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<b>Description:</b>	<p>Exploring Next Steps</p> <p>Joint Presentations by:</p> <p>Linda Barrera, Kristy Chew, and Rachel Salazar, California Energy Commission; Nora Hawkins, Tory Francisco, Sarah Sharpe, and Jason Symonds, California Public Utilities Commission; Chuck Belk, California Department of Community Services and Development; Deana Carrillo, California Alternative Energy and Advanced Transportation Financing Authority; Shrayas Jatkar, California Workforce Development Board</p>
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Joint Agency Workshop

# Advancing Energy Equity

## SB 350 Implementation Accomplishments

*Exploring Next Steps*

July 31, 2019



# Workshop Objectives

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**1**

Report on the implementation status of the recommendations in the SB 350 Low-Income Barriers Study Part A and B

**2**

Explore additional actions and strategies moving forward to advance energy equity in low-income and disadvantaged communities

**3**

Discuss emerging energy equity topics in clean energy and transportation

## SB 350

### The Clean Energy and Pollution Reduction Act of 2015

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SB 350

Requires  
CEC and  
CARB to ...

1

Explore barriers  
and opportunities  
to expand low-income  
residents' access  
to energy efficiency,  
renewable energy,  
and clean  
transportation

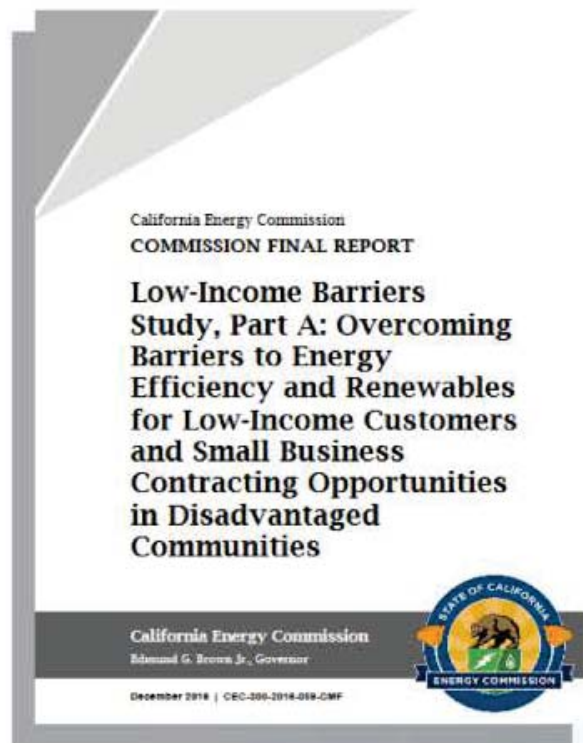
2

Provide  
recommendations  
on how to increase  
access



# SB 350 Low-Income Barriers Study: Part A

## Findings



### Structural Barriers

- Low home ownership rates
- Complex needs, ownership, and financial arrangements for low-income multifamily housing
- Insufficient access to capital
- Building age
- Remote or underserved communities
  - High heating / cooling costs
  - Limited access to utility efficiency programs

### Program / Policy Barriers

- Market delivery
- Program integration
- Data limitations
- Unrecognized non-energy benefits

Final CEC Barriers Report: <https://efiling.energy.ca.gov/getdocument.aspx?tn=214830>

# SB 350 Low-Income Barriers Study: Part A



## Recommendations

## Agency Leads

Develop an action plan on improving opportunities for EE, RE, demand response, energy storage, and EV infrastructure for multifamily housing (1.d)	CEC
Enable community solar advantages (2)	CPUC, CSD
Develop workforce development partnerships (3)	CWDB
Develop energy upgrade financing pilot programs (4)	CAEATFA
Establish common metrics; collect and use data across programs (5)	CEC
Expand PV and solar thermal opportunities (6)	CPUC, CSD
Enhance energy related affordable housing tax credits (7)	TCAC
Deploy regional one-stop-shop pilots (8)	CEC, CPUC, CARB
Heighten consumer protection (9)	CPUC
Direct funding for CBO collaboration (10)	CEC, CPUC, CARB
Increase R&D program benefits (11)	CEC
Increase small business contracting opportunities (12)	GoBiz

