

**CLEAN ENERGY ADVISORY BOARD**  
**DRAFT MEETING MINUTES**

**August 22, 2022 (Monday)**  
**1:00PM – 4:00PM**

**\*\*Meeting was open to the Public \*\***

CEAB website hosted at [energy.virginia.gov](http://energy.virginia.gov), direct link [here](#)

**Call to Order**

Hannah Coman calls the meeting to order at 1:14pm.

**Roll Call**

Present in person: Will Cleveland, Toni Ostrowski, Hannah Coman, Bill Greenleaf, Taylor Brown, Kirk Johnson, John Warren, KC Bleile, Carmen Bingham

Present virtually: Taylor Brown

Not present: Sarah Nerette, Sam Brumberg, Kendyl Crawford, Katharine Bond, Susan Kruse

*Virginia Energy Staff:* Carrie Hearne, Devyn Keller, Austin Counts (virtual), Aaron Berryhill (virtual), Bettina Bergoo (virtual) Ryan Dorland (virtual)

*Office of Attorney General:* Mike Jagels

**Review Previous Meeting Minutes**

It was moved by T. Ostrowski and seconded by K. Johnson to approve the June 27th meeting minutes. The motion passed.

**Status update on opinion letter sent to OAG**

In late June of this year the Board sent a request for an official opinion on the legality of solar leasing. The request went to an Opinions Office and was sent to a particular section that covers energy assurance and regulation within the office. There will be a draft opinion prepared by that section that will go to the Opinions Council. It will then be reviewed by administrative staff before an official opinion is drafted by the Attorney General. It is anticipated and hoped that that can be completed by sometime in October.

**Program status update, LMI Solar Pilot**

The LMI Solar Pilot, issued by Virginia Energy earlier this summer, did not receive any responses to the RFP. However, meetings have been ongoing with companies (some already established in Virginia, others wanting to be) to get feedback on the application and process to

help plan for improvements. Several companies were interested, but did not have the bandwidth, didn't feel like the incentives were in alignment with their model, or lacked certainty in the Virginia market long-term.

T. Brown explains that there was similar messaging from companies from their interviews:

1. There is a small installer base in the Wise County region
2. Unclear legislatively whether residential leases are legal
3. Viability of the Virginia market for residential solar leasing beyond the term of the funding for this RFP (want to have a broader marketability)

The Virginia Clean Economy Act of 2020 has a 1% carve out in Dominion project territory for projects that are 1MW AC and below. That cap is \$75/megawatt hour and within that carve out is a 25% carve out of the 1% that has to be low-moderate income. As long as those recs are available, Dominion has to procure that from LMI-sited resources. There is a very small supply of LMI solar sites, so there is quite a bit of capacity for this that could add revenue to a third-party's model. More clarity on this on the next RFP could provide some additional value for the bidders.

The team will continue to reach out to more companies through mid-September to get more feedback.

Board members discussed rethinking the process for the pilot project. Considerations included:

- Look at standardizing unit cost for typical household in Wise County and go to the developers with that price in mind
- Learn what actually makes sense in some of these localities for LMI families
- Marketing program- find subscribers along with local partners rather than solar developers finding them---allows them to feel out if this would be a good market for them
- Financing- how to find/make a broader group of companies willing to consider financing this program
- Changing or splitting up the territory
- Making the RFP more proscriptive/clearer parameters

Work on improving the process of the RFP will be addressed in the Program Development Committee after the interviews with developers are complete so that they can use feedback as a guide for the future plan.

### **Virginia Energy Plan**

The Virginia Department of Energy works with the incoming governor's administration each four years to develop a plan. It is a report intended to provide a pathway of what the next four years will look like with regard to energy infrastructure and policy. Through that process, stakeholder input is taken and the CEAB is one of the named stakeholders as it relates to the Virginia Energy Plan.

The public can make comments on a stakeholder engagement survey, town hall forum, or the Virginia Energy Plan email address: [energyplan@energy.virginia.gov](mailto:energyplan@energy.virginia.gov).

The Policy and Regulatory Committee addressed the Board's comments in a meeting last Monday. The Committee resolved to draft a letter for the full board to consider. Members decided to restrict the letter to the topics in the Board's statutory mission.

Highlights of the letter:

- Request for statutory changes to SB625 (2022):
  - Give Virginia Energy, rather than the Board procurement authority over the LMI pilot program
  - The 12% hardcode on the energy efficiency measure
- Request for funding from the General Assembly for the LMI program in next year's session
- CESA report- offered as an additional attachment as a resource for the VEP

Board members discussed concerns on the 12% energy efficiency measure change. The weatherization requirement is still in the bill and the modification would help consumers reach the weatherization goals, but have a less restrictive process for them.

There is also a potential that the legality of solar leases could be added in legislation for the CEAB bill, but the Board can ask the department to make a request from the administration to make sure that makes it to legislation.

Wafa May Elamin, a representative from CESA, requested a tweak to how CESA is described in the letter.

It was moved by K. Johnson and seconded by C. Bingham to authorize the chair of the board, Hanna Coman, to amend the letter as discussed and submit it to Virginia Energy. The motion passed.

### **New federal policies, opportunities**

Two big pieces of the federal legislation that have recently passed, the Infrastructure Investment and Jobs Act and the Inflation Reduction Act, could have an impact on the CEAB's work.

The Infrastructure Investment and Jobs Act- energy efficiency and solar related provisions:

- Weatherization assistance program (51 million), formula
- State Energy Program (additional \$11 million), formula
  - Potential for being used for the LMI program, but the obligated period could pose limitations
- EE and Conservation Block Grant Program (3.25 million), formula
- EE revolving loan fund capitalization grant (2M)- can be used for residential and commercial, formula

- Energy improvement in rural or remote areas- competitive program that Virginia Energy has identified as a high priority (1 billion total for US)

Inflation Reduction Act: Amounts are ballparks for what VA would get if formula

- High-efficiency Electric Homes and Rebates Act- (~ \$99M), formula
- Home Energy Performance-Based, Whole House Rebates-HOMES, (~\$95M), formula
- \*Greenhouse Gas Reduction Fund (60103)- (\$7B), competitive funding “to enable low-income and disadvantaged communities to deploy or benefit zero-emission technologies”
  - State energy offices, local governments, and tribes eligible
  - Through the EPA
- Clean Energy and Sustainability Accelerator (\$20B)- national green bank, new and existing green banks to further their activities
  - 8 billion going to LMI communities
- Environmental and Climate Justice Block Grants (\$3B)
  - State government isn’t eligible to apply

Tax credits- A lot of the provisions are related to taxes and many are amendments to tax credits. There will be the option to transfer a tax credit to another entity if the tax payer cannot use it, which could directly impact LMI residents who get solar through this program. Many credits are increased when certain requirements are met related to wages and apprenticeships, domestic content, and location in an “energy community.”

There was a suggestion that the discussion on this for CEAB move to the program design committee for a deeper consideration. Board members also discussed that it’s important to make the tax credits clear and easy for consumers to use and options for whose role that could be.

Board members discussed that it would be advantageous to complete an application for the GHG Reduction Fund to expand the LMI solar work after the pilot program was live, but that the timing might not work as it needs to be dispersed by 2024. More research will have to be done to see if the funds could live in the state budget after 2024.

