SB0663_IndivisibleHoCoMD_FAV_BarbaraMatheson (4).p
Uploaded by: Barbara Matheson
Position: FAV

SB0663- Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs - Establishment (Maryland Resilient and Clean Energy Homes Act)

Testimony before Education, Energy and Environment Committee

February 28, 2023

Position: Favorable

Chair Feldman, Vice Chair Kagan, and members of the committee, my name is Barbara Matheson, and I represent the 750+ members of Indivisible Howard County. Indivisible Howard County is an active member of the Maryland Legislative Coalition (with 30,000+ members). We are providing written testimony in ***support of SB0663.***

SB0663 establishes the Maryland Resilient and Clean Energy Homes Act. The bill requires that each electric company file with the Maryland Public Services Commission an application for approval of a pilot program to support residential customer's adoption of greenhouse gas reducing electrification measures. The deadline for filing is January 1, 2024. Pilot programs will be for a period of three years. Electric company programs shall include grants or rebates to customers and contractors to offset the reasonable costs of purchasing equipment and on-site clean energy systems and generators. Rebates shall be higher for low-income residents. The pilot programs will apply to both single family and multiple residences. The Public Service Commission shall approve, deny, or modify the electric company's pilot program request within 30 days of receipt.

The Maryland Resilient and Clean Energy Homes Act is a bold and necessary step toward reaching the goals for reduced greenhouse gas emissions established by the Climate Solutions Now Act passed in 2022. The Federal 2021 Infrastructure Law will offer $225 million to states to adopt and implement better energy codes. In addition, the Inflation Reduction Act will provide $1 billion for state to adopt energy codes that meet or beat the nation model. Maryland must position itself to be competitive for these funds.

We respectfully urge a favorable committee report.

Barbara Matheson, PhD
Columbia, MD

SB 663_UtilityDive_Article.pdf
Uploaded by: Brian Feldman
Position: FAV

Senate Bill 663 – Maryland Resilient & Clean Energy Homes Act
Utility Dive
Published August 31, 2021
Robert Walton, Senior Reporter

Residential Electric Panels Represent A Nearly $100B "Roadblock" To Full Electrification

Dive Brief:

- Electric panels in up to 48 million U.S. single-family homes will need to be upgraded to fully transition away from fossil fuels and use electricity for space and water heating, cooking, vehicle charging and other applications, according to new research from residential electricity research group Pecan Street.
- With an average cost of $2,000 for an upgraded panel, that represents a nearly "$100 billion impediment to residential electrification," the group said in a report issued Aug. 23.
- It is also an energy transition equity issue, with lower-income customers often unable to make that investment. But utilities can play a role in helping make upgrades possible through rebates or incentives, said Pecan Street CEO Suzanne Russo.

Dive Insight:

- After Pecan Street issued its report, said Russo, the group heard of fossil fuel interests using its findings to portray electrification as too expensive. She later wrote a blog post calling that conclusion a misrepresentation and clarifying that "we support full residential electrification."
- "It does make it hard to do this kind of policy research," Russo said of the fossil fuel industry's response, adding it can be "dangerous" to put out cost estimates regarding electrification. But the conclusions of the new research stand: For the United States to fully electrify the residential sector, tens of millions of homes will need an electric panel upgrade.
- Between 35 million and 45 million homes in the U.S. can already electrify with existing panels, and as of 2015, the group says, about 25% of households were already fully electric.
- "The point of the report is, electrification is an imperative, and particularly with the Biden administration setting a national goal to electrify all transportation," Russo said. "Electric panels are part of that infrastructure, and that's really a blind spot in conversations around electrification."
- President Joe Biden wants to see half of all new passenger vehicle sales in the United States be electric by 2030, and Congress is considering an infrastructure bill that includes billions for vehicle charging.
- Still, experts say most charging will be done at home.

- Electric vehicles have "the highest potential nameplate load of any electrical load in the home," Pecan Street's report noted. "This combined with the coming wave of EV adoption means they are likely to be one of the most common triggers for an electric panel upgrade."
- Part of the solution, Russo said, is making sure funding bills for electrification efforts include residential panels as a line item whenever possible. And regional policies, including utility programs or local and state government initiatives, should pursue incentive structures and rebate programs which are not regressive and "allow electric panel upgrades to be a part of the cost calculation for complying with electrification policies."
- Pecan Street says building and electrical codes also need to be updated to prepare for electrification. "We found these codes are not sufficient, nationally," Russo said. The group wants to see the adoption of codes that require a minimum panel size of 200 Amps for all new construction homes, which they say would allow full electrification in the future.
- During construction, the difference in cost between installing a 100-amp and 200-amp panel is "only a few hundred dollars, but large builders can realize savings from installing the minimum size electric panel at scale across all their new builds," Pecan Street's report pointed out. Currently, the minimum panel size for a home is determined through a calculation set by the National Fire Protection Association and National Electric Code.
- Panel upgrade assistance could come through utilities, said Pecan Street Chief Technology Officer Scott Hinson, despite that equipment being on the customer side of the meter. However, the group's research turned up no existing examples of utility incentives for panel upgrades. The Edison Electric Institute did not respond to a query about such programs.
- Panel upgrade programs could be structured similar to weatherization programs for low-income homeowners, or panel incentives could even be made available through existing weatherization programs. Utilities already offer rebates for air conditioners, efficient appliances and lighting upgrades, and "there could be an expansion in scope to include something like this," Hinson said, structured in a way to prioritize low- and moderate-income homes.

SB0663 Resilient and Clean Energy Homes Act FAV.pd
Uploaded by: Cecilia Plante
Position: FAV

TESTIMONY FOR SB0663

Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs - Establishment (Maryland Resilient and Clean Energy Homes Act)

Bill Sponsor: Senator Feldman
Committee: Education, Energy, and the Environment
Organization Submitting: Maryland Legislative Coalition
Person Submitting: Cecilia Plante, co-chair
Position: FAVORABLE

I am submitting this testimony in favor of SB0663 on behalf of the Maryland Legislative Coalition. The Maryland Legislative Coalition is an association of individuals and grassroots groups with members in every district in the state. We have over 30,000 members across the state.

This bill proposes a very creative way to jump start the electrification process in Maryland. It requires each electric company to create a three-year pilot program that will –

- Establish a make–ready program that provides grants to customers to offset reasonable costs of purchasing and installing behind–the–meter equipment
- Establish a program for upfront rebates for on–site clean energy systems and on–site clean energy generators installed in association with beneficial electrification measures
- Establish a program for qualifying multifamily dwellings that will provide at least 25% electric bill savings, on average, to participating qualifying low–income customers who are tenants of a qualifying multifamily dwelling; and be configured to provide emergency backup power to common areas of a qualifying multifamily dwelling during an electrical outage event.
- Make available to all customers a load management and electric grid support services program that manages customer load and uses distributed energy resources to prevent distribution system upgrades and reduce wear and tear on the system.

This will help low-income residents to become early participants in the switch to clean energy while managing load balancing and resiliency for our electric grid.

The Maryland Legislative Coalition supports this bill and we recommend a **FAVORABLE** report in Committee.

MD SB 663 Testimony-Rewiring America.pdf
Uploaded by: Jamal Lewis
Position: FAV

February 28, 2023

Honorable Brian J. Feldman, Chair
Education, Energy, and the Environment Committee
2 West
Miller Senate Office Building
Annapolis, Maryland 21401

Re: SB 663, Maryland Resilient and Clean Energy Homes Act

Dear Chair Feldman and Members of the Education, Energy, and Environment Committee:

Good afternoon Chair Feldman and members of the committee. For the record, my name is Jamal Lewis, and I am representing an organization called Rewiring America. Thank you for the opportunity to provide testimony. Today, we urge a favorable report on HB0839, which would establish the Clean Energy Homes Pilot Program.

Rewiring America is the nation's leading electrification nonprofit, working toward a future where communities are powered by clean, resilient, and efficient electric systems. Electrification reaches all facets of our economy, generating significant cost savings for consumers while creating quality jobs for workers. Complete electrification of Maryland's homes would produce $17 billion in residential electrification benefits and generate 29,000 direct and 102,000 total new jobs across the state. On average, each Maryland household would save $600 per year in reduced energy bills.

Electrification is already here. The proportion of all-electric homes is increasing in every part of the U.S., and over one-in-four homes is now all-electric. For the first time ever, electric vehicle sales have surpassed the tipping point for mass EV adoption, reaching a record-high 5.6% of the total market last April-June. Furthermore, Consumer Reports found that 71% of Americans are considering an electric vehicle as their next car.

Electrifying fossil-powered appliances and infrastructure from residential and commercial buildings will be critical for Maryland to meet its goal of reducing greenhouse gas emissions by 60% by 2031 and reaching economy-wide net-zero emissions as established in the 2022 Climate Solutions Now Act. Electrification work has already begun in Maryland, and many residential owners have made the switch to electric heat pumps for their homes. As

HB0839 recognizes, growing electrification demand will require upgrades to the electric grid and programs that help support load management.