# CEC: Barriers Recommendation 1(d)

Develop an action plan on improving opportunities for EE, RE, demand response, energy storage, and EV infrastructure for multifamily housing



## ▪ **Actions Completed**

- Completed and adopted the “Clean Energy in Low-Income Multifamily Buildings (CLIMB) Action Plan” (Nov 2018)
- Launched the Building Energy Benchmarking Program – Multifamily component (June 2019)
- Collaborated to produce UC Berkeley’s CLEE “Low-Income, High Efficiency” Report (June 2019)

## ▪ **Outcomes & Benefits**

- Identified Lead and Co-lead agencies to implement specific strategies advancing clean energy in low-income multifamily buildings
- Successful interagency collaboration to connect multifamily-related programs, share data, and improve program delivery



# CEC: Barriers Recommendation 1(d)

Develop an action plan on improving opportunities for EE, RE, demand response, energy storage, and EV infrastructure for multifamily housing



## ▪ Next Steps

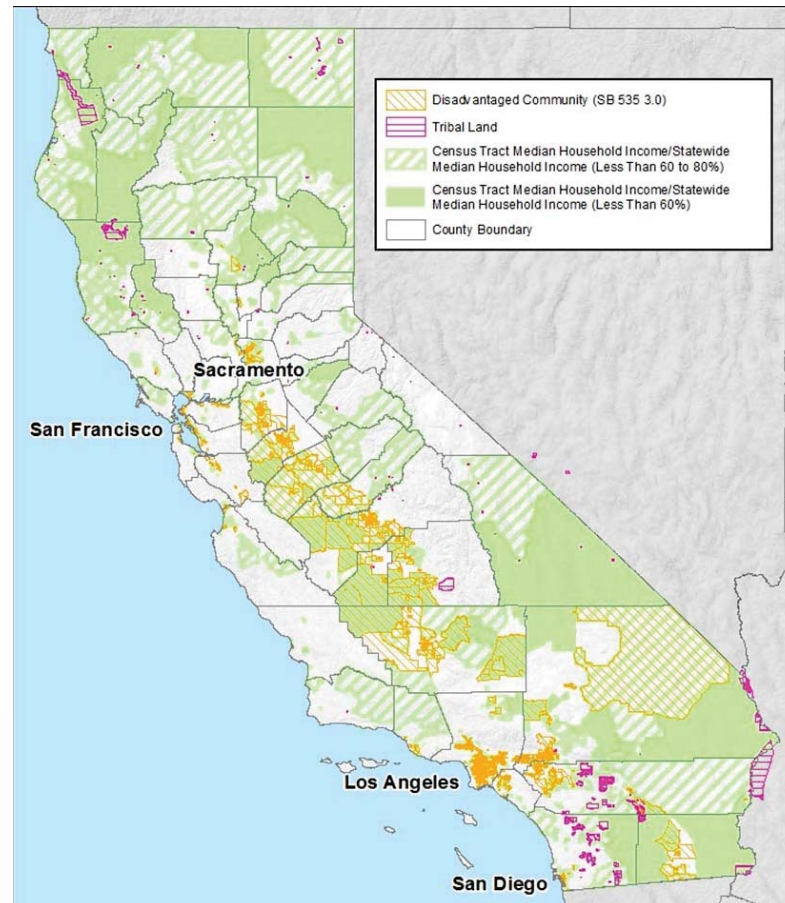
- Continue to engage with state partners on current multifamily-related program activities (CLIMB Strategy 4.3.1)
- Implement multifamily building energy benchmarking activities (CLIMB Strategy 2.1.3)