Green banks in VA: Legislation was passed by the General Assembly last year that authorized localities to establish publicly-funded clean energy institutions, green banks. Fairfax is the only county currently taking steps towards potentially starting a green bank. There is no established green bank institution in Virginia. Green banks could be used for the tax credit transfers, but a system would have to be developed.

## 2023 Legislative Engagement

Relationship building thoughts:

- The patron of the legislation that created the board is no longer at the General Assembly (GA), so it is important to make new connections to GA members who can advocate for it

- CEAB day at the GA to meet with legislators
  - Keep it narrow focus
  - Potentially doing it early, in the fall

Content suggestions discussed:

- Budget amendment
- CEAB bill (SB625) edits from the letter
- Consider solar leasing bill separately in case the CEAB doesn't go forward

The Policy and Regulatory Committee will address this further.

### **Public Comment**

There was no public comment.

### **Discussion and Next Steps**

SCC Task Force: The SCC will be launching their task force related to shared solar in Appalachian Power Company territory in September or later.

HEDC Report Update: Virginia Energy is still working on the HEDC report. This is looking at if there is a disproportionate burden on HEDCs as a result of the VCEA. The report will be published every years, so setting the baseline is important. C. Hearne will reach out to the Board with opportunities to engage in the fall.

Future meetings: The next meeting of the CEAB will be October 17<sup>th</sup>. Location options will be considered in the near future.

The Policy and Regulatory Committee will meet October 14<sup>th</sup>.

The Program Development Committee will plan to have a meeting about the developer interviews and RFP recommendations before the next full board meeting.

The Stakeholder Engagement Committee has not met recently, but C. Bingham is thinking through what the focus of their next meeting will be, including the role of the stakeholders verses the Board in engaging potential homeowners for the pilot. B. Vernon from Virginia Energy can assist with information on the committee as well.

Dominion program: Dominion recently launched their Income Qualifying Solar Program. H. Coman is reaching out to set up a meeting to discuss the program with the Board.

VEP comment: The end date for public engagement for the Virginia Energy Plan is September 16<sup>th</sup>.

The meeting adjourned at 3:40pm.

CLEAN ENERGY ADVISORY BOARD  
POLICY AND REGULATORY COMMITTEE

**REPORT AND RECOMMENDATION OF  
THE POLICY AND REGULATORY COMMITTEE**

For Board Meeting on Monday, August 22

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The Committee met on August 15, with members Sam Brumberg (Chair), KC Bleile, and Will Cleveland in attendance. Committee member Sarah Nerette, Board Member Katharine Bond, and Board Chair Hannah Coman were present via videoconference.

The Committee resolved to draft a letter for consideration by the full Board to comment on the 2022 Virginia Energy Plan. The letter was to be restricted to the Board's statutory mission. That letter is attached and is recommended for adoption by the full Board.

The Committee also offers the following recommendations concerning the 2023 General Assembly Session and its priorities:

- The Board should ask Virginia Energy to include the content of the former SB625 (2022) in its requests to the Administration for potential legislation in 2023. This would include the statutory changes necessary to have the Department be the issuing authority for any incentives/rebates/RFPs/etc. and to remove the hard-coded 12% energy efficiency measure. These are technical changes to the Board's authorizing statute and they should be viewed as nonpartisan in nature.
- The Board should ask Virginia Energy to consider making a budget request to fund the Board's LMI solar program. The Board should defer to the Department staff in sizing the request.

The Committee will continue to foster relationships with various members of the House and Senate to promote the success of the Board's legislative initiatives.



# COMMONWEALTH OF VIRGINIA

## *Clean Energy Advisory Board*

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### VIA ELECTRONIC MAIL

*August 22, 2022*

Mr. John Warren  
Director  
Virginia Department of Energy  
[energyplan@energy.virginia.gov](mailto:energyplan@energy.virginia.gov)

**Re: Clean Energy Advisory Board's Comments on the Virginia Energy Plan 2022**

Dear Mr. Warren:

I write to you today as the Chair of the Clean Energy Advisory Board (the "Board"). The Board has the following comments on the Virginia Energy Plan 2022 (the "Energy Plan"). The Administration is revising the Energy Plan based on a four-pronged platform, to include: competitive rates, reliable service, responsible delivery of energy, and rural economic development. As you know, the mission of the Board is:

*The Clean Energy Advisory Board is established as an advisory board in the executive branch of state government. The Board, with the approval of the Director of [the Virginia Department of Energy], shall develop and establish a Low-to-Moderate Income Solar Loan and Rebate Pilot Program (the "Program") and rules for the loan or rebate application process. The Program shall disburse loans or rebates for the installation of solar energy infrastructure from a Low-to-Moderate Income Solar Loan and Rebate Fund (the "Fund"). In carrying out its duties, the Board shall consider the Energy Objectives of the Commonwealth described in § 67-101 of the Code of Virginia. All actions and recommendations of the Board shall be for the purpose of expanding access to cost-effective clean energy for low- and moderate-income Virginians throughout the Commonwealth, including citizens living in both single- and multi-family housing facilities sand in rural or economically disadvantaged communities.*

Va. Code § 45.2-1913.

Since the mission of the Board involves making clean energy accessible for low and middle-income ("LMI") families, the Board wishes to make comments to the Department on the Energy Plan, consistent with the Administration's vision for the revision of the Energy Plan.

The Board was not involved in the 2018 Energy Plan because, at that time, it did not exist. The Board was established by legislation passed in the 2019 General Assembly. While utility rates and utility bills are related, the various policy concerns involved in setting *rates* are well beyond the Board's mandate. *Id.* The Board would make the following points regarding how to lower utility *bills* as the notice seeking public comment asks. The Board is developing a program proposal which, if funded, would help offset costs for certain LMI households to install solar energy equipment behind the electric meter at their homes. Virginia's net energy metering program allows participating customers to generate their own electricity at their homes

for their own consumption, which can reduce electricity costs. This, in turn, produces lower monthly electric bills for those self-generating customers.

The Board notes that rural economic development is an important part of enabling LMI households to thrive, and that broadband deployment is a necessary precursor to much rural economic development activity. Before an LMI household can fully benefit from installed solar power, broadband—and especially high-speed fiber broadband—will enable that solar to be managed remotely, including performing troubleshooting and maintenance tasks, and the homeowner will be able to follow and monitor his or her solar production using a mobile device. Fully funding rural broadband deployment and fully funding the Board’s program of solar incentives, loans, or rebates, will both aid rural economic development. The Board is eager that good, long-term, high-skill, high-paying jobs—so-called “boots on the roof”—including jobs related to rooftop and small-scale solar deployment, become part of the fabric of Virginia’s rural communities. Energy innovation includes allowing LMI households to access appropriate financing mechanisms for clean energy.

The Board notes that among other changes that the Energy Plan could support would be statutory changes in the law that created the Board. Changes are needed to (i) give Virginia Energy, rather than the Board, procurement authority to implement the program, for purposes of complying with government procurement law, and (ii) remove the hard-coded 12% energy efficiency measure that unnecessarily limits the types and sizes of technology that the Board’s program would support. The Board has briefed the Department on the changes that are necessary, and we encourage Department to place them before the Administration for its support.

Finally, the Board recommends that the Department further consider the report and recommendations made by the Clean Energy States Alliance, nonprofit consultants to the Board, which are attached hereto as Exhibit A.