Even with the availability of tax credits through the Inflation Reduction Act, battery storage and electrical panel upgrades can be expensive investments for consumers without support. The Clean Energy Homes Pilot Program will assist families in making necessary upgrades for more resilient and energy-efficient homes, especially for low-income customers who would otherwise not be able to afford crucial upgrades. Encouraging participation in load management programs will also support and protect Maryland's electric grid.

As we push to electrify everything, it is critical to make grid upgrades as needed to support increased demand, on both the residential and commercial side. In passing HB0839 and establishing the Clean Energy Homes Pilot Program, this body recognizes that reality and would be taking necessary action. We urge you to vote "yes" on HB0839 and help Maryland communities move closer to a more resilient, healthier, and cleaner future. I am available for any questions.

Thank you,

Jamal Lewis
Director of Policy Partnerships & Equitable Electrification
Rewiring America

SB 0663 -- Tesla testimony of Jordan Graham.pdf
Uploaded by: Jordan Graham
Position: FAV

Testimony of Jordan Graham on Behalf of Tesla
SB 0663
Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs

My name is Jordan Graham, and I am a Senior Energy Policy Advisor at Tesla. Tesla is an original equipment manufacturer and installer of solar and battery energy storage systems (BESS), including our lithium-ion battery stationary home energy storage product, Powerwall. To date, Tesla has completed over 16.6 gigawatt-hours of battery deployments.

I am writing to support SB 0663, which through the creation of residential battery incentives and the allowance for customer-owned meter collar adapter devices, will facilitate greater deployment of battery storage at an increased pace of installation. Additionally, if implemented properly, the creation of a load management program will harness latent value in customer-sited BESS to alleviate stress on the grid during times of high demand – creating a more efficient and modern grid capable of supporting higher amounts of renewable energy generation, to the benefit of all Maryland residents and ratepayers. Cumulatively, these policies present no-cost and relatively low-cost options to bring more batteries onto the grid, which will be necessary as Maryland moves toward its target of 50% renewable energy by 2030.

Meter Collars

SB 0663 will help make the installation of storage faster and less expensive by requiring utilities to approve meter collar adapters that meet certain national standards. Meter collars adapters are devices installed between the utility meter and the meter socket, which facilitate the installation of various clean energy technologies. Due to the advantageous location of where meter collars are installed on a home, the devices can allow for battery storage and solar to be installed more than 10-times faster, with significantly less rewiring, and can help avoid the need for panel upgrades. These materials and labor savings often are passed onto customers, effectively cutting the price of residential battery storage or solar by hundreds to thousands of dollars.

There are a variety of meter collar adapters in the market and in development, which serve various functions. Those functions from interconnecting solar and, in the case of the Tesla Backup Switch and other meter collar adapters serving the same function, simplifying the provision of whole-home battery backup.

Tesla's Backup Switch leverages the customer's meter socket to provide a disconnection point that enables the home to be safely and effectively isolated from the grid during an outage. This

isolation is critical to ensure that the battery system does not backfeed onto the grid while it is providing power to the home during an outage. The Backup Switch also ensures that once grid power is restored, the home loads are reconnected to the grid. Providing this disconnection point without a meter collar adapter can require substantial rewiring or even replacing a customer's electrical panel at great expense to the customer. As a result of using the Backup Switch, a Tesla install crew can deploy multiple battery storage systems in a single day instead of just one. Similar time and materials savings exist for meter collars that facilitate other clean energy technologies.

Meter collars have been proven to be safe. SB 0663 requires that that meter collar adapters used in Maryland be "approved or listed by a National Recognized Testing Laboratory." In order to be certified and listed, meter collar adapters are subject to a battery of tests by Nationally Recognized Testing Laboratories that have themselves been certified by the Occupational Safety and Health Administration to conduct these tests and to determine whether or not a device should be listed as safe. Tesla's Backup Switch has been installed over 6,000 times nationally and is certified to several relevant UL standards, including the same standards that apply to the customer meter socket, the utility meter, and to energy management systems.

Requiring approval of meter collars is a no-cost way that states and utilities can allow for faster and cheaper installation of solar and battery storage. Dozens of utilities around the U.S. have approved meter collars for use in their territory. All investor-owned utilities in Arizona, Colorado and Utah are required to assess and approve the devices. All three California investor-owned utilities currently are piloting metering collars pursuant to a regulatory order to test and approve such devices. And legislation introduced in New Jersey and Illinois also would require utilities to assess and approve meter collars. In short, meter collars are likely to be a common feature of clean energy deployments over the next decade. Reducing the complexity of installations and costs is critically important for the adoption of battery storage and solar, and to meeting state-level clean energy targets.

Load Management Program

SB 0663 has the potential to incentivize battery deployment and simultaneously improve the stability of Maryland's grid via its proposed load management program. One reason that it is essential to incentivize broader adoption of residential battery storage systems is because distributed battery storage has been proven to provide immense value to the grid, to ratepayers, and to the environment via the implementation of load reduction programs. Load reduction programs work by compensating customers for charging their batteries during times of lower electricity demand and discharging the batteries during times of higher electricity demand when the grid faces additional stress.

The grid and regional electricity markets are designed to support electricity provision during times of peak demand – often on hot summer evenings when everyone returns home from work to run their air conditioners. In these hours and others, distributed battery systems can provide immense value by contributing extremely targeted discharges that relieve stress on grid infrastructure and can alleviate the need to dispatch expensive "peaker" power plants, which are often the dirtiest and most carbon-intensive forms of electricity generation. When properly

incentivized and harnessed, individual residential home batteries are just as capable as conventional generation resources to provide energy, capacity, and other services to keep the grid reliable. While no single device or utility customer can make a meaningful impact, when batteries are aggregated and coordinated through modern communication and technology, the contribution can be immense.

As Maryland and other states deploy higher amounts of renewable generation, the deployment of distributed battery systems will be increasingly important to allow power generated during the day via solar energy to be used in the evening, when demand is highest. And as states move to electrify everything – including installing electric vehicle chargers, heat pumps, induction stoves, and other devices – it will significantly increase the demand for electricity at a scale that could be a challenge for grid operators to integrate. This looming shift makes it increasingly important that aggregated battery systems be leveraged to provide targeted relieve to grid stress.

Other states already have implemented successful load reduction programs that have leveraged customer-sited battery storage systems to provide value to the grid, while compensating customers for the value provided. The states of Massachusetts, Connecticut, New Hampshire, and Rhode Island all use the ConnectedSolutions program, which compensates customers for voluntarily dispatching their batteries during 30 to 60 summer events, with customer compensation based on their level of dispatch across those events. In Vermont, a Tesla-operated aggregation of residential batteries in Green Mountain Power helped the utility's customers save $1.2 million in summer 2022 – and at least $3 million in 2020 – by reducing the amount of power the utility purchased from wholesale markets during peak times.[1] And in California in 2022, the Emergency Load Reduction Program (ELRP) helped the state to avoid blackouts by paying customers to discharge their batteries during a late August and early September heat wave that threatened to cause significant load shedding events. During California's ELRP events, Tesla aggregated batteries from more than 4,500 customers to provide up to 30 megawatts of reliable capacity.

In these successful load reduction program, customers are compensated for providing value to the grid by helping to avoid blackouts, avoid the dispatch of dirty and expensive forms of generation, and avoid unnecessary stress on grid infrastructure. As such, customer compensation under load reduction programs is an exceptionally low-cost option to incentivize battery deployment because it simply compensates customers for money that might have been spent elsewhere.

By providing incentives for battery that participate in a load management program, SB 0663 lays the groundwork for Maryland to initiate its own such program and to compensate customers for participation. However, it is important that such a program should follow best practices that have proven to provide beneficial results in other states: allowing for third parties to control customer dispatch rather than allowing for direct utility control, compensating customers for the energy they provide while not penalizing them for nonperformance, and providing sufficient compensation to customers to incentivize the desired level of participation.

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[1] "GMP Nearly Doubling Energy Storage Through Innovative Agreements to Boost Savings for Customers While Transforming Grid." *Green Mountain Power,* 27 Sept. 2022, https://greenmountainpower.com/news/gmp-nearly-doubling-energy-storage-through-innovative-agreements-to-boost-savings-for-customers/

Conclusion

Passage of SB 0663 would help increase deployment of residential battery storage systems in Maryland by providing incentives and removing barriers. Thank you for the opportunity to provide testimony on this bill.

Sincerely,

/s/ Jordan Graham
Sr. Energy Policy Advisor
Tesla Inc.
jordgraham@tesla.com

SB663_MDSierraClub_fav 28Feb2023.pdf
Uploaded by: Josh Tulkin
Position: FAV

P.O. Box 278
Riverdale, MD 20738

Committee: Education, Energy, and the Environment
Testimony on: SB663 "Investor–Owned Electric Companies – Clean Energy Homes Pilot Programs – Establishment (Maryland Resilient and Clean Energy Homes Act)"
Position: Support
Hearing Date: February 28, 2023

The Maryland Chapter of the Sierra Club urges a favorable report for SB663.

