEANING – the users do not own their building – why invest in a building that you may not be able to renew your lease or rental ?

- **Younger, lower- income, and minority households are still the most likely to rent** and thus make up large shares of renters. While growth in rental demand now appears to be slowing, demographic changes will continue to drive strong increases in the number of renter households over the coming decades
- **Rental housing stats:** renter-occupied units made up **30.9 percent** of the inventory in the third quarter 2021. Vacant year- round rental units comprised 8.2 percent of total housing units, while 2.5 percent were vacant for seasonal use. Nov 2, 2021 (42.6%)

So why is on-bill financing an elegant tool ??

Note: different State regulators and electric utilities handle their programs differently

- **with the building owners approval, a lessor or renter can “pay” for energy efficiency (incl LEDs, smart thermostats, Energy Star appliances, solar water heaters, insulation, etc), upgrade HVAC ductless or geothermal heat pumps, and photovoltaics**
- **the cost added to the monthly utility bill is less than the lessor or renter would pay for electricity (or natural gas) per month, so immediately cash-positive for the lessor or renter**
- **the “loan” is tied to the meter – not to the renter or lessor – so not based on their credit, and if they move, the monthly fee is tied to the electric meter for the next lessor or renter**

Aside from community solar, this is the ONLY tool to quickly and painlessly address low-income and small businesses energy costs while transitioning to clean energy and decarbonization

<http://www.ncsl.org/research/energy/on-bill-financing-cost-free-energy-efficiency-improvements.aspx>



EESI recently published an interactive map showing the 110+ utilities in the United States —rural electric cooperatives, public utilities, or investor-owned utilities—that operate an on-bill financing program. On-bill financing (OBF) allows ratepayers to **borrow money for energy upgrades to their homes and repay the loans as part**

of their utility bills. The utilities (or partner organizations) provide the loans, and the upgrades can include energy efficiency retrofits or renewable energy installations.

Link: <https://www.eesi.org/obf/map>

CALIFORNIA

San Diego Gas & Electric (SDG&E)

Since 2007, SDG&E's [on-bill loan program for small-businesses](#) through offers qualified commercial and taxpayer-funded customers the opportunity to pay for energy-efficient business improvements on their utility bill. To be eligible for the program, the customer must receive a rebate or incentive through an SDG&E energy-efficiency program, as well as have an existing account in good standing with SDG&E for two years prior. Owners of multi-family units who do not live on the premises may qualify for financing through the Multi-Family Rebate program. The equipment cost must be a minimum of \$5,000 and loan maximum limits are \$100,000 with a 5 year maximum loan term for businesses and \$250,000 with a 10 year maximum term for tax-payer funded customers. The loan term for the project is determined by the repayment period of the equipment and is calculated based on estimated annual energy savings not to exceed the maximum loan term limits.

Southern California Gas Company (SCGC)

SCGC's [On Bill Financing](#) (OBF) program is funded by California utility customers and administrated by SCGC under the direction of the California Public Utilities Commission. This financing program offers qualified non-residential business and taxpayer funded institutional customers and owners of multifamily units who do not reside on the premises interest-free loans ranging from \$5,000 to \$250,000 to make energy efficiency improvements. Participants in the program must have had an active account for two years prior to filing, and the customer's account from the Gas Company must be in good standing. The funds can be used for a wide variety of efficiency improvement projects, and the monthly loan payments are added directly to the customer's bill.

<http://www.localcleanenergy.org/California%20On-Bill%20Financing%20Programs>

ILLINOIS – LOW-INCOME ENERGY ASSISTANCE

[SB0265 - LIHEAP-ENERGY ASSISTANCE](#)

On-bill Financing

Latest action (29 Jul 2021): Senate -- Public Act..... . . 102-0176 (KEY ACTION)

Signed

This bill amends the Energy Assistance program by prohibiting the Department of Commerce and Economic Opportunity, in determining eligibility for household energy assistance, from setting a limit higher than 60% of the state median income. The Department may, in consultation with the Policy Advisory Council, adjust the percentage of poverty level annually in accordance with federal guidelines and based on funding available for assistance. It adds that households with children under 6 years old must be offered a priority application period, which is currently offered only to elderly households and households with persons with disabilities. It specifies that of the 13% administrative costs allowed from the Supplemental Low-Income Energy Assistance Fund, no less than 8% must be provided to Local Administrative Agencies. The bill adjusts the Base Energy Assistance Charge per month to be \$0.48 beginning in 2022, increasing by \$0.16 per month each year not to exceed \$0.96 per month, and specifies how it applies to different customer classes. The changes are intended to increase utilization of the Percentage of Income Payment Plan (PIPP) and must be applied to increase enrollment in the program by at least double by 2024 (with a baseline of 2020). Finally, the Department of Commerce and Economic Development must submit an annual report to the General Assembly, the Public Service Commission, and the Policy Advisory Council on the state of the program.