The Board is grateful for the work of its staff at the Department and asks that you receive these comments into the record.

Very truly yours,

Hannah Coman  
Chair  
Clean Energy Advisory Board

# Developing a Solar Pilot Program for Low-and Moderate-Income Households in Virginia

Virginia Clean Energy Advisory Board Meeting

*July 21, 2021*

# Presenter Team



**Wafa May Elamin**  
Project Manager  
Clean Energy States Alliance



**Nate Hausman**  
Project Director  
Clean Energy States Alliance



# CleanEnergy States Alliance



GOVERNOR'S  
Energy Office



Maryland  
Energy  
Administration



NYSERDA



Department of Commerce  
Innovation is in our nature.



# Presentation Overview

- **CESA's Workplan and Summary of Findings**
- **Pilot Program Design Recommendations**
  1. Pilot Structure
  2. System Ownership
  3. Demonstrating Reduced Energy Consumption
  4. Local Installer Requirement
  5. Incentive Payment
  6. Incentive Cap
  7. Income Threshold
  8. Pilot Location
  9. Locational Variables and Potential Pilot Jurisdictions
- **Next Steps**
- **Recommendations Recap**
- **Q&A**

# CESA Work Plan

- CESA was awarded an anonymous grant to assist DMME and the CEAB in the development of a solar pilot for low- and moderate- income (LMI) households in Virginia over the course of one year.
- Our overall aim is to launch a successful pilot program that can be scaled and that will help demonstrate the case for long-term program investment and expansion.
- In March, CESA presented background market research to the CEAB. After receiving feedback from the CEAB and DMME staff, we expanded our pilot program selection variables and re-examined potential jurisdictions for a pilot. In conjunction with DMME, we conducted informational interviews with solar providers that offer residential solar leases in other state markets.
- We will present our pilot design recommendations today. With the CEAB's approval, we plan to develop these recommendations into a draft program solicitation.

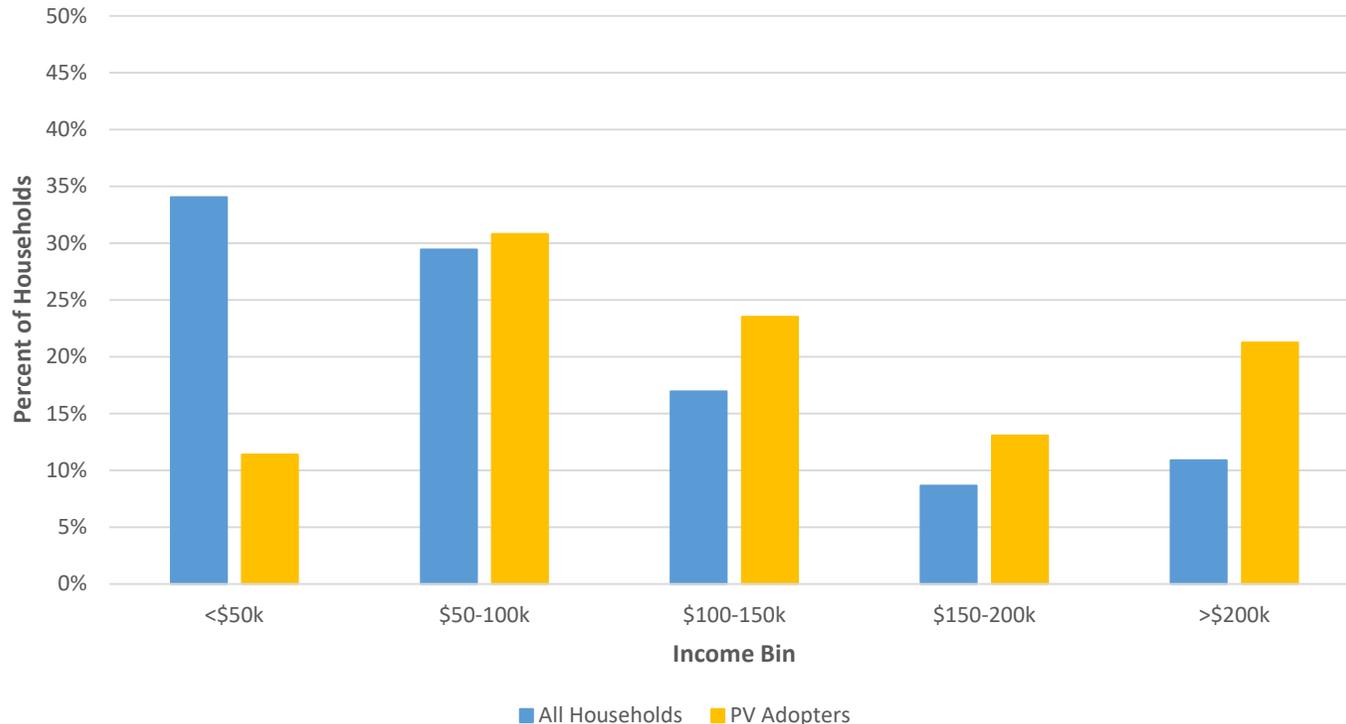
# Summary of Findings

- Virginia's Low-to-Moderate Income Solar Loan and Rebate Fund is currently capitalized with \$200,000 in re-purposed federal American Recovery and Reinvestment Act (ARRA) funds.
  - No other funding for the program has been secured to date.
- Market economics in Virginia make it difficult for residential solar projects for LMI households to pencil out.
- A 25-year lease offers preferable financing terms for LMI homeowners in Virginia.
- Solar property tax exemption has an impact on the amount of subsidy needed to achieve cashflow positive solar transactions for Virginians.
- Our estimates show that about \$6,500 in public subsidy per solar project will be necessary to ensure participating LMI households benefit from their solar transactions.
- 30 solar installations could be completed under the pilot assuming an initial pilot program financing budget of \$200,000 and approximately \$6,500 in direct public subsidy per project.

# Income Distribution of PV Adopters: Virginia

Based on all PV systems installed from 2010 to 2019

## Income Distribution by Census Income Groups



## Specific Income Groups of Interest

Income Group*	Percent of PV Adopters
<60% of AMI	10%
60-80% of AMI	8%
80-100% of AMI	11%
100-120% of AMI	11%
≥120% of AMI	60%