This bill requires Maryland's investor-owned electric utilities (BG&E, Pepco, Potomac Electric and Delmarva Power & Light) to each adopt a pilot program that will serve as an additional path for electrifying buildings in Maryland, something that is an essential component of the efforts to reduce the State's greenhouse gas emissions. Each pilot program is to incentivize utility customers to both engage in "beneficial electrification" and take measures to manage their increased electricity load "to mitigate the need for distribution system upgrades or peak-time generation emissions." The bill defines "beneficial electrification" to include "replacement of direct fossil fuel use with electricity in a way that either reduces overall lifetime emissions or energy costs." The pilot programs will be reviewed and approved by the Public Service Commission (PSC).

The pilot programs will include several elements. Customers will have the opportunity to receive rebates for on-site electricity generation and storage, and for installing necessary smart electrical panels. They will be eligible for these rebates only if they enroll in the utility's "load management and electric grid support services program." Higher incentives will be offered for low-income single and multi-family homes. Utilities will be offered significant incentives to take advantage of behind-the-meter resources.

The annual amount that each utility would invest in incentives, grants, and rebates is capped at 1% of their "approved total revenue requirement" or $15 million, whichever is less, subject to a utility petitioning the PSC to exceed that cap. Rebates of $3,000 generally will be offered to customers to make their panel and wiring ready to participate in the program; higher rebates for low-income households (up to $6,000) should encourage higher participation from low-income multi- and single-family homes. There will be rebates of up to $5,000 for battery installation, and rebates for installation of on-site electricity generation.

As Maryland works to achieve its climate goal of reducing greenhouse gas emissions by 60% (from the 2006 level) by 2031, many households will electrify their homes with heat pumps, heat pump hot water heaters, and other efficient electric appliances. Utilities have expressed the concern that the increased load from beneficial electrification could cause large increases in winter load for Maryland's electricity distribution system, and that this in turn might necessitate

large investments in the distribution system to meet peak winter loads on the coldest days.[1] Last year's Climate Solutions Now Act directed the PSC to study this issue through 2031.

New distributed energy resources, including solar combined with battery storage, represent a solution to the potential load challenge. If a utility can dispatch electricity generated in homes and stored in batteries to the grid, at peak times, the potential load challenges may be partially mitigated. This bill supports installation of smart electric panels, batteries, and load management software with rebates to make energy generated and stored in homes available to the grid at peak times.

Each pilot program is to last three years, and beginning in January 2026 the PSC may make a pilot program permanent. In this regard, we believe that the pilots would benefit from more rigorous ongoing monitoring and evaluation by the PSC than provided in the bill.

The Maryland Sierra Club is supportive of this experiment, which could lower the level of needed distribution capacity expansion, and we urge a favorable report on the bill.

Chris Stix
Clean Energy Team
stixchris@gmail.com

Josh Tulkin
Chapter Director
Josh.Tulkin@MDSierra.org

[1] BGE Integrated Decarbonization Strategy, Energy and Environmental Economics, at 23-24 (October 2022).

sb663- electric product, PSC- EEE 2-28-'23.pdf
Uploaded by: Lee Hudson
Position: FAV

Delaware-Maryland Synod
Evangelical Lutheran Church in America
God's work. Our hands.

Testimony Prepared for the
Education, Energy, and the Environment Committee
on
Senate Bill 663
February 28, 2023
Position: **Favorable**

Mr. Chairman and members of the Committee, thank you for this opportunity to testify about an energy regime to care for creation by accelerating decarbonization. I am Lee Hudson, assistant to the bishop for public policy in the Delaware-Maryland Synod, Evangelical Lutheran Church in America. We are a faith community in three judicatories across our State.

We hold that lowering carbon emissions is a social, economic, and moral necessity for the obvious reasons; fire, drought, flood, sea rise, human displacement, storm catastrophe, infrastructure vulnerability. The *Climate Solutions Act* of 2022 accelerated GGR targets in Maryland, calling forth a policy emphasis to accelerate the strategies of energy sector actors' and its market customers' participation in efforts to meet them. Our understanding of **Senate Bill 663** is that it would direct those with the means to facilitate the desired outcomes in the service market.

The PSC, as regulator of utility service, would require service providers to participate in a pilot program initiative to test coaching the energy market toward all-electric. The purpose, of course, is to get to that goal sooner.

We concur with this: it is a requirement of the global climate crisis that we get to net-zero, fast, feasibly, and sustainably. We understand that the human community is within years, not decades, of more and worse climate catastrophe; warming sufficient to disrupt planetary population distribution, collapsing social structures, and a reversion to subsistence life for many. We can avert the worst if and only if we do all we can, with all we know how, as soon as possible. Making an effort toward that objective with a reasonable policy test seems like the least that's necessary.

To meet the targets of the Climate Solutions Act and decarbonize the Maryland energy sector, all appropriate agencies and all their resources have to be engaged in the mission. We therefore implore a favorable report on **Senate Bill 663**.

Lee Hudson

5699 Meridale Rd. Baltimore, MD 21228 410-230-2860 800-869-5492 fax 410-230-2871

SB 663 CHESSA FAV -Attach A.pdf
Uploaded by: Thadeus Culley
Position: FAV

Attachment A

Aggregated Distributed Energy Resources, Virtual Power Plants, and Bring-Your-Own-Device Programs as of December 2022

State	Utility	Program	Compensation	Call Window
Arizona[1]	Arizona Public Service (APS)	Residential Energy Storage Pilot	This pilot provided a $500/kW upfront performance payment with total available payment of $2,500-$3,7500 per home (lower incentive for providing data only, higher incentive for providing data + allowing APS to manage battery). 10-year program commitment. *Pilot program filled and closed as of January 2023.	1-4 hours; 6-9 PM (non-holiday weekdays) or 9AM – 9PM (weekends/holidays)
California[2]	Pacific Gas & Electric, Southern CA Edison, San Diego Gas & Electric	Distribution Investment and Deferral Framework Partnership Pilot	Tiered payment structure based on value of distribution infrastructure avoided or deferred by use of DERs.	TBD
California[3]	Pacific Gas & Electric, Southern CA Edison, San Diego Gas & Electric	Demand Response Auction Mechanism	A pay-as-bid solicitation issued by each IOU for monthly demand response capacity. Winning bidders from each auction are required to bid aggregated demand response directly into the CAISO energy market. IOUs acquire the capacity and receive resource adequacy credit from the bids, but have no claim to the revenues that bidders may receive from the energy market.	

[1] Arizona Public Service Commission, Docket No. E-01345A-19-0148, Decision No. 77762, p. 7 (Oct. 2, 2020). *See also* https://www.solaredge.com/us/aps-residential-program.

[2] Pacific Gas & Electric, Distribution Investment and Deferral Framework Partnersship Pilot, *available at* https://www.pge.com/en_US/for-our-business-partners/energy-supply/electric-rfo/wholesale-electric-power-procurement/didf-partnership-pilot.page; *see also* California Public Utilities Commission, Decision 21-02-006 (Feb. 11, 2021) *available at* https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/energy-supply/electric-rfo/wholesale-electric-power-procurement/DIDF%20Partnership%20Pilot/365628213.PDF.

[3] California Public Utilities Commission, Decision 19-12-040 (Dec. 23, 2019), *available at* https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M322/K796/322796293.PDF. *See also*, Pacific Gas & Electric, 2022 Demand Response Auction Mechanism (DRAM), *available at* https://www.pge.com/en_US/large-business/save-energy-and-money/energy-management-programs/demand-response-programs/2022-demand-response/2022-demand-response-auction-mechanism.page?WT.mc_id=Vanity_dram.

State	Utility	Program	Compensation	Call Window
California[4]	Pacific Gas & Electric, Southern CA Edison, San Diego Gas & Electric	Emergency Load Reduction Program	$2/kWh for every kWh of electricity consumption the customer reduces voluntarily during an ELRP event.	1-5 hours between 4-9PM; May to October. Up to 60 hours per year.
California[5]	Pacific Gas & Electric, Southern CA Edison, San Diego Gas & Electric	Demand Side Grid Support Program	Option 1 - Energy Payment Only $2/kWh of verified incremental load reduction provided during a dispatch period. Option 2 - Standby & Energy Payment $2/kWh of verified incremental load reduction provided during a dispatch period + $0.25/kWh standby payment for each hour or portion thereof in which the committed load reduction during the standby period is not dispatched. Option 3 - Capacity Payment & Bid Monthly capacity payments at the following rates, up to $76.50/kW-year: $10.50/kW (June), $17.50/kW (July), $18.50/kW (August), $19.50/kW (Sept.), and $10.50/kW (October). To be eligible, resources must be registered as proxy demand resources and be bid into the CAISO day-ahead market in 4 consecutive hours between 4-9 PM at a rate no greater than $0.50/kWh during each participating month until the participant has been dispatched the maximum 20 hours/month or 60 hours/year.	4-9 PM (7 days a week), June - October Options 1 & 2- Dispatch events 1-5 hours. Option 3 - Dispatch events maximum of 4 hours.

[4] California Public Utilities Commission, Emergency Load Reduction Program, *available at* https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/demand-response-dr/emergency-load-reduction-program.

[5] California Energy Commission, Demand Side Grid Support (DSGS) Program Guidelines - First Edition (Aug. 2022), *available at* https://www.energy.ca.gov/publications/2022/demand-side-grid-support-dsgs-program-first-edition.