Hawaii's On-Bill Financing Program Unlocks Energy Upgrades for the Masses

GreenTechMedia.com, by Justin Gerdes, June 10, 2019

<https://www.greentechmedia.com/articles/read/justin-hawaii#gs.ib4eo0>

Hawaii may have a solution for the energy efficiency industry's perennial landlord-tenant split incentive dilemma. The state's recently-launched GEM\$ program enables renters and low-income households to install solar and energy-saving equipment with no upfront costs. Under the program, participating homeowners, renters, small businesses and nonprofits pay back the cost to install rooftop solar panels, solar water heaters, heat pump water heaters, and other energy-efficient equipment via a line-item charge on their monthly electric utility bills. Participants do so without upfront costs and with a fixed interest rate for loan terms lasting up to 20 years. The GEM\$ program is available to all customers of the Hawaiian Electric Companies, which together account for about 95 percent of the state's population.

Utility Tariff On-Bill Financing: Provisions and Precautions for Equitable Programs by Tom Stanton and Scott Sklar

<https://www.naruc.org/nrri/nrri-library/nrri-insights/>

<https://pubs.naruc.org/pub/0E0B2716-947E-B0A8-2899-3DCA0F0C8F16>

Utility Tariff On-Bill Financing: Provisions and Precautions for Equitable Programs by Tom Stanton and Scott Sklar

A growing number of utility companies and regulators are finding benefits from utility on-bill financing. This financing mechanism can enable customers to finance as much as 100 percent of the cost of qualifying energy efficiency (EE) and distributed energy resource (DER) investments through their local utility, often with no money paid at the time of project initiation. Customers pay for the improvements over time through monthly charges on their utility bills. Many cost-effective measures can be included in such programs, including building-envelope improvements, high-efficiency major appliances, and solar or solar plus storage systems. On-bill financing is one way to help utilities achieve legislative and/or regulatory resource goals or mandates, while requiring little, if any, increase in utility ratepayer-funded program expenditures.¹ It does so by leveraging spending from private sources, potentially including utility shareholders seeking investment opportunities. It also provides a way for customers who cannot take advantage of 1 Results attributed to non-utility-funded improvements are not always eligible to be counted towards meeting particular targets.

See Kramer, Fadronch, et al., Making it Count: Understanding the Value of Energy Efficiency Financing Programs Funded by Utility Customers,

Lawrence Berkeley National Laboratory, LBNL-1003944, 2015, <https://emp.lbl.gov/publications/making-it-count->

understanding-value.

2 See Environmental and Energy Study Institute, Interactive Map of Utilities with On-Bill Financing Programs, <https://www.eesi.org/obf/map>, retrieved 5 April 2019. traditional incentive programs to obtain benefits from EE and DER measures. This NRRRI Insights paper explores elements of on-bill financing program design and provides several examples of on-bill products and services. The objective of this paper is to explore the benefits and potential down-sides of on-bill financing and review the importance of various program elements so that regulators considering on-bill financing can best ensure that benefits will accrue to both participating and non-participating customers, as well as to participating utilities and vendors. The Status of On-Bill Financing Nationwide Currently, at least 110 utilities in 33 states offer on-bill financing, including 76 member-owned cooperatives, 11 publicly owned, and 29 investor-owned utilities. (1) on-bill financing (OBF), sometimes used generically to mean any of the three program types, but also, 2 These include three different types of programs.

Coauthor of The George Washington University (GWU) Community Solar Handbook, October 2017

<https://www.ourenergypolicy.org/catalyzing-community-solar-a-handbook-for-municipalities/>

Catalyzing Community Solar: A Handbook for Municipalities

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Author(s): Scott Sklar

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(excerpt):

A municipality seeking to develop community solar has a complex task ahead. This guide provides a blueprint to think through development of the project, with emphasis on decision points that could reduce project costs or harness resources that are uniquely available to help serve lower-income constituents. This Handbook identifies three obstacles to success — access to capital, expertise, and risk allocation — and includes suggestions on how to overcome these obstacles. Throughout, we have also included ideas gleaned from other community solar projects that appear particularly interesting or innovative. This Handbook is not meant to be a complete guide to community solar projects in general. There are numerous excellent references that already meet that need. Rather

it is intended to look specifically at how a municipality or other governmental body can make community solar more accessible to lower-income residents. There are a number of additional resources available online like the U.S. Energy Department sponsored Community Solar Hub10 where municipalities can learn more about projects in their region or how other pioneering community solar projects were designed and implemented



Any questions ???

Need reports, contacts ???

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