# CEC: Barriers Recommendation 5

Establish common metrics; collect and use data across programs



## ■ Actions Completed

- Published the Energy Equity Indicators report and interactive on-line mapping tool. (June 2018)

### Examples of Energy Equity Indicators and Metrics:

- Statewide Median Household Income
- Buildings – Construction Year (Investments)
- Electricity Billing Data (Access)
- Location of Net Energy Metering & Self-Generation Incentive Program Accounts (Access, Investments)
- Location of Zero Emission Vehicles Registrations (Access)
- Location High Rates of Asthma and Heat-Related Illness (Resilience)

[https://ww2.energy.ca.gov/sb350/barriers\\_report/equity-indicators.html](https://ww2.energy.ca.gov/sb350/barriers_report/equity-indicators.html)

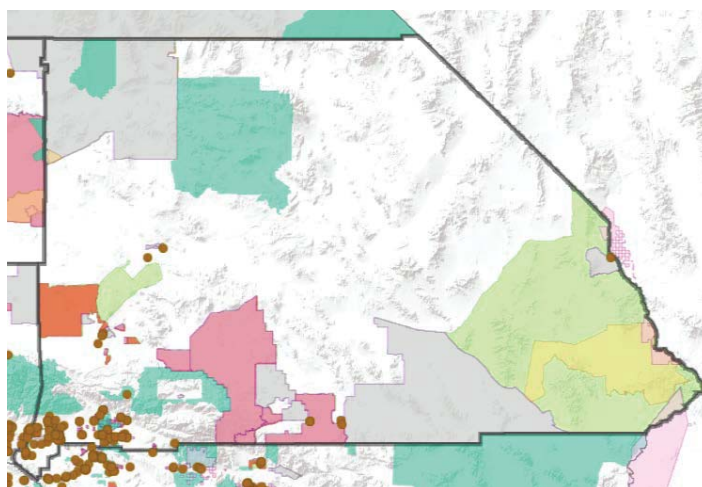


# CEC: Barriers Recommendation 5

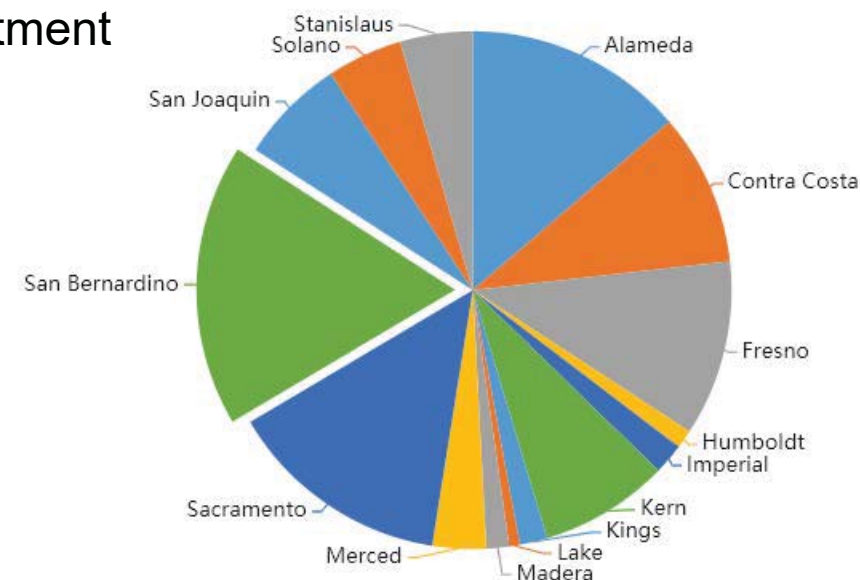
Establish common metrics; collect and use data across programs

## ■ Outcomes & Benefits

- Energy program leads can use this tool to identify areas to target programs to reach more low-income and disadvantaged communities
- Data shows areas & opportunities for outreach and investment



Low-income areas w/ older homes,  
low building energy efficiency, low  
PV, and low EV rebates



Emergency Room  
Rates Due to Asthma,  
by County (2015)