State	Utility	Program	Compensation	Call Window
California[6]	SMUD	My Energy Optimizer Program	Partner Level $150/kWh up to $1,500 Partner+ Level	Partner Level Summer months only; peak period window & duration undefined Partner+ Level Year-round, peak period window & duration undefined
Colorado[7]	Xcel	Battery Connect	$1,250 upfront incentive in exchange for discharge of up to 80% of battery energy up to 100 times per year. *In 2023, terms are being updated to include increased upfront incentive and lower battery commitment. (See 21A-0625EG)	Year-round, 1-4 hours; no specific window but generally afternoon and early evening.
Connecticut[8]	Eversource	Connected Solutions – Targeted Seasonal	$225/kW-summer (avg. per peak event), locked in for five years.	3 hours, between 2-7 PM, June 1 – Sept. 30, between 30-60 events per season
Connecticut[9]	Eversource UI	Energy Storage Solutions (ESS) Program for Homes	Upfront Incentive: $200/kWh (Standard), $300/kWh (Underserved), $400/kWh (Low-Income) for 10-year commitment. Performance Payment: $200/kW (summer), $25/kW (winter), based on average kW-AC contribution during the season, determined by actual system performance during called events.	Passive Dispatch: 5 hours between 3-8 PM, each non-holiday weekdays from June to August. Passive events are canceled on days in which an active event is called. Active Dispatch:1-3 hours between 12-9 PM, June 1 - Sept. 30, 30-60 events per summer season.

[6] SMUD, Battery Storage for Homeowners, *available at* https://www.smud.org/en/Going-Green/Battery-storage/Homeowner.
[7] Xcel Energy Colorado. Battery Connect, *available at* https://co.my.xcelenergy.com/s/renewable/battery-connect.
[8] Eversource Connecticut. Application for ConnectedSolutions: Small Scale Batteries, *available at* https://www.eversource.com/content/ct-c/residential/save-money-energy/manage-energy-costs-usage/demand-response/battery-storage-demand-response.
[9] Energy Storage Solutions - Contractor Resources, Program Manual (Jan. 1 2023), *available at* https://energystoragect.com/contractor-resources/.

State	Utility	Program	Compensation	Call Window
				1-3 hours between 12-9 PM, Nov. 1 - March 31, 1-5 events per winter season.
Connecticut[10]	Eversource UI	Energy Storage Solutions (ESS) Program for Businesses	Upfront Incentive: $200/kWh (Small Commercial), $175/kWh (Medium Commercial), $100/kWh (Large Commercial) for 10-year commitment. Performance Payment: $200/kW (summer), $25/kW (winter), based on average kW-AC contribution during the season, determined by actual system performance during called events.	Passive Dispatch: 5 hours between 3-8 PM, each non-holiday weekdays from June to August. Passive events are canceled on days in which an active event is called. Active Dispatch:1-3 hours between 12-9 PM, June 1 - Sept. 30, 30-60 events per summer season. 1-3 hours between 12-9 PM, Nov. 1 - March 31, 1-5 events per winter season.
Hawaii[11]	Hawaiian Electric Companies	Scheduled Dispatch Program / Battery Bonus Program	50 MW cap on Oahu. Upfront payment of $850/kW for first 15 MW, $750/kW for next 15 MW, and $500/kW for last 20 MW. 15 MW cap on Maui with upfront payment $850/kW for the entire 15 MW cap. Monthly bill credit of $5/kW. Non-NEM customers receive a fixed bill credit equivalent to the retail rate for electricity exported during the two-hour dispatch period. Allows additional solar installation of up to twice the capacity of the participating battery.	Daily 2 hour dispatch as determined by utility between peak window of 6:00 -8:30 PM

[10] Energy Storage Solutions - Contractor Resources, Program Manual (Jan. 1, 2023), *available at* https://energystoragect.com/contractor-resources/.

[11] Hawaiian Electric Company, Customer Renewable Programs – Battery Bonus, *available at* https://www.hawaiianelectric.com/products-and-services/customer-renewable-programs/rooftop-solar/battery-bonus.

State	Utility	Program	Compensation	Call Window
Hawaii[12]	Hawaiian Electric Companies	Bring Your Own Device	BYOD Level 1: Scheduled Capacity Load Reduction Service; BYOD Level 2: Remote Dispatch Capacity Load Reduction Service; and BYOD Level 3: (a) Remote Dispatch Capacity Load Reduction Service and (b) Capacity Load Build Service. Program commitment of 10 years under each level. Compensation for each level consisting of an upfront payment and monthly payment is currently under development along with final program participation parameters. Program launch: August 14, 2023.	Level 1: Daily 2-hour dispatch during a window selected by the customer from options provided by utility. Level 2: 1-2 hour dispatch with minimum 24-hour day-ahead notice for up to 156 events per year. Customers may opt out of up to 3 events. Level 3: 2-4 hour dispatch with minimum 24-hour day-ahead notice for up to 365 events per year.
Massachusetts[13]	National Grid, Cape Light Compact	Connected Solutions – Residential	$275/kW-summer, locked in for five years.	3 hours, between 2-7 PM, June 1 – Sept. 30, between 30-60 events per season
Massachusetts[14]	Eversource	Connected Solutions – Residential	$225/kW-summer, locked in for five years.	3 hours, between 2-7 PM, June 1 – Sept. 30, between 30-60 events per season
Massachusetts[15,16]	Eversource, Cape Light Compact	Connected Solutions – Daily	$200/kW for dispatch on a daily basis (summer only), locked in for five years.	2-3 hours, between 2-7 PM, June 1 – Sept. 30,

[12] Hawaii Public Utilities Commission, Docket No. 2019-0323, Decision and Order No. 38681 (Oct. 30, 2022), Order No. 38787 (Dec. 22, 2022).
[13] National Grid Massachusetts. Program Materials for Connected Solutions for Small Scale Batteries, *available at* https://www.nationalgridus.com/media/pdfs/resi-ways-to-save/ma_resi_battery_program_materials.pdf.
[14] Eversource Massachusetts East. Application for ConnectedSolutions: Small Scale Batteries, *available at* https://www.eversource.com/content/ema-c/residential/save-money-energy/energy-efficiency-programs/demand-response/battery-storage-demand-response.
[15] Eversource Massachusetts East Program Materials for Connected Solutions for Commercial / Industrial Customers, *available at* https://www.eversource.com/content/ema-c/business/save-money-energy/manage-energy-costs-usage/demand-response; Cape Light Compact, Program Materials for Connected Solutions for Commercial / Industrial Customers, *available at* https://www.capelightcompact.org/business/commercial-connectedsolutions/.
[16] Unitil, Program Materials for Connected Solutions for Commercial / Industrial Customers, *available at* https://unitil.com/sites/default/files/2022-05/CI-DemandResponse-ProgramMaterials-Unitil-FINAL-04-04-2022.pdf;

State	Utility	Program	Compensation	Call Window
		Dispatch (Commercial)		between 30-60 events per season
Massachusetts[17]	Eversource, Cape Light Compact	Connected Solutions – Targeted Dispatch (Commercial)	$100/kW-summer	3 hours, between 2-7 PM, June 1 – Sept. 30, up to 8 events
Massachusetts[18]	Unitil, National Grid	Connected Solutions – Targeted Dispatch (Commercial)	$35/kW-summer; $10/kW weekend bonus.	3 hours, between 2-7 PM, June 1 – Sept. 30, between 1-8 events per season
New Hampshire[19]	Unitil	Connected Solutions – Targeted Dispatch Pilot (Commercial)	$35/kW-summer	3 hours, between 2-7 PM, June 1 – Sept. 30
New Hampshire[20]	Eversource	Connected Solutions – Daily Dispatch (Commercial)	$200/kW for dispatch on a daily basis (summer only), locked in for five years.	2-3 hours, between 2-7 PM (non-holiday weekdays), June 1 – Sept. 30, up to 60 events per season
New Hampshire[21]	Eversource	Connected Solutions – Targeted Dispatch (Commercial)	$100/kW-summer	3 hours, between 2-7 PM (non-holiday weekdays), June 1 – Sept. 30, up to 8 events per season

National Grid, Program Materials for Connected Solutions for Commercial / Industrial Customers, *available at* https://www.nationalgridus.com/MA-Business/Energy-Saving-Programs/ConnectedSolutions.

[17] Eversource Massachusetts East Program Materials for Connected Solutions for Commercial / Industrial Customers, *available at* https://www.eversource.com/content/ema-c/business/save-money-energy/manage-energy-costs-usage/demand-response; Cape Light Compact, Program Materials for Connected Solutions for Commercial / Industrial Customers, *available at* https://www.capelightcompact.org/business/commercial-connectedsolutions/.

[18] *Id.*

[19] Unitil, Program Materials for Connected Solutions for Commercial / Industrial Customers, Appendix A, *available at* https://unitil.com/sites/default/files/2022-04/CI-DemandResponse-ProgramMaterials-Unitil-FINAL-04-04-2022_0.pdf.

[20] Eversource New Hampshire Program Materials for Connected Solutions for Commercial / Industrial Customers, *available at* https://www.eversource.com/content/ema-c/business/save-money-energy/manage-energy-costs-usage/demand-response.