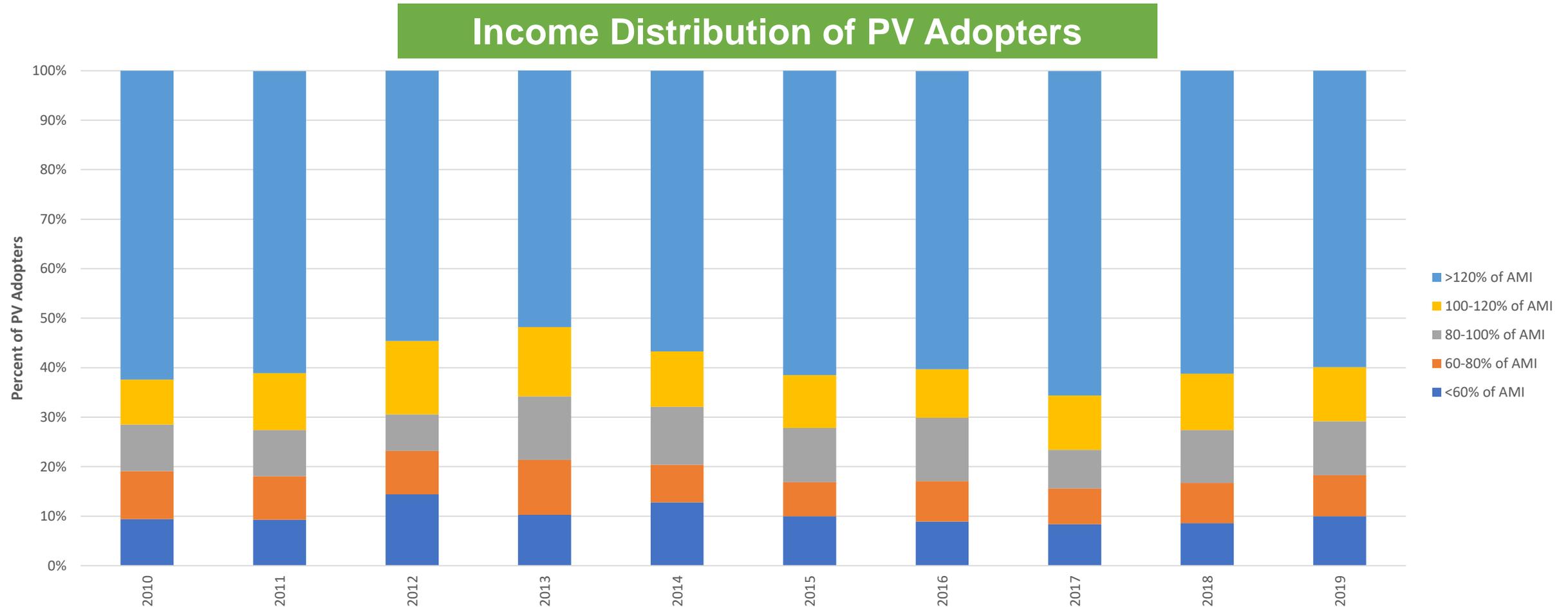
### General note on PV-adopter incomes:

*These values are estimates developed by Experian, based on a statistical model trained to household-level survey data. As such, they entail some level of uncertainty.*

**Notes:** The income distribution for PV adopters is based on Experian estimated incomes for systems in Berkeley Lab's dataset, while the income distribution for all households is directly from the U.S. Census.

# PV Adopter Income Trends over Time: Virginia

According to year of installation (2010-2019)



**Notes:** The time period shown in the figure is based on the set of years for which we have sufficient data. Income levels for PV adopters in each year are based on the estimated current income of those households, not the income at the time of installation.

# Recommended Pilot Structure

- The pilot focuses on LMI single-family homeowners who have previously participated in weatherization services.
- DMME competitively selects solar companies and provides support and outreach assistance for them to reach underserved markets.
- The pilot uses focused, inclusive, and community-based marketing campaigns to reach 2-3 selected underserved communities.
- The program guarantees that solar projects are structured with contracts that are cashflow positive for LMI participants and have no hidden fees.
- The program provides direct oversight controls over participating solar companies.



# Other Pilot Program Design Considerations

# System Ownership

- A third-party system ownership model can stretch pilot program dollars further, but how residential solar leases and PPAs are regulated in Virginia is somewhat uncertain.
- We are not aware of any solar companies that are currently residential solar lease products in Virginia.

***Recommendation: Draft the solicitation with open-ended financing terms.***

# Comparing Residential Solar Financing Models

	Solar Leases	Residential Solar PPAs	Solar Loans/Direct Purchase
<b>Who buys the system?</b>	Third-party developer.	Third-party developer.	Homeowner.
<b>Who owns the system?</b>	Third-party developer.	Third-party developer.	Homeowner.
<b>Who takes advantage of most of the federal and state solar incentives?</b>	Third-party developer.	Third-party developer.	Homeowner.
<b>Who is responsible for operations and maintenance of the solar system?</b>	Usually the third-party developer.	Third-party developer.	Homeowner, though some state incentive programs require installers to provide a workmanship warranty for a set period.
<b>Who incurs the risk of damage?</b>	Third-party developer.	Third-party developer.	Homeowner.
<b>What happens if the homeowner sells the home where the solar system is located?</b>	Depends on the contract, but most leases allow the new buyers to take over the lease at contract terms.	Depends on the contract, but most PPAs allow the new buyers to take over the PPA at contract terms.	If the homeowner finances the system through a loan, the homeowner remains responsible for loan payments after the transfer unless negotiated with the buyer.
<b>Are financing payments fixed?</b>	Yes, payments are pre-set but may include an annual escalator, increasing payments each year.	No. Payments to the third-party owner are on a per kilowatt-hour basis based on electricity generated by the solar array. Per kilowatt-hour payments may include an annual escalator.	If the homeowner finances the system through a loan, the loan payments will be fixed. If the homeowner decides to purchase a system outright, a contractor may sometimes offer several payment installments instead of one lump sum.
<b>What contract duration terms are available?</b>	Terms can vary.	Terms can vary, but often in the range of about 20 years.	If the homeowner finances the system through a loan, the loan terms can vary.
<b>Does this type of financing arrangement require a down payment?</b>	Not necessarily; down payment requirements vary.	Not necessarily; down payment requirements vary.	If the homeowner finances the system through a loan, down payment requirements can vary.
<b>Is this type of financing arrangement widely available?</b>	No. Solar leasing is only available in some states. Some states regulate the sale of electricity in ways that effectively preclude solar leases.	No. PPAs are only available in some states. Some states regulate the sale of electricity in ways that effectively preclude residential solar PPAs.	Yes. Solar and energy improvement loans are increasingly available. A homeowner can always directly cash-purchase a solar system.
<b>Do contracts provide minimum production guarantees?</b>	Yes, usually. Solar lease providers commonly provide minimum production guarantees.	Yes, usually. PPA providers commonly provide minimum production guarantees.	A loan contract does not include production guarantees. A solar panel manufacturer or developer/installer may provide a production guarantee.
<b>Are there escalator clauses in the contract?</b>	Sometimes. Check the specific terms.	Sometimes. Check the specific terms.	If the homeowner finances the system through a loan, interest rates may increase over time depending upon the loan terms.
<b>Is insurance coverage provided?</b>	Yes.	Yes.	No. Homeowners who directly own their solar system and want to be covered will need to find coverage either through a homeowner's existing insurance policy or through the purchase of a new or expanded policy. Homeowners may decide to forgo insurance coverage altogether and bear the risks.

# Demonstrating Prior Reduced Energy Consumption

- § 45.1-399(B)(iii): “Each application shall include...evidence of the completion of a home performance audit, conducted by a qualified local weatherization service provider, before and after installation of energy efficiency services...to demonstrate that such energy efficiency services were completed and resulted in a reduction in consumption of at least 12 percent...”
- This provision presents some ambiguity about how such a “reduction in consumption” might be demonstrated (e.g., electric, thermal, or both) and could present challenges for pilot eligibility.