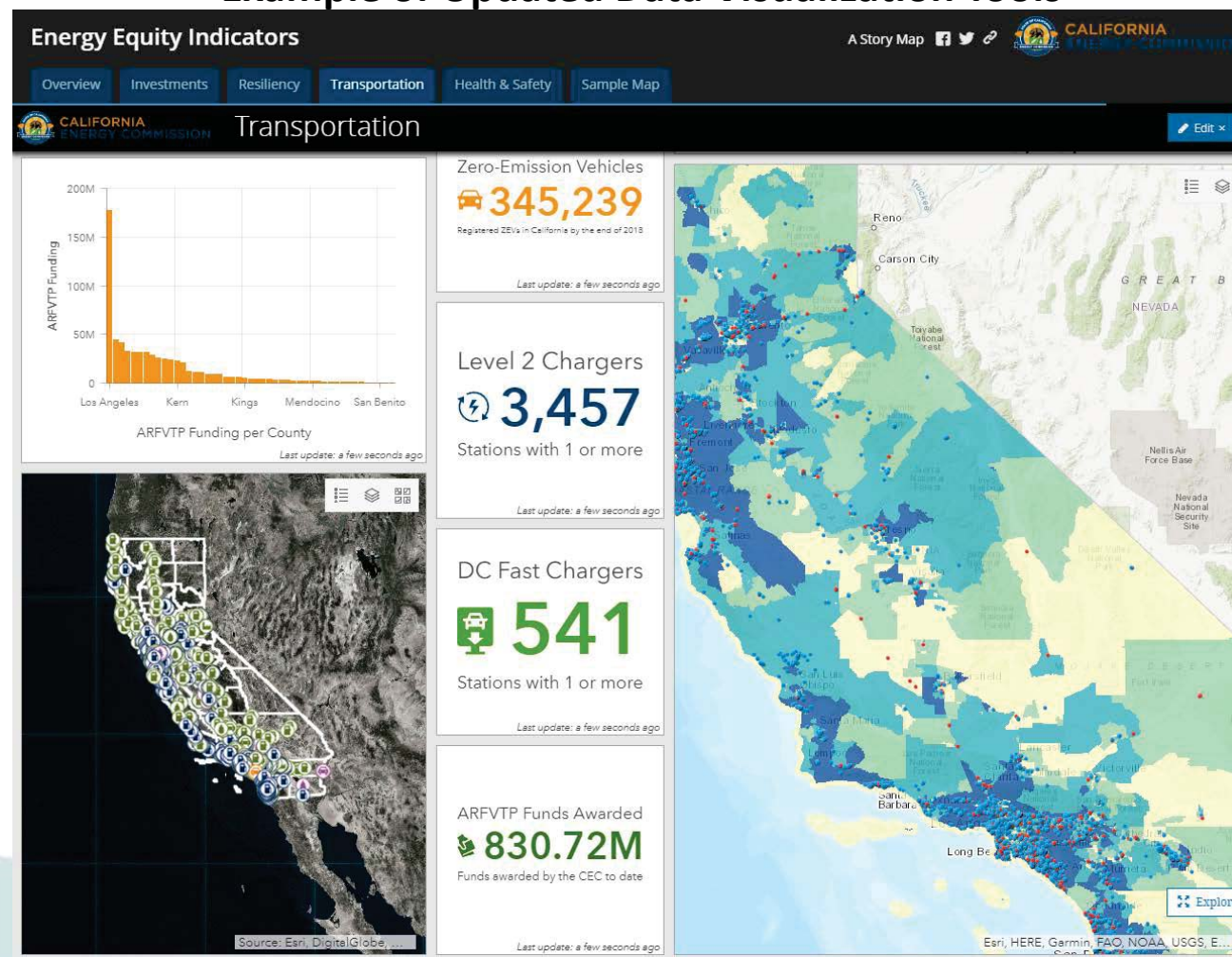
# CEC: Barriers Recommendation 5

Establish common metrics; collect and use data across programs

## Next Steps

- Update the 40+ metrics and identify new energy equity metrics.(Fall 2019)
- Improve the online data visualization tools. (Fall 2019)
- Work with energy program leads and stakeholders to increase tool utility. (Fall 2019)
- Publish updated Energy Equity Indicator report. (Spring 2020)