[21] Eversource New Hampshire East Program Materials for Connected Solutions for Commercial / Industrial Customers.

State	Utility	Program	Compensation	Call Window
New York[22]	Consolidated Edison NY	Commercial Demand Response Programs	$/kW-month capacity reservation payment (May – September) differentiated by location & number of event calls per peak season. Rates may change annually. Minor $/kWh payment during events.	4+ hours, May 1 – Sept. 30
New York[23, 24]	PSEG LI	Dynamic Load Management Tariff: Commercial System Relief Program (CSRP) and Distribution Load Relief Program (DLRP)	$/kW per monthly capacity reservation payment and $/kWh performance payment for load relief.[25, 26]	Up to 4 hours on weekdays, May 1 - Sept. 30 (CSRP) 4-6 hours, May 1 - Sept. 30. Load relief is not required between 12-6 AM. (DLRP)
Rhode Island[27]	Rhode Island Energy	Connected Solutions – Residential	$400/kW-summer season (avg. per peak event), locked in for five years.	3 hours, between 2-7 PM, June 1 – Sept. 30, no more than 60 events per season
Rhode Island[28]	Rhode Island Energy	Connected Solutions – Summer Targeted Dispatch (Commercial)	$35/kW-summer season (avg. per peak event), locked in for five years. Extra $10/kW-summer for weekend events.	3 hours, 2-7 PM, from June 1 – Sept. 30, 2-8 events per season

[22] Consolidated Edison New York. Schedule for Electric Delivery Service, Rider T, *available at* https://cdnc-dcxprod2-sitecore.azureedge.net/-/media/files/coned/documents/save-energy-money/rebates-incentives-tax-credits/smart-usage-rewards/rider-t.pdf?rev=18549e020a5541409438bcee9f77b186 and Demand Response (Rider T) Program Guidelines, *available at* https://www.coned.com/-/media/files/coned/documents/save-energy-money/rebates-incentives-tax-credits/smart-usage-rewards/smart-usage-program-guidelines.pdf?la=en#:~:text=The%20Commercial%20System%20Relief%20Program,their%20respective%20assigned%20call%20window.&text=CSRP%20Unplanned%20Event%2C%20and%20participation%20is%20voluntary.

[23] PSEG LI, Commercial System Relief Program, https://www.psegliny.com/businessandcontractorservices/businessandcommercialsavings/csrp.

[24] Long Island Power Authority, Electric Tariff, pp. 470-496, *available at* https://www.lipower.org/about-us/tariff/.

[25] Commercial System Relief Payment amounts are available at: https://www.lipower.org/wp-content/uploads/2016/09/Stat_CSRP3.pdf.

[26] Distribution Load Reduction Payment amounts are available at https://www.lipower.org/wp-content/uploads/2016/09/Stat_DLRP3.pdf.

[27] Rhode Island Energy, Residential ConnectedSolutions Battery Program, *available at* https://www.rienergy.com/RI-Home/ConnectedSolutions/BatteryProgram.

[28] Rhode Island Energy, Business ConnectedSolutions Battery program, *available at* https://www.rienergy.com/RI-Business/Energy-Saving-Programs/ConnectedSolutions.

State	Utility	Program	Compensation	Call Window
Rhode Island[29]	Rhode Island Energy	Connected Solutions – Daily Dispatch (Commercial)	$300/kW-summer season (avg. per peak event), locked in for five years.	2-3 hours from June 1 – Sept. 30 (Primarily July and August), approximately 50 events per season
Texas[30]	ERCOT	Aggregated DER Pilot	80 MW System wide pilot, with no more than 40 MW of ADERs to be used for axillary, non-spin services. DERs to be aggregated through Load Serving Entities (LSEs), with values to customers determined by participating LSEs.	4 hours as enrolled and called on
Vermont[31]	Green Mountain Power	Bring Your Own Device (Grid Charging)	Up-front payment of $850/kW for 3-hour storage discharge capability or $950/kW for 4-hour discharge capability (10% event performance tolerance subject to clawback, $100/kW adder for systems installed in grid-constrained locations). 10-year program commitment.	3-6 hours

[29] National Grid, Daily Dispatch, *available at* https://www.rienergy.com/RI-Business/Energy-Saving-Programs/Daily-Dispatch.

[30] Aggregated Distributed Energy Resource ERCOT Pilot Project, Public Utility Commission of Texas Project 53911. Available at: https://interchange.puc.texas.gov/search/filings/?UtilityType=A&ControlNumber=53911&ItemMatch=Equal&DocumentType=ALL&SortOrder=Ascending

[31] Green Mountain Power. BYOD – Terms and Conditions, *available at* https://greenmountainpower.com/rebates-programs/home-energy-storage/bring-your-own-device/battery-systems/, *see also* https://greenmountainpower.com/wp-content/uploads/2020/11/BYOD-Customer-Agreement-11-2-20.pdf.

State	Utility	Program	Compensation	Call Window
Vermont[32]	Green Mountain Power	Bring Your Own Device (Solar Only Charging)	Up-front payment of $650/kW for 3-hour storage discharge capability or $750/kW for 4-hour discharge capability (10% event performance tolerance subject to clawback) for systems installed for backup power only option,; $650 (no kW multiplier) for systems installed under solar self-consumption option, additional $100/kW for systems installed in grid-constrained locations. Additional $100 (no kW multiplier) for for systems installed in grid constrained areas. 10-year program commitment.	3-6 hours

[32] Green Mountain Power, BYOD – Solar Charging Program Tariff, V.P.S.B. No. 9, *available at* http://epuc.vermont.gov/?q=downloadfile/576554/167385.

SB 663_FAV_CHESSA.pdf
Uploaded by: Thadeus Culley
Position: FAV

February 27, 2023

Honorable Brian J. Feldman, Chair
Education, Energy, and the Environment Committee
2 West Miller Senate Office Building
Annapolis, Maryland 21401

Re: CHESSA Letter of Support for SB 663, Maryland Resilient and Clean Energy Homes Act

Dear Chair Feldman and Members of the Education, Energy, and Environment Committee:

The Chesapeake Solar and Storage Association (CHESSA)[1] appreciates the opportunity to testify in support of SB 663, the Maryland Resilient and Clean Energy Homes Act. CHESSA is proud to support SB 663 and asks the Committee for a favorable report.[2]

The Maryland Resilient and Clean Energy Homes Act is a nation-leading bill. By passing SB 663, Maryland will turn the future challenges of expensive upgrades to the electric grid driven by transportation and home electrification into a present opportunity to fund customer-driven clean energy solutions that can offset and mitigate the future need for additional grid infrastructure. SB 663 looks to create partnerships among utilities, consumers, and clean energy vendors to innovate and provide solutions to the grid that are seamlessly integrated into customers' lives.

But at the bottom line, this bill pilots a new approach to incenting customers and investor-owned utilities to work together to make the grid more efficient and less costly for all ratepayers. Electrification, if managed well, represents an opportunity to spread grid costs across more units sold, producing a downward pressure on rates. Without intervention and early attempts to establish such a framework, the financial impact of electrification on ratepayers could grow large and increase energy inequities among ratepayers.

[1] CHESSA is a member organization that represents over 120 companies engaged in all facets of the solar and battery storage industry throughout Maryland, Virginia, and the District of Columbia.
[2] Representatives of Maryland League of Conservation Voters and Chesapeake Physicians for Social Responsibility have given CHESSA consent to represent that those organizations endorse and support CHESSA's letter of support for SB 663.

Numerous studies in the past year have shown that widespread electrification of vehicles and use of heat pumps–a cornerstone of President Biden's climate mitigation strategy as reflected in the Inflation Reduction Act–could represent an unprecedented increase in electric demand in the United States if left unmanaged.[3] This represents a substantial and foreseeable future cost to ratepayers that could be in the tens of billions in Maryland alone.[4] CHESSA applauds Chair Feldman's leadership for bringing a bill that proposes a solution to this looming issue. It is important that this solution relies on customer investments and behaviors that also further the state's clean energy deployment and energy efficiency goals. CHESSA appreciates the fact that SB 663 will provide additional incentive support to low-to-moderate-income customers and residents of affordable multifamily housing, moving toward a clean energy transition that leaves no one behind.

That is the **why** of SB 663. What about the **how**?

There are two core provisions of SB 663 that get customers into the game: (1) upfront rebates for electrical work and equipment needed to facilitate an electrification investment; and (2) a commitment for recipients to participate in a "load management" program for a set period of two years where customers can earn additional compensation by helping the utility during critical peak events or otherwise managing the demand placed on the grid to avoid the need for grid upgrades.

Importantly, the two-year commitment is a carrot, not a stick, which is necessary to pilot different approaches to achieving demand reductions through customer response. With the emergence of new technologies like smart main electric panels and the growing prevalence of battery storage devices, CHESSA believes these customer behavioral changes could be made seamless from the customer experience perspective. As the saying goes, change begins at home and SB 663 is a customer-centric approach to empowering consumers to be the solution.