***Recommendation: Rely on Weatherization Assistance Program audits and final work scopes with a Savings to Investment Ratio (SIR) of greater than 1.0 for energy efficiency measures to serve as a proxy for the 12% reduction in energy consumption requirement.***

# Local Installer Requirement

- § 45.1-399(E)(iv): “All of the work of installing the energy system shall be completed by a licensed contractor that...has installed a minimum of 150 net-metered residential solar systems in Virginia.”

***Recommendation: Allow solar providers who contract with local installers to satisfy this statutory requirement.***

# Incentive Payment

- § 45.1-399(G): “...The Director shall disburse from the Low-to-Moderate Income Solar Loan and Rebate Fund ... the loan or rebate for each approved claim within 60 days of its receipt of the claim and according to the order in which its respective application was approved.”
- This provision points toward an LMI incentive issued as a lump-sum payment, not ongoing payments over the lifetime of a lease, loan, or solar power purchase agreement.

***Recommendation: A lump-sum incentive payment should be factored into the system cost so it reduces LMI customers’ monthly loan, solar lease, or solar power purchase agreement payments.***

# Incentive Cap

- § 45.1-399(G): “Any rebate or grant shall be in the amount of no more than \$2 per DC watt for up to six kilowatts of solar capacity installed.”

***Recommendation: Interpret this to be a cap on the incentive amount, not on the allowable system size under the pilot program.***

# Income Threshold

- § 45.1-399(A): “The Program shall be open to any Virginia resident whose household income is *at or below 80 percent of the state median income or regional median income, whichever is greater.*”
- Virginia’s Weatherization Assistance Program (WAP) income guidelines follow the state Low-Income Heating Assistance Program (LIHEAP) limit of 60% state median income (SMI) or below for households of seven or less. Independently verifying LMI solar pilot program eligibility at a different threshold than is used by other social service programs in Virginia could be administratively burdensome.

***Recommendation: Focus the pilot on LMI homeowners who have already qualified for WAP or LIHEAP (at 60% SMI in Virginia) to streamline eligibility verification.***

# Pilot Locations

- § 45.1-399(A): “The Program shall be open to *any Virginia resident* whose household income is at or below 80 percent of the state median income or regional median income, whichever is greater.”
- Limiting the pilot to particular jurisdictions within Virginia might run afoul of the statutory provision to make the program open to any Virginia resident.

***Recommendation: Allow pilot participation by any Virginia resident but focus marketing campaigns in selected jurisdictions.***

# Locational Variables

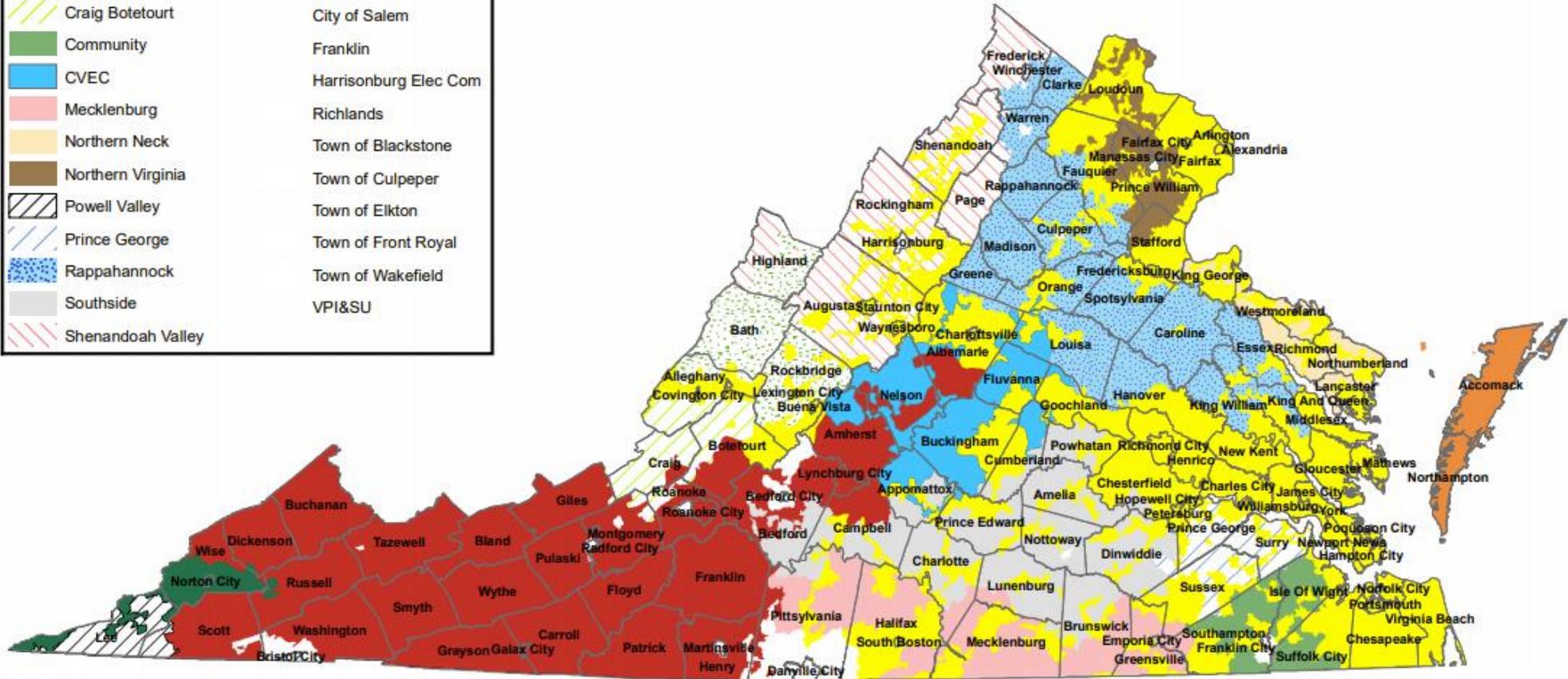
Variables assessed for pilot program development include:

- Cities and counties
- Utility Service territory
- Solar Property Tax Exemption Status
- Energy burden and costs
- Population and demographics
- Income information (median income, area median income, state median income)

Feedback from the March CEAB meeting informed the expansion of variables

# Electric Service Territories

Electric Utilities	
Investor Owned Utilities	Non-Jurisdictional Utilities
 APCo	Bristol Power Board
 Kentucky Utilities	City of Bedford
 Dominion Energy Virginia	City of Danville
<b>Electric Cooperatives</b>	
 A&N	City of Manassas
 BARC	City of Martinsville
 Craig Botetourt	City of Radford
 Community	City of Salem
 CVEC	Franklin
 Mecklenburg	Harrisonburg Elec Com
 Northern Neck	Richlands
 Northern Virginia	Town of Blackstone
 Powell Valley	Town of Culpeper
 Prince George	Town of Elkton
 Rappahannock	Town of Front Royal
 Southside	Town of Wakefield
 Shenandoah Valley	VPI&SU