## Example of Updated Data Visualization Tools





# CEC: Barriers Recommendation 11

## Increase R&D program benefits



**Rec. 11.a.** The CEC's Electric Program Investment Charge (EPIC) should target a minimum of 25% technology demonstration and deployment (TD&D) funding for sites located in disadvantaged communities.

AB 523 codified this recommendation and added the following requirements: 1) minimum 10% TD&D funding for low income communities; and 2) evaluate local health impacts of proposed projects.

### ▪ **Actions Completed**

- Implemented community engagement and outreach plan.
- Created funding set-asides for disadvantaged communities in TD&D solicitations.
- Held public workshops on AB 523 implementation.
- Developed new Scoring Criteria for EPIC demonstration projects.

# CEC: Barriers Recommendation 11

Increase R&D program benefits



## ■ Outcomes and Benefits

### EPIC TD&D cumulative funding:

- ~31% funding for sites in disadvantaged communities
- ~34% funding for sites in low income communities

### Project Highlights:

- Solar + project for multi-family housing (Willowbrook)
- Energy efficiency retrofit packages for multi-family housing (Fresno/Ontario)

## ■ Next Steps

- Implement new Scoring Criteria in upcoming TD&D solicitations
- Continue to provide funding set-asides for low income and disadvantaged communities, where applicable





# CEC: Barriers Recommendation 11

## Increase R&D program benefits

**Rec. 11.b.** CEC R&D programs should conduct forums to share best practices and case studies on current projects located in disadvantaged communities.

### ▪ Actions Completed

- 2018 & 2019 EPIC symposiums included panel sessions discussing projects in disadvantaged and low-income communities
- CEC awarded a new 3-year contract to conduct technical transfer activities for EPIC Program - includes forums on results from EPIC projects that support vulnerable communities

### ▪ Next Steps

- Work with internal/external stakeholders to identify potential forum topics







# CEC: Barriers Recommendation 11

## Increase R&D program benefits

**Rec. 11.c.** CEC should analyze potential business models that would create market opportunities for emerging clean energy technologies to be deployed in a manner that directly benefits low income and disadvantaged communities.

- **Actions Completed**

- CEC directed Navigant Consulting to evaluate different business models/market opportunities for disadvantaged and low income communities
  - Final Report provided 13 recommendations, grouped into 3 critical areas for success: (1) outreach, (2) funding/infrastructure, and (3) execution

- **Next Step**

- Make Navigant's final report publicly available on CEC website



# CEC: Barriers Recommendation 11

## Increase R&D program benefits

**Rec. 11.d.** CEC should sponsor prize competitions and challenges to spur novel ideas and solutions for bringing clean energy technologies to low income and disadvantaged communities.

- **Actions Completed**

- Established design-build competitions called EPIC Challenges
- 1<sup>st</sup> EPIC Challenge sought innovative ideas to create advanced energy communities

- **Outcomes and Benefits**

- Lancaster Project will deploy 2 all-electric zero net energy affordable housing microgrids, and 3 renewable microgrids at Lancaster schools
  - The microgrids and other distributed energy resources will be connected and managed through a virtual power plant software platform

- **Next Step**

- Release next EPIC Challenge prize competition in late 2019: Reimagining Affordable Mixed-Use Development in a Carbon-Constrained Future.
  - All projects sites are required to be located in a disadvantaged and low-income communities