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[3] *See, e.g.,* "Global Energy Perspective 2023," McKinsey & Co., *available at* https://www.mckinsey.com/industries/oil-and-gas/our-insights/global-energy-perspective-2022 (projecting that global electric demand could triple by 2050 due to electrification); https://www.icf.com/insights/climate-electric-vehicle-revolution (projecting a 40% increase in energy demand from electric vehicles); "Grid of the Future: PJM RTEP Perspective (5/10/22), *available at* https://urldefense.com/v3/__https://www.pjm.com/-/media/committees-groups/committees/pc/2022/20220510/item-12---grid-of-the-future-rtep-perspective.ashx__;!!OKj0nms!P0cNV-oIYqM5nP1zu220qBZeGJBCTfG8FDT-nHPz-RylubcGoxpKVUQGLogtdpFCing5H9coQQJ7BIutdi1sBg$ (EV charging could account for ~10% of total PJM energy over next 15 years).

[4] BGE Supplemental Testimony to Howard County Council re: Bill 5-2023 (2/20/23), *available at* https://apps.howardcountymd.gov/olis/GetFile.aspx?id=34009 (stating that "BGE projects that it will need to build or expand 250 substations and roughly double its feeder system to support building and transportation electrification in its service territory…")

Upfront rebates for main electrical upgrades caused by home electrification

A make-ready credit, capped at $3,000 per premises for general market customers and net of any additional sources of state or federal funding, is provided to any residential customer of an IOU that is undertaking a beneficial electrification investment that requires an upgrade to the main electrical service of the home. With beneficial electrification and increased use of DERs like EVs, rooftop solar, and battery storage, it is becoming apparent that the costs of accommodating additional loads within the existing housing stock will require significant electrical upgrades for most residential customers.[5] The typical cost of a main panel upgrade, including the cost of electrical work performed, can range between two to five thousand dollars. For a homeowner that may be on the fence about the timing of an electrification or clean energy investment, this could dissuade or defer the decision to proceed. Many states have already adopted make-ready for electric vehicles for residential customers.[6] Pepco has proposed a robust make-ready "heavy up" program in Washington, D.C., but participation in that program would not be coupled with required participation in demand response or demand flexibility programs as proposed here.

Additional make-ready rebate available for low-to-moderate-income households

Cutting or eliminating this upfront cost barrier is even more important in delivering electrification and clean energy benefits to low-to-moderate income consumers. SB 663 provides additional flexibility to cover up to $6,000 for qualifying low-to-moderate-income customers. This should ensure that the entirety of the make-ready electrical work and equipment is covered to dramatically reduce the barrier to beneficial electrification to households that would benefit the most.

Load management and grid services support structure

The unique and innovative feature of SB 663 is that it seeks to create a "load management program" that will provide participating consumers additional compensation for providing value to the electric grid by helping address critical peak events and managing load and demand to prevent the need for upgrades to the grid.

[5] Walton, Robert, "Residential electric panels represent a nearly $100B 'roadblock' to full electrification, report finds," Utility Dive (August 31, 2021), *available at,* https://www.utilitydive.com/news/residential-electric-panels-represent-a-nearly-100b-roadblock-to-full-el/605829/.

[6] Make-ready programs exist, in some form, in Alabama, California, Connecticut, DC, Georgie, Hawaii, Massachusetts, Michigan, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oregon, Utah, Virginia, and Washington. Additional make-ready programs are pending approval in several states.

Encouraging on-site clean energy systems to provide grid support and customer resilience

As a complement to the "load management program," SB 663 provides for at least a quarter of the pilot program budget to be reserved to encouraging customers to install "on-site clean energy systems" (i.e., solar plus battery storage systems).

Encouraging these systems provides assurance and resilience to homeowners–which can be especially critical for customers that are dependent on an electrically-powered medical device or that require refrigeration for medication–and provides an ongoing value stream to encourage these home batteries to participate in grid support. As the entire East Coast experienced with the recent Winter Storm Elliott, the electric grid is vulnerable to extreme weather and the demands put on the grid by electric heating load. Increasing the flexibility of customer demand, by dispatching and aggregating residential battery storage devices during these peak winter mornings, can mitigate the risk of rolling blackouts. Many states have already moved forward with similar battery programs (often called Bring Your Own Device or BYOD programs), as outlined in Attachment A.

Aligning utility and consumer interests in a more efficient, less costly grid

Under the current regulatory paradigm, utilities earn a rate of return on capital assets and have a natural incentive to want to build and place into rate base infrastructure investments. While there are efficiency standards and other directives to avoid waste and promote conservation, there are currently few guardrails in place for mitigating the increased grid costs that could come from widespread home electrification. SB 663 pilots an approach that allows investor-owned utilities to seek a portion of shared savings (if any are achieved) by demonstrating that successful operation of pilot projects has helped defer or avoid quantifiable grid costs. Providing some incentive for utilities to leverage customer-sited resources and customer programs such as this to avoid building assets that are otherwise in the interest of shareholders creates a potentially new paradigm where utilities could be encouraged to lean in on the approach to empowering more and more customer-driven solutions. Creating helpful regulatory mechanisms for shared savings and respecting the utility's cost of capital is necessary to align interests and achieve win-win results for all.

Require utilities to allow meter collar adapters to expedite battery storage installation

As Maryland and other states seek ways to make the installation of solar and battery storage faster and cheaper, one of the easiest and no-cost ways to facilitate this is to allow for the use of customer-owned meter collars. Meter collars are devices installed between the utility meter and the meter socket, which can allow for residential clean energy systems to be installed 10-times faster, at a discount to customers, and which bypass the need for expensive panel upgrades and

rewiring due to where the devices are situated on a home. Meter collars already are being installed safely in scores of utility territories throughout the U.S. and consistently reduce the cost of solar and storage installation by hundreds to thousands of dollars.

Create a stakeholder group to design a multifamily program to extend the benefits of the program to low-to-moderate-income customers living in qualifying multifamily dwelling.

CHESSA recognizes that many low-to-moderate-income customers do not own their own home and may not directly benefit from programs that are largely helpful to single-family homeowners. CHESSA applauds SB 663 for including a multifamily program that can both extend the benefits of resilience to these residents while charting a path to incorporating beneficial electrification at these facilities. The process contemplated in SB 663 will invite all informed and interested stakeholders have a seat at the table to fashion programs that will meet the unique needs of the residents.

The provisions of SB 663 align with the provisions of the Inflation Reduction Act that provide the opportunity for an additional 20% bonus to the federal investment tax credit for solar and battery storage systems. Additionally, as the General Assembly is poised to make the community solar program permanent, it is entirely possible that the stakeholder group might identify special modifications to the community solar subscription model that could be streamlined for qualifying multifamily dwellings (i.e., community solar subscriptions could be limited to onsite residents). The community solar structure, or some streamlined adaptation for the multifamily onsite setting, could help deliver the requirement that participating low-to-moderate-income customers living in qualifying multifamily dwellings will receive at least 25% bill savings.

Conclusion

CHESSA greatly appreciates the opportunity to submit these comments and is proud to voice our strong support for a favorable recommendation from this Committee. We appreciate the leadership of the Chair in bringing this important and innovative legislation forward and look forward to opportunities to collaborate with all interested parties in building a clean energy transition that works for everyone.

/s/
Thadeus B. Culley
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CHESSA Maryland Policy Committee Chair

/s/
Stephanie Johnson
Executive Director, CHESSA

2023 SB 663-PHI-FWA FINAL.pdf
Uploaded by: Anne Klase
Position: FWA

February 28, 2023

112 West Street
Annapolis, MD 21401

Favorable with Amendments – Senate Bill 663- Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs - Establishment (Maryland Resilient and Clean Energy Homes Act)

Potomac Electric Power Company (Pepco) and Delmarva Power & Light Company (Delmarva Power) support *Senate Bill 663- Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs - Establishment (Maryland Resilient and Clean Energy Homes Act)* with amendments. Senate Bill 663 would require investor-owned electric companies by January 1, 2024 to file applications with the Public Service Commission (PSC) for a pilot program to support beneficial electrification measurers. The pilot program would include certain make-ready programs, rebate programs for on-site clean energy systems and clean energy generators, incentive programs for multi-family housing facilities, and programs for load management and electric grid support services.

Pepco and Delmarva Power are committed to protecting the environment and taking actions to mitigate climate change and are working to align our operations, grid investments, and customer product offerings and services with Maryland's climate change and clean energy goals. This legislation establishes investor-owned electric utilities as the aggregators of residential flexible load by requiring utilities to run load management programs. This legislation aligns with Pepco and Delmarva Power's strategy with respect to utilizing our expertise to provide make-ready work to help facilitate beneficial electrification.

However, Pepco and Delmarva Power have concerns with a few of the provisions in the bill. First, we are concerned with the language pertaining to meter collars and respectfully request additional consumer protections be incorporated in the bill regarding the authorization and standards for the installation of meter collars. Meter collar adapters are installed at the service point between a standard residential electric meter and the meter socket and are used mainly for the connection of distributed energy resources (DERs) to the grid. In order to ensure safety and grid reliability, we need to make certain there are strict standards, guidance and protections in place as to the type of meter collars being installed, how they are being installed, and the qualifications of the individuals installing them.