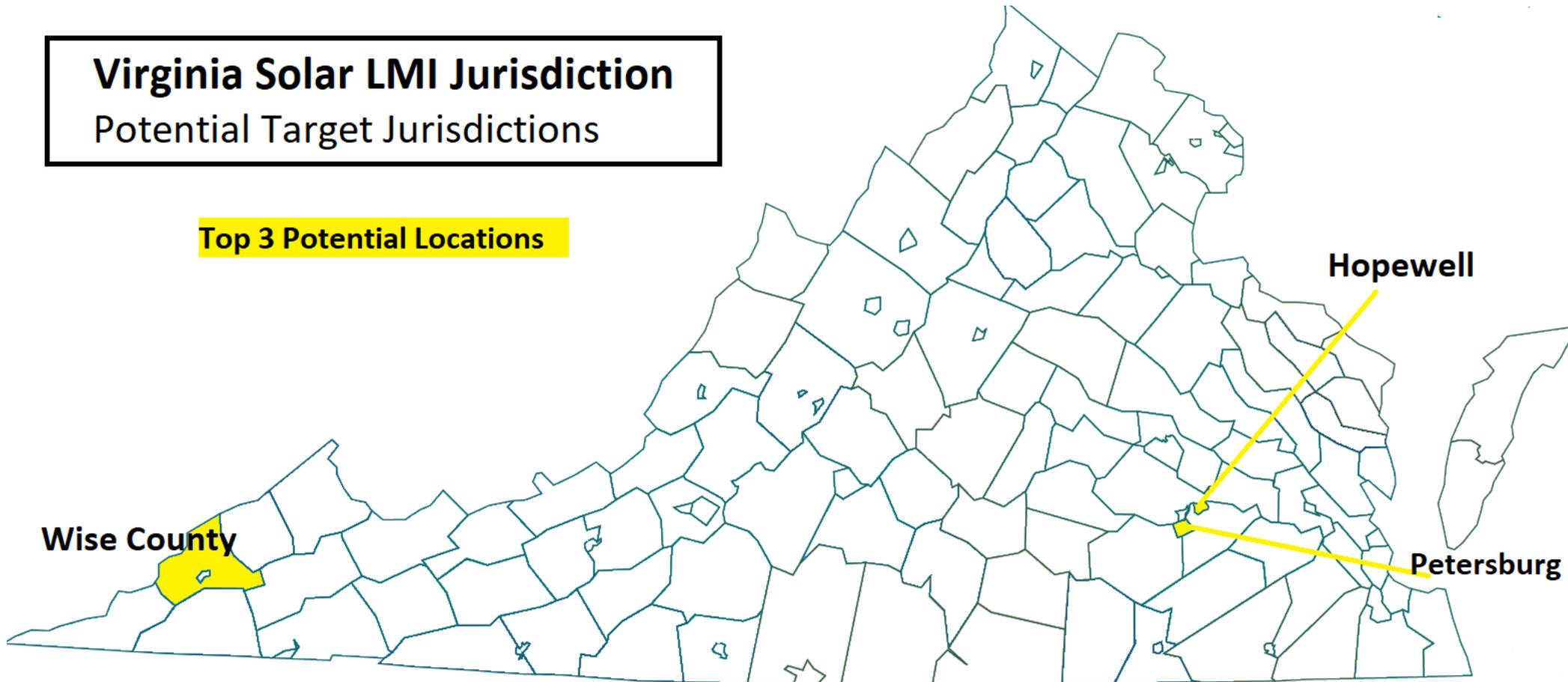


# Potential Pilot Locations: Top 3

## Virginia Solar LMI Jurisdiction Potential Target Jurisdictions

### Top 3 Potential Locations

- Hopewell
- Petersburg
- Wise County



# Potential Pilot Locations: Top 3

	Hopewell	Petersburg	Wise County
Income (2019)	Median Annual : \$41,600	Median Annual : \$39,843	Median Annual : \$38,880
	46.5% of AMI, 56.1% SMI	44.6% of AMI, 53.7% of SMI	77.3% of AMI, 52.4% SMI
% Population of Color (2019)	54%	85%	7.5%
Virginia Region	Central	Central	Southwest
Utility Service Territory	Dominion Energy	Dominion Energy	Appalachian Power Old Dominion Powell Valley TN ODP Kentucky
Solar Development	Solar Property Tax Exempt-at county level		SolSmart Silver – receptive to solar development

# Next Steps

1. Approve core program design recommendations
2. In conjunction with the CEAB Stakeholder Engagement and Marketing Committee, conduct outreach to stakeholders in pilot jurisdictions (community-based organizations, weatherization service providers, local utilities, municipal officials, solar installers, single-family affordable housing providers, and other) to solicit input on program design and viability
3. Develop a timeline for pilot program development
4. Draft a solicitation for solar providers for the pilot

# Pilot Recommendations Recap

1. Focus on LMI single-family homeowners who have already qualified for WAP or LIHEAP (at 60% SMI in Virginia) to streamline eligibility verification
  - Rely on WAP audits and final work scopes with a Savings to Investment Ratio (SIR) of greater than 1.0 for energy efficiency measures to serve as a proxy for the 12% reduction in energy consumption requirement
2. Competitively select solar companies and provide outreach assistance to help them to reach underserved markets
  - Issue a solicitation with open-ended financing terms but provide an economic analysis demonstrating the cost-effectiveness of third-party ownership
  - Allow solar providers who contract with local installation companies to satisfy the local installer requirement
3. Use focused, community-based marketing campaigns to reach 2-3 selected underserved Virginia communities
  - Allow pilot participation by any Virginia resident but focus marketing campaigns in selected jurisdictions
  - Explore the cities of Hopewell and Petersburg and Wise County as potential locations for the pilot and conduct outreach to stakeholders in these jurisdictions to probe program viability
4. Guarantee that solar projects are structured with cashflow positive contracts for participating LMI households
  - Structure the incentive payment as a lump-sum, reducing customers' financing payments over time
  - Provide direct oversight controls over participating solar companies to ensure robust consumer protection



Questions or Comments?



# Thank You

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# Infrastructure Investment and Jobs Act



~\$550 billion in new spending for many infrastructure programs.

## EE, solar related provisions

Provision Name and Section Number	Description	Total funding	Estimated total for Virginia, if formula	Timing (est.)
Weatherization Assistance Program	<u>Formula funding</u> for state WAP programs.	\$3.5B	\$51M	Q3 2022
State Energy Program (40109)	Flexible <u>formula funding</u> for state energy offices. Additional to annual SEP funding.	\$500M	\$11M	Q3 2022
EE and Conservation Block Grant Program (40552)	<u>Formula funding</u> to develop, promote, implement, and manage energy efficiency projects.	\$550M	\$3.25	Q4 2022
EE Revolving Loan Fund Capitalization Grant (40502)	<u>Formula funding</u> to establish revolving loan funds for energy efficiency projects.	\$250M	\$2M	Q3 2022
Energy Improvement in Rural or Remote Areas (40103c)	Competitive funding to improve energy infrastructure (grid resilience and EE) in rural or remote areas.	\$1B	-	Q3 2022



# Inflation Reduction Act



\$369 Billion for energy security and climate change, with \$60B directed into disadvantaged communities. Climate investments are broken up into over 100 programs.