# CPUC: Barriers Recommendation 2

Enable community solar advantages

## ▪ Actions Completed

### Community Solar Green Tariff Program (CSGT) (June 2018)

- CSGT Program Parameters:
  - Eligibility: Residential customers in DACs,  $\geq 50\%$  low-income
  - Location: In DACs, close to customers who subscribe
  - Project ownership: PPA between developer and IOU
- CSGT Program Updates:
  - Utilities' tariffs approved with modification June 3, 2019
  - Capacity caps established, with some capacity reserved for Community Choice Aggregators (CCAs):
    - ✓ PG&E: 18 MW, SCE: 18 MW, SDG&E: 5 MW



# CPUC: Barriers Recommendation 2

Enable community solar advantages



## ▪ Benefits - Community Solar Green Tariff Program

- Procures 100% renewable energy and provides customers 20% rate discount
- Community engaged in project development process

## ▪ Next Steps

- Utilities are developing program budgets; marketing, education, and outreach (ME&O) plans; and project solicitation documents
- A stakeholder workshop will be held to discuss CCA program implementation questions





# CPUC: Barriers Recommendation 6

Expand PV and solar thermal opportunities

## ▪ Actions Completed

### Disadvantaged Communities Green Tariff Program (DAC-GT) (June 2018)

- DAC-GT Program Parameters:
  - Eligibility: Low income, residential customers in DACs
  - Location: Any DAC within IOU's service territory
  - Project ownership: PPA between developer and IOU
- DAC-GT Program Updates:
  - Utilities' tariffs approved with modification June 3, 2019
  - Capacity caps established, with some capacity reserved for Community Choice Aggregators (CCAs):
    - ✓ PG&E: 70 MW, SCE: 70 MW, SDG&E: 18 MW

# CPUC: Barriers Recommendation 6

Expand PV and solar thermal opportunities

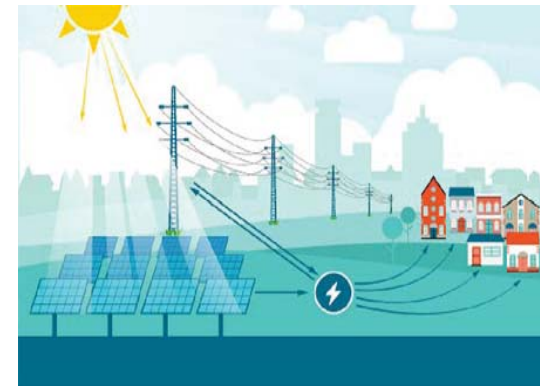


## ▪ **Benefits - Disadvantaged Communities Green Tariff Program**

- Procures 100% renewable energy and provides customers 20% rate discount

## ▪ **Next Steps**

- IOUs are developing program budgets; ME&O plans; and project solicitation documents
- A stakeholder workshop will be held to discuss CCA program implementation questions





# CPUC: Barriers Recommendation 6

Expand PV and solar thermal opportunities



## ▪ Actions Completed

### **Disadvantaged Communities Single-family Solar Homes Program (DAC-SASH)** (June 2018)

- DAC-SASH Program Parameters:
  - Eligibility: Low income, owner-occupants of single-family homes in DACs
  - Incentive: \$3.00/watt for rooftop systems 1 kilowatt – 5 kilowatts
  - Funding: \$10 M per year. Program will operate 2019-2030
- DAC-SASH Program Updates:
  - GRID Alternatives selected as statewide program administrator





# CPUC: Barriers Recommendation 6

Expand PV and solar thermal opportunities

## ▪ **Benefits - Disadvantaged Communities Single-family Solar Homes Program**

- No cost rooftop solar system installed
- Energy efficiency education
- Workforce development opportunities

## ▪ **Next Steps**

- Once the DAC-SASH Handbook and Program Implementation Plan are approved, the program will officially launch