Finally, we have some concerns pertaining to cost recovery for program administration, the timeline for program implementation and participation, as well as some of the definitions outlined in this bill. We would appreciate the opportunity to continue to work with the bill sponsors to address specific provisions in the bill and request certain definitional changes.

Pepco and Delmarva Power recognize the benefits intentioned in Senate Bill 663 and if the Committee is inclined to pursue this legislation, we respectfully ask to continue conversations with the bill sponsors and stakeholders to address our concerns.

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BGE - SB663 - EEE - SWA - Investor-Owned Electric

Uploaded by: John Quinn

Position: FWA

bge
AN EXELON COMPANY

Position Statement

SUPPORT WITH AMENDMENT
Education, Energy & the Environment Committee
2/28/2023

Senate Bill 663 – Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs - Establishment (Maryland Resilient and Clean Energy Homes Act)

Baltimore Gas and Electric Company (BGE) supports with amendments *Senate Bill 663- Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs - Establishment (Maryland Resilient and Clean Energy Homes Act)*. Senate Bill 663 would require investor-owned electric companies to file applications with the Public Service Commission (PSC) by January 1, 2024. Each pilot program must last for three years, be made available to customers by August 1, 2024, and include four separate specific programs: make ready; on-site clean energy; a multifamily housing clean energy incentive program; and a load management and electric grid support program.

BGE is an engaged and cooperative partner with the state as we work together on clean energy initiatives to meet our air quality and climate goals. Much of what is proposed in the legislation mirrors programs under development at BGE, some of which were contained in our February 17 filing with the Public Service Commission.

The legislation does not completely align with our filing, however, we have concerns that the provisions may not precisely align with the next phase of the EmPOWER program, and there are technical corrections we feel are necessary to improve the legislation.

One important technical correction is the language that would allow meter collar adapters to be installed on our electric meters. These collars would be placed between an electric meter and the meter socket to enable distributed energy resources (DERs) interconnection to the electrical grid. For a variety of safety and technical reasons, we would like to engage with other stakeholders in a comprehensive dialogue about the collars before manufacturers and third parties be allowed to attach them to our equipment.

When considering the pilot programs laid out in this legislation, the impact on the EmPOWER program must be considered. The next phase and transition of the EmPOWER program is being concurrently considered in separate legislative proposals and we urge care to ensure alignment between them and Senate Bill 663. In addition, we have some concerns pertaining to definitions in the legislation which the attached proposed amendments attempt to address.

BGE is committed to continuing our conversations with the sponsor to align around amendments to address the concerns regarding this legislation, including implementation timing, grandfathering existing programs, grid safety and reliability, and other technical details.

Charles Washington | John Quinn 410.269.5281

FINAL - Support with Amendments Letter SB 0663.pdf
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SUPPORT with Amendments – Senate Bill 0663
SB0663 – Investor-Owned Utilities – Clean Energy Homes Pilot Programs – Establishment (Maryland Resilient and Clean Energy Homes Act)
Education, Energy, and the Environment Committee
Tuesday, February 28, 2023

Potomac Edison, a subsidiary of FirstEnergy Corp., serves approximately 280,000 customers in all or parts of seven Maryland counties (Allegany, Carroll, Frederick, Garrett, Howard, Montgomery, and Washington Counties). FirstEnergy is dedicated to safety, reliability, and operational excellence. Its ten electric distribution companies form one of the nation's largest investor-owned electric systems, serving customers in Ohio, Pennsylvania, New Jersey, New York, West Virginia, and Maryland.

Favorable with Amendments

Potomac Edison / FirstEnergy supports with amendments Senate Bill 0663 – Maryland Resilient and Clean Energy Homes Act. SB-0663 requires each investor-owned electric company to file an application for a pilot program to support residential customer adoption of beneficial electrification measures. The pilot program shall include: a make-ready program; an on-site clean energy systems and energy generator rebate program; a multifamily housing facilities clean energy incentive program; and a load management and electric grid support services program.

Potomac Edison / FirstEnergy requests a Favorable with Amendments report on SB 0663 for the following reasons.

Our company is very supportive of pilots and programs that will provide beneficial information and a means for learning more about the exciting energy transition currently taking place in Maryland. While this is a complex piece of legislation, on an overly aggressive schedule, we believe the issues can be worked out through further conversations with all the parties involved.

The electric company's "Load Management and Electric Grid Support Services Program" is a potentially great idea whereby Electric Distribution Companies (EDC) can dispatch and control Distributed Energy Resources (DER) that support efficient or reliability operations on the electrical system. The possibility for avoidance or deferral of a transmission or distribution upgrade, by having the exact amount of DER present at the exact location for the exact amount of time needed, is very intriguing. This idea represents a higher amount of risk than an EDC would normally take, but a pilot project like this could help us all better understand how this might work.

Requiring each EDC to file an application for a pilot program on or before January 1, 2024, is extremely aggressive, however. For Potomac Edison / FirstEnergy to create a new program in less than 10 months will be particularly challenging, and having the program ready to implement by August 1, 2024, may be unlikely, especially since the Public Service Commission will need months after the programs are filed in order to evaluate them for approval. The company is also concerned that the length of the pilot program is only three years. We are not sure there will be enough data produced, once the new clean energy systems are up and running, to make any real determinations of the program's success. An extension of time would allow for the collection of more data related to the program. Again, three years seems too short considering the breadth of this legislation.

Another timing issue we are concerned about is the November 1, 2023, date by which the Public Service Commission shall convene a workgroup to facilitate public input on the design and development of incentive programs for multifamily dwellings. This working group would be starting only two months before the EDC's file their programs, and the programs are then supposed to be available to customers by August 2024. This working group would just be beginning their assignments by the time the utilities are filing. If the working groups thoughts differ from the utility filings, there will likely to be a lot of rework post-filing.

Perhaps, the most concerning part of this bill is the requirement for each EDC to authorize the installation of meter collar adapters. Potomac Edison / FirstEnergy does not allow meter collar units between the meter and socket due to safety and maintenance issues. Our investigations have found meter collar adapters to impede safe access to the utility meter because with the collar installed, the customers load cannot be bypassed. In addition, the meter socket cover cannot be removed for internal socket safety inspection with the collar installed.

The timeframes for this proposal are aggressive, as discussed above, and we are concerned that they could force EDCs to file programs before all necessary information is acquired. If timeframes were made longer, that could allow the Public Service Commission's existing Electrification Study Workgroup to provide recommendations, possibly to a new working group dedicated to this specific pilot program, and then allow enough time for both of those team's recommendations to guide next steps. We believe this delay would be beneficial in crafting an amended version of SB-0663 that would result in cleaner, more efficient, electrified homes in Maryland.

Potomac Edison / FirstEnergy respectfully <u>asks for the following Amendments</u>:

- **The date for each EDC to file an application for a Pilot Program be extended to July 1, 2024.**
- **The date for implementation would be extended until nine months after the Public Service Commission approves the utility's application.**
- **The length of the Pilot Program be extended to five years from the date of implementation.**
- **The requirement for Meter Collars be removed. (**If meter collar adapters must be required for this program, an alternate method could be to install a second meter socket on the load side of the existing meter socket and the line side of the customer's electric panel. This would provide a means to install the collar without impeding access to the utility meter. In addition, this would allow the customer to maintain the collar adapter without breaking the utility meter seal.)

For the above reasons, Potomac Edison / FirstEnergy respectfully request a **<u>Favorable with Amendments</u>** vote on Senate Bill 0663.

OPC Testimony SB0663 - Informational.pdf
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BILL NO.:	Senate Bill 663 Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs - Establishment (Maryland Resilient and Clean Energy Homes Act)
COMMITTEE:	Education, Energy, and the Environment
HEARING DATE:	February 28, 2023
SPONSOR:	Senator Feldman
POSITION:	Informational

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Senate Bill 663 would require investor-owned electric companies to file with the Public Service Commission, on or before January 1, 2024, an application for a pilot program to support residential customer adoption of beneficial electrification measures. Each pilot program would last for three years and must include (1) an electrification make-ready program; (2) a rebate program for on-site clean energy generators and on-site "clean energy systems"—defined as "the combination of an on-site clean energy generator and a battery storage device that has advanced capabilities to provide one or more electric grid support services;" (3) a clean energy incentive program for multifamily housing facilities; and (4) a load management and electric grid support services program. The bill further requires that within 90 days after receiving an application, the Commission must issue an order approving, modifying, or denying the application.

OPC supports incentivizing residential customers to take beneficial electrification measures—that is, to replace direct fossil fuel use with the use of electricity. Such measures can reduce customer costs, enable better grid management, and lower greenhouse gas emissions. They benefit participating customers by reducing energy bills, and they further the State's work toward achieving the ambitious climate goals established in the Climate Solutions Now Act. Given that low- and moderate-income customers face the largest barriers to electrification and bear the greatest risk of being left behind on an increasingly costly gas system, OPC strongly supports efforts to ensure that

the benefits of electrification reach these customers, through initiatives such as SB663's clean energy incentive program for multifamily housing facilities.

SB 663, however, would work toward these goals at a high cost for utility customers, for the reasons outlined below.