## Rebates channeled through Virginia Energy

Provision Name and Section Number	Description	Total funding	Estimated total for Virginia, if formula	Timing (est.)
High-Efficiency Electric Homes and Rebates Act - HEEHRA (50122)	<u>Formula funding</u> for energy efficiency and electrification rebates specifically for low-income households.	\$4.5B	UNK - ballpark of \$99M	UNK
Home Energy Performance-Based, Whole House Rebates - HOMES (50121)	<u>Formula funding</u> for energy efficiency and electrification rebates. Additional \$200 for each retrofit completed in a disadvantaged community. Through 9/2031.	\$4.3B	UNK - ballpark of \$95M	UNK



50122: For the Rebate program, the state must have a plan to verify income eligibility, allow rebates at the point of sale (like the ARRA-era appliance rebate program) and a method to ensure that the individuals do not double-dip in other federal programs (Section 50122(b)). There are specific rebates amounts for appliances, non-appliance upgrades, and a cap on rebates of \$14,000 (\$1,750 – heat pump water heater; \$8,000 – heat pump; \$840 – electric stove, cooktop, range or oven, heat pump clothes dryer; \$4,000 electric load service center upgrade; \$1,600 for insulation, air sealing and ventilation; and \$2,500 for electric wiring – Section 50122(c)(3)). The limits are also set at 50% of the cost of the project for households with incomes of 80-150% of area median income, and 100% of the project costs for those earning less than 80% of the area median income. Projects can be implemented in multifamily buildings at similar levels (Section 50122(c)(4)(B)). In addition, \$500 shall be provided to “a governmental, commercial, or nonprofit entity, as determined by the Secretary” to carry out the project, where the individual is not implementing the project (Section 50122(c)(A) and (d)(1)(C)). The appliances must also meet the ENERGY STAR standards (Section 50122(d)(6)(B)). This last provision should provide a method for the state energy office to coordinate with the Weatherization program at DOE and with programs developed under the transfers from the LIHEAP programs at HHS for weatherization activities (approximately 11%

on average over the years).

50121: For single-family homes that achieves a “modeled” energy system savings of at least 20%, it is the lesser of \$2,000 or 50% of the project cost (Section 50121(c)(2)(A)(i)). If savings on a “modeled” basis achieves at least 35%, then \$4,000 can be rebated or 50% of the project cost, whichever is less (Section 50121(c)(2)(A)(ii)). If the savings are “measured” and apply to a home or a group of homes, with at least 15% savings, it will receive \$2,000 or 50% of the project cost (Section 50121(c)(2)(A)(iii)). In the case of multifamily buildings, the owners and aggregators can receive \$2000/dwelling unit for “modeled” savings of 20%, up to 35%, with a cap of \$200,000 for the entire building. For savings of at least 35%, the amounts double to \$4,000/dwelling unit with a cap of \$400,000/building (Section 50121(c)(2)(B)). For measured savings in a multifamily building, it remains \$2,000 for a 20% reduction of energy use, or 50% of the project cost (Section 50121(c)(2)(B)). The amounts are higher in both single-family and multifamily buildings where they are occupied by low- or moderate-income individuals (See Section 50121(c)(2)(C)). SEOs can use up to 20% of the funds for planning, administration and technical assistance. “Low and Moderate Income “individuals and families are those earning less than 80% of the area median income, as reported by HUD and can be eligible based upon eligibility for other federal programs (Section 50121(d)(3)). Open to all fuel sources.

## LMI Solar and Green Banks

Provision Name and Section Number	Description	Total funding	Estimated total for Virginia, if formula	Timing (est.)
Greenhouse Gas Reduction Fund (60103)	Competitive funding "to enable low-income and disadvantaged communities to deploy or benefit from zero-emission technologies."	\$7B	-	Q1 2023
Clean Energy and Sustainability Accelerator (60103 - funded via GHGRF above)	Competitive funding to capitalize operations of state and local green bank activities. \$8B specifically for activities benefiting low-income and disadvantaged communities.	\$20B	-	Q2 2023
Environmental and Climate Justice Block Grants (60201)	Competitive funding to enable disadvantaged communities to reduce greenhouse gas emissions, mitigate risks from extreme heat, improve climate resiliency and reduce indoor air pollution.	\$3B	-	



### SEC. 60103. GREENHOUSE GAS REDUCTION FUND.

The Clean Air Act is amended by inserting after section 133 of such Act, as added by section 60102 of this Act, the following:

#### SEC. 134. GREENHOUSE GAS REDUCTION FUND.

##### (a) Appropriations.--

(1) Zero-emission technologies.--In addition to amounts otherwise available, there is appropriated to the Administrator for fiscal year 2022, out of any money in the Treasury not otherwise appropriated, \$7,000,000,000, to remain available until September 30, 2024, to make grants, on a competitive basis and beginning not later than 180 calendar days after the date of enactment of this section, to States, municipalities, Tribal governments, and eligible recipients for the purposes of providing grants, loans, or other forms of financial assistance, as well as technical assistance, to enable low-income and disadvantaged communities to deploy or benefit from zero-emission technologies, including distributed technologies on residential rooftops, and to carry out other greenhouse gas emission reduction activities, as determined appropriate by the Administrator in accordance with this section.

(2) General assistance.--In addition to amounts otherwise available, there is appropriated to the Administrator for fiscal year 2022, out of any money in the Treasury not otherwise appropriated, \$11,970,000,000, to remain available until September 30, 2024, to make grants, on a competitive basis and beginning not later than 180 calendar days after the date of enactment of this

section, to eligible recipients for the purposes of providing financial assistance and technical assistance in accordance with subsection (b).

``(3) Low-income and disadvantaged communities.--In addition to amounts otherwise available, there is appropriated to the Administrator for fiscal year 2022, out of any money in the Treasury not otherwise appropriated, \$8,000,000,000, to remain available until September 30, 2024, to make grants, on a competitive basis and beginning not later than 180 calendar days after the date of enactment of this section, to eligible recipients for the purposes of providing financial assistance and technical assistance in low-income and disadvantaged communities in accordance with subsection (b).

``(4) Administrative costs.--In addition to amounts otherwise available, there is appropriated to the Administrator for fiscal year 2022, out of any money in the Treasury not otherwise appropriated, \$30,000,000, to remain available until September 30, 2031, for the administrative costs necessary to carry out activities under this section.

``(b) Use of Funds.--An eligible recipient that receives a grant pursuant to subsection (a) shall use the grant in accordance with the following:

``(1) Direct investment.--The eligible recipient shall--

``(A) provide financial assistance to qualified projects at the national, regional, State, and local levels;

``(B) prioritize investment in qualified projects that would otherwise lack access to financing; and

``(C) retain, manage, recycle, and monetize all repayments and other revenue received from fees, interest, repaid loans, and all other types of financial assistance provided using grant funds under this section to ensure continued operability.

``(2) Indirect investment.--The eligible recipient shall provide funding and technical assistance to establish new or support existing public, quasi-public, not-for-profit, or nonprofit entities that provide financial assistance to qualified projects at the State, local, territorial, or Tribal level or in the District of Columbia, including community- and low-income-focused lenders and capital providers.

``(c) Definitions.--In this section:

``(1) Eligible recipient.--The term 'eligible recipient' means a nonprofit organization that--

``(A) is designed to provide capital, leverage private capital, and provide other forms of financial assistance for the rapid deployment of low- and zero-emission products, technologies, and services;

``(B) does not take deposits other than deposits from repayments and other revenue received from financial assistance provided using grant funds under this section;

``(C) is funded by public or charitable contributions; and

``(D) invests in or finances projects alone or in conjunction with other investors.

``(2) Greenhouse gas.--The term 'greenhouse gas' means the air pollutants carbon dioxide, hydrofluorocarbons, methane, nitrous oxide, perfluorocarbons, and sulfur hexafluoride.