# CPUC: Barriers Recommendation 6

## Expand PV and solar thermal opportunities



### ▪ Actions Completed

#### **Solar on Multifamily Affordable Housing Program (SOMAH)** (December 2017)



- Non-profit SOMAH Program Administrator team selected in April 2018
- SOMAH Program Parameters:
  - Eligibility: Deed-restricted low-income housing, 5+ units, 80% of tenants have incomes at or below 60% of the AMI or property is in a DAC, not master-metered, and be an existing building or retrofit (with Certificate of Occupancy)
  - Incentive: \$0.60 - \$3.20/watt depending on tax credit funding and tenant/common area allocation
  - Funding: \$100M per year, of which roughly \$90M is for incentives. Program will likely operate 2019-2030
- SOMAH Program Updates:
  - Formal program launch July 1, 2019 - the online portal for SOMAH contractors and property owners opened for program applications
  - By close of business on July 1, 2019, the program was fully subscribed in SDG&E, SCE and PG&E service territories

# CPUC: Barriers Recommendation 6

Expand PV and solar thermal opportunities

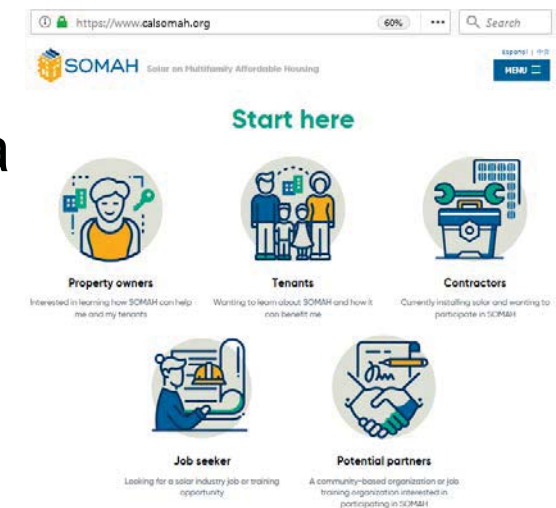


## ■ Benefits - Solar on Multifamily Affordable Housing Program

- Provides incentives to substantially reduce the cost PV installations for affordable housing
- Supports economic growth and workforce development via paid on-site training requirements
- Provides tangible bill benefits to tenants via virtual net metering bill credits

## ■ Next Steps

- Incentive funding (sourced from the IOUs' 2019 cap-and-trade program proceeds) will be replenished once the IOUs' 2020 ERRA/ECAC Forecast Updates are approved by the Commission







# CPUC: Barriers Recommendation 6

Expand PV and solar thermal opportunities

## ▪ Actions Completed

### San Joaquin Valley Disadvantaged Communities Pilot Projects

- Pilot projects approved for 11 San Joaquin Valley disadvantaged communities
- Projects will replace propane and wood burning appliances with either natural gas or all electric appliances



# CPUC: Barriers Recommendation 6

Expand PV and solar thermal opportunities



## ■ **Benefits - San Joaquin Valley Disadvantaged Communities Pilot Projects**

- Provide clean, affordable energy to disadvantaged households while improving their health, safety, and comfort
- Gather data to help inform the feasibility of scaling the program

## ■ **Next Steps**

- Review and finalize pilot details
- Begin outreach and education to community members
- Installation of appliances in participating homes



# CPUC: Barriers Recommendation 9

Heighten consumer protection



## ■ Actions Completed

- CTA
  - February 2018: Core Transport Agency Decision to establish registration requirements and citation program
- NEM
  - October 2018: Net Energy Metering (NEM) Consumer Protection Decision that 1) establish solar info packet, and 2) requires Solar Providers to submit valid CSLB license + solar disclosure documents
  - November 2018: Joint Government Solar Task Force launched with: (Official MOU signed March 2019)





# CPUC: Barriers Recommendation 9

Heighten consumer protection

## ▪ Benefits

- Improved coordination between government agencies on customer complaint monitoring, data collection and enforcement
- Targeted communications/outreach from government agencies to vulnerable communities, with industry and stakeholder engagement
- Potential solar customers receive more transparent information about going solar *before* signing a contract