1. The exception to the cap on utility spending should be eliminated because it poses a significant risk of major rate increases for utility customers.

All utility spending on incentives, grants, or rebates under the proposed programs will be recovered from utility customers. Customers foot the bill through the rates they pay their utility. Under proposed section 7-911(a), utility spending under these programs would be capped at the lesser of 1% of an electric company's approved revenue requirement or $15 million per year. This cost cap is the only provision in the bill that limits potential customer costs. Section 7-911(b) eliminates this sole limit on utility spending by allowing an electric company to petition the Commission to exceed the $15 million annual budget limitation—as a practical matter, eliminating any assurance that spending would be capped. To protect customers, the option for companies to exceed the cap (section 7-911(b)) must be eliminated.

2. Electric companies should be required to expense pilot program costs during the current year, rather than recover those costs through a regulatory asset.

Under proposed section 7-912, an electric company "may use a regulatory asset" to "recover all reasonable costs associated with programs required under this subtitle at the approved weighted average cost of capital." This provision would have the effect of expanding the utilities' monopoly franchise for delivery of electricity into the business of lending money to finance individual household equipment—with all ratepayers paying the cost of the financing. This would be costly for customers.

Specifically, SB 663 would allow utilities to capitalize program costs and earn a return for their investors—rather than recovering those costs as operating expenses during the current year. While capitalizing program costs spreads those costs over time—mitigating some of the cost impact—it is much more costly for customers in the long term. In fact, for many of these investments, there are lower-cost program options than having utilities finance rebates through customer rates. Moreover, we are concerned with

this expansion of the utilities' business role into financing residential customer equipment at the expense of utility customers.

Financing the proposed programs through rates would be regressive for two reasons. First, because all residential utility customers pay the same rates regardless of income, the costs of financing programs through rates imposes a more significant burden on lower-income households than more affluent households. Second, the experience with the EmPOWER utility energy efficiency programs is that lower-income households participate at lower rates than wealthier households and pay more to support the programs than they receive in benefits.

Rather, rebate programs for customer equipment should be limited in scope and they should be expensed rather than capitalized, as is the case in most states, so that the utility recovers in the current year all reasonable and prudently incurred costs associated with the programs.

3. Electric companies should not receive performance incentives for work that they should otherwise already be doing.

Proposed section 7-912(3) provides that an electric company "may propose a performance incentive in a multiyear rate plan to include recovery of up to 30% of shared savings if the use of distributed energy resources or load management under this subtitle defers or avoids distribution upgrades that the electric company would have otherwise constructed and included in its rate base." The statute doesn't provide a reason for these performance incentives, and we can think of none; the provision will only serve to increase customer costs. Utilities have obligations to perform according to the law and Commission regulations. The legislation can direct utilities to perform, or it can direct the Commission how it should exercise its supervisory powers over public utilities.

4. An energy resource that "produces" electricity is already eligible for compensation under the net metering statute.

SB 663 would require electric companies to provide compensation "for services provided by a customer's distributed energy resources individually or through third-party aggregation." "Distributed energy resource" is defined to mean "an energy resource located on a customer's premises that: (1) produces or stores electricity; or (2) modifies the timing or amount of a customer's electrical consumption." While reasonable to compensate customers for a resource that "stores" electricity or "modifies" the customer's consumption, a resource that "produces" electricity—such as rooftop solar

panels—is already eligible for compensation under the net metering statute and should not be compensated twice through utility rates.

The four points above are not our only concerns about SB 663. The bill also has more practical problems, including, among others, unusually short deadlines for Commission action on utility proposals under the bill. These deadlines would impede transparency and public input, and they significantly deviate from timelines for stakeholder input and Commission review of utility rebate programs that are administered through EmPOWER.

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Uploaded by: Jason Stanek
Position: INFO

STATE OF MARYLAND

OFFICE OF THE CHAIRMAN

JASON M. STANEK

PUBLIC SERVICE COMMISSION

February 28, 2023

Chair Brian Feldman
Education, Energy and Environment
2 West, Miller Senate Office Building
Annapolis, Maryland 21401

RE: SB 663 – INFORMATION - Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs - Establishment (Maryland Resilient and Clean Energy Homes Act)

Dear Chair Feldman and Committee Members:

The Clean Energy Homes Pilot established in SB 663 creates a series of new mandatory incentive programs under Maryland's investor-owned utilities. These offerings will create a suite of programs outside the EmPOWER programs. While this bill is designed to further the State's greenhouse gas reductions goals, I would like to raise two concerns -- the lack of program approval criteria and a need for timeline extensions.

First, these programs will be significant utility expenditures that are not subject to any form of cost-effectiveness review, as drafted. The legislation caps program size at 1% of utility revenues or $15M, whichever is less. While the statute gives the Commission authority to approve, modify or deny programs proposals, there are no statutory criteria provided to support Commission action. The Committee may want to consider adding criteria to guide Commission action regarding these programs. Without statutory cost-effectiveness or other approval criteria, the bill could have a cumulative impact of $50-$60 million per year, resulting in significant rate impacts for utility customers.

Second, increased Commission flexibility would increase the chances of successful implementation. The timelines provided in the bill for filing, review and implementation require more flexibility for the agency to meet them. The Commission is offering amendments to extend the Commission's review period to 180 days for both plan approval and budget requests. In addition, the Commission is offering amendments to provide flexibility for: 1) % of storage capacity available for use by the IOU; 2) the dollar value per kWh of usable capacity; and 3) the % of electric bill savings provided to participating low-income multifamily residents. Climate policy and energy markets are rapidly evolving, and providing additional Commission flexibility in program review and design will ensure a responsive and responsible program.

I appreciate the opportunity to provide information on SB 663. Please contact Lisa Smith, Director of Legislative Affairs, at (410) 336-6288 if you have any questions.

Sincerely,

Jason M. Stanek
Chairman

SB0663(HB0839) - LOI - Maryland Resilient and Clea

Uploaded by: Landon Fahrig

Position: INFO

Maryland Energy Administration

TO: Members, Senate Education, Energy, and the Environment Committee
FROM: Paul Pinsky - Director, MEA
SUBJECT: SB 663 - Investor-Owned Electric Companies - Clean Energy Homes Pilot Programs - Establishment (Maryland Resilient and Clean Energy Homes Act)
DATE: February 28, 2023

MEA Position: Letter of Information

The Maryland Energy Administration (MEA) appreciates the bill sponsor's efforts to spur investments for the purpose of decarbonizing the residential real estate market. However, in MEA's review of the legislation, several issues were raised, and they are included below.

Socialization of Costs Across Ratepayers

Under Section 7-912 as proposed by the legislation, an electric utility will be able to recover "all *reasonable* costs" associated with the Clean Energy Homes Pilot Programs required by this bill. In addition to the Pilot Programs themselves, the bill also declares that "reasonable cost of electric grid upgrades necessitated by a customer's adoption of beneficial electrification measures…". MEA notes that the bill also declares that certain investments are, by definition, reasonable. Typically, in a rate case, it is the Public Service Commission that determines the prudency of investments, and therefore the allowance of those expenses to be included in the rate base.

Conflict with Significant Inflation Reduction Act Programs

The federal Inflation Reduction Act, or "IRA", signed on August 18th, 2022 contains a number of energy-related provisions, including two rebate programs. **The HOMES residential energy efficiency rebate program and the High-Efficiency Electric Home Rebate Program will assist qualified applicants with certain home energy efficiency and electrification upgrades**.

The U.S. Department of Energy (DOE) will be providing an allocation of funds for these programs to each state on a formulaic basis through DOE's existing State Energy Program, or "SEP", framework. **Each program is slated for approximately $68 million in formula funds, totaling $136 million**. The funds will ultimately flow from DOE to MEA. MEA then will be responsible for designing and implementing the IRA-funded home energy rebate programs, in parallel with MEA and the State's existing portfolio of energy programs.

For Maryland to maximize the benefits of this federal windfall, it is imperative that MEA, along with her sister agencies and other stakeholders, coordinate these efforts; we must ensure that any existing or new programs are molded to complement the IRA programs and the

associated, considerable resources. There does not appear to be evidence of any such coordination within the Maryland Resilient and Clean Energy Homes Act.

Definitions

"Beneficial electrification measure" is defined as a project that *either* reduces costs or emissions. The committee may want to adopt language that requires beneficial electrification to provide both reduced costs *and* reduced emissions to mitigate ratepayer impact and maximize program efficiency.

"Distributed energy resource" is defined, in part, as an energy resource that modifies the timing or amount of a customer's electrical consumption. The effects on timing and volumetric consumption solely impact the local distribution grid. To clarify, the committee may consider language for 7-901(d)(2) similar to: "modify the timing or amount of a customer's consumption of electricity provided by the local distribution grid."

"Qualifying low-income customer" encompasses what has historically been statutorily categorized as moderate-income.

Conclusion

The bill represents an ambitious plan to spur electrification in Maryland. However, the lack of coordination for the use of existing and expected resources should be noted, as well as the potential ratepayer impacts. **Utility rates must always be considered fully, as increases in utility rates tend to have significantly regressive economic impacts**. MEA asks the committee to carefully consider the forgoing information before rendering its report.