``(3) Qualified project.--The term 'qualified project' includes any project, activity, or technology that--

``(A) reduces or avoids greenhouse gas emissions and other forms of air pollution in partnership with, and by leveraging investment from, the private sector; or

``(B) assists communities in the efforts of those communities to reduce or avoid greenhouse gas emissions and other forms of air pollution.

``(4) Zero-emission technology.--The term `zero-emission technology' means any technology that produces zero emissions of--

``(A) any air pollutant that is listed pursuant to section 108(a) (or any precursor to such an air pollutant); and

``(B) any greenhouse gas.''.

## \$7B Greenhouse Gas Reduction Fund

Provision Name and Section Number	Language
Greenhouse Gas Reduction Fund (60103)	<p>In addition to amounts otherwise available, there is appropriated to the Administrator for fiscal year 2022, out of any money in the Treasury not otherwise appropriated, \$7,000,000,000, to remain available until September 30, 2024, to make grants, on a competitive basis and beginning not later than 180 calendar days after the date of enactment of this section, to States, municipalities, Tribal governments, and eligible recipients for the purposes of providing grants, loans, or other forms of financial assistance, as well as technical assistance, to enable low-income and disadvantaged communities to deploy or benefit from zero-emission technologies, including distributed technologies on residential rooftops, and to carry out other greenhouse gas emission reduction activities, as determined appropriate by the Administrator in accordance with this section.</p>



SEC. 60103. GREENHOUSE GAS REDUCTION FUND.

The Clean Air Act is amended by inserting after section 133 of such Act, as added by section 60102 of this Act, the following:

``SEC. 134. GREENHOUSE GAS REDUCTION FUND.

``(a) Appropriations.--

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``(2) General assistance.--In addition to amounts otherwise available, there is appropriated to the Administrator for fiscal year 2022, out of any money in the Treasury not otherwise appropriated, \$11,970,000,000, to remain available until September 30, 2024, to make grants, on a competitive basis and beginning not later than 180 calendar days after the date of enactment of this

section, to eligible recipients for the purposes of providing financial assistance and technical assistance in accordance with subsection (b).

``(3) Low-income and disadvantaged communities.--In addition to amounts otherwise available, there is appropriated to the Administrator for fiscal year 2022, out of any money in the Treasury not otherwise appropriated, \$8,000,000,000, to remain available until September 30, 2024, to make grants, on a competitive basis and beginning not later than 180 calendar days after the date of enactment of this section, to eligible recipients for the purposes of providing financial assistance and technical assistance in low-income and disadvantaged communities in accordance with subsection (b).

``(4) Administrative costs.--In addition to amounts otherwise available, there is appropriated to the Administrator for fiscal year 2022, out of any money in the Treasury not otherwise appropriated, \$30,000,000, to remain available until September 30, 2031, for the administrative costs necessary to carry out activities under this section.

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``(C) retain, manage, recycle, and monetize all repayments and other revenue received from fees, interest, repaid loans, and all other types of financial assistance provided using grant funds under this section to ensure continued operability.

``(2) Indirect investment.--The eligible recipient shall provide funding and technical assistance to establish new or support existing public, quasi-public, not-for-profit, or nonprofit entities that provide financial assistance to qualified projects at the State, local, territorial, or Tribal level or in the District of Columbia, including community- and low-income-focused lenders and capital providers.

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``(A) is designed to provide capital, leverage private capital, and provide other forms of financial assistance for the rapid deployment of low- and zero-emission products, technologies, and services;

``(B) does not take deposits other than deposits from repayments and other revenue received from financial assistance provided using grant funds under this section;

``(C) is funded by public or charitable contributions; and

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``(A) reduces or avoids greenhouse gas emissions and other forms of air pollution in partnership with, and by leveraging investment from, the private sector; or

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``(B) any greenhouse gas.''.

## Tax Credits - Overarching Provisions

- Most extended, expanded and modified for 10 years (as opposed to extenders of one or 2 yrs).
- “Direct pay” election allows cash rather than most tax credits for non-profits, such as states, local governments, municipal utilities, TVA, Tribes, Alaska natives and cooperatively owned utilities.
- Taxpayers can carry back excess amounts of the income tax credits for three years rather than the current one year.
- Taxpayers that cannot use direct pay can transfer the tax credit to another entity.

## Tax Credits - Overarching Provisions

- Many credits are increased when certain requirements are met related to:
  - Wages and apprenticeships
  - Domestic content
  - Location in an “energy community”
- Example: Clean Electricity Investment Credit (45Y - (Sec. 13702)) - new
  - .3 cent/KWH base; 1.5 cent/KWH bonus for labor reqs
  - 10% boost for generation / 20% boost for storage facilities in low-income communities

## Tax Credits (some of MANY)

- Residential Clean Energy credit (25D) - expanded
  - 30% solar tax credit until 2032, then step down to 26% in 2033 and 22% in 2034
  - Includes stand-alone battery storage
- Energy Efficient Home Improvement credit (25C) - expanded
  - 30% tax credit extended until 2033
  - Includes efficiency, heat pumps, and electrification-ready measures (e.g. upgrading breaker boxes to accommodate additional electric load)
- New Energy Efficient Home credit (45L) - expanded
  - Up to \$5,000 to developers to build homes that qualify for the Department of Energy's Zero Energy Ready Homes standard.
  - Applies to new single family, multifamily and manufactured homes, as well as existing homes that undergo a deep retrofit.

25D: The 25D investment tax credit for direct ownership of solar property for homeowners is extended and raised to 30%, with a step-down to 26% in 2033. The White House asserted that the average family would save \$9,000 on their electricity bills (\$300/year) over the life of the solar systems. Stand-alone storage is now eligible for batteries with a capacity of at least 3 kWh. The credit before IRA for 2022 is 26% and it was slated to go down to 22% in 2023 and be eliminated starting in 2024.

25C: Residential efficiency is offered a credit under Section 25C of the Internal Revenue Code and extended for 11 years. It is limited to 30% of the cost of qualified products or equipment (e.g., windows, doors, insulation and weatherization materials) and generally limited to \$1,200 annually. Heat pumps and heat pump water heaters, biomass stoves and biomass boilers could receive \$2,000.

45L: The 45L tax credit for energy efficient homes (Section 13340), which had expired at the end of 2021, is also extended (and modified) for 10 years. The credit is \$2,500/home so long as it meets the EPA ENERGY STAR standards and \$5,000/home for DOE's Zero-Energy Ready Homes program.

45Y: The business investment tax credit (utility-scale, commercial, industrial,

nonprofit, government and third-party owned residential) is extended and expanded to 30% for construction that begins before the end of 2024. After that 2024, in accordance with the position taken by Senate Finance Committee Chairman Wyden (D-OR), the new “tech neutral” structure applies. The ITC for solar before IRA had been 26% for 2022, 22% for 2023 and 10% through 2030.

## What happens now? How do we take advantage?

- What are the implications of the tax credit extensions / expansions for LMI households?
- How can new EE programs and rebates target / reach the 60-80% AMI income band?
- What would CEAB recommend Virginia Energy propose for use of GHG Reduction Fund \$ (available thru 9/2024), and how does it interact with the pilot program?
- What questions would be helpful to answer to inform our thinking?