# CPUC: Barriers Recommendation 9

## Heighten consumer protection



### ■ Next Steps

- Release “California Solar Consumer Protection Guide” in 5 languages and audio on August 30, 2019
- Develop standardized inputs and assumptions for electric bill savings for solar customers with stakeholder input
- Consider enhanced NEM consumer protections ideas
- Monitor the Alternative Energy Provider complaints (for both NEM and CTAs) filed with the Consumer Affairs Branch

The image shows the cover of the "CALIFORNIA SOLAR CONSUMER PROTECTION GUIDE". At the top right, it says "July 2019". The title "CALIFORNIA SOLAR CONSUMER PROTECTION GUIDE" is prominently displayed. Below the title, a warning states: "PUTTING SOLAR ON YOUR HOME IS AN IMPORTANT FINANCIAL DECISION. DON'T SIGN A CONTRACT UNTIL YOU READ THIS DOCUMENT!". A paragraph explains that in many areas of California, a residential solar system cannot be connected to the electric grid until the consumer reads, initials, and signs this document. Below this, three key points are highlighted with icons: "TAKE YOUR TIME." (snail icon), "WATCH OUT FOR FALSE CLAIMS!" (exclamation mark icon), and "MAKE SURE THE SOLAR PROVIDER HAS A VALID CONTRACTOR LICENSE." (license icon). Further down, it mentions "Audio Recording Available at 855-955-1535." and provides a link to see if one qualifies for low-income solar programs. A section titled "This guide is also available in:" lists five languages: Español, 中文, Tiếng Việt, 한국어, and Tagalog, each with a corresponding icon. At the bottom, it provides the CPUC logo, a brief description of the CPUC's role, and the website [www.cpuc.ca.gov/solarguide](http://www.cpuc.ca.gov/solarguide). It also includes a space for the "Customer Initial Here" and a page number "page 1 of 23".

# CPUC: Current Status of ESA

Goal to treat all willing and eligible households by end of 2020

~3.8m first-time treated households since 2002, aiming for  
~4.5m by 2020

Average annual treatment goal:  
370,000 households/yr  
Annual Budget: \$498m/yr





# CPUC: Next steps for ESA post-2020

**June 27, 2019**

Decision on post-2020 ESA/CARE application guidance ([D.19-06-022](#))

**Sept, 2019**

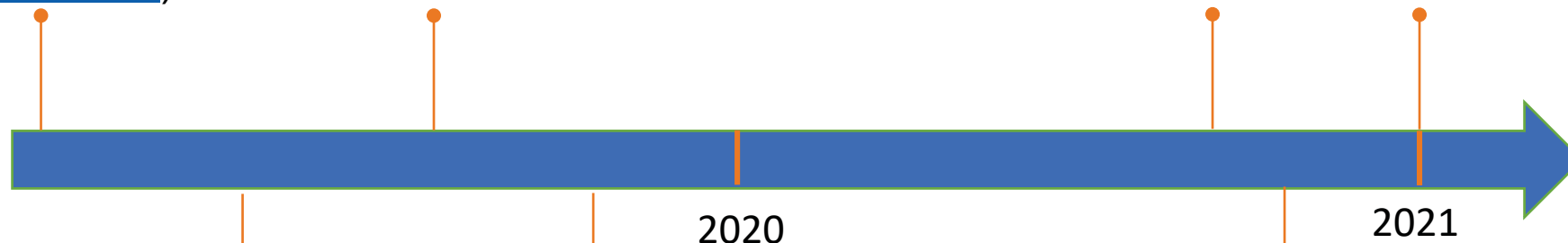
IOUs present to LIOB

**Q4, 2020**

Decision expected

**Dec 31, 2020**

2017-2020 ESA/CARE program cycle ends



**Aug, 2019**

IOUs Public Stakeholder meeting

**Nov 4, 2019**

IOU ESA/CARE applications deadline

**Nov 16, 2020**

If no Decision on post-2020 Applications, 6-months of bridge funding starts 01/01/21



# CPUC: Future of ESA and Energy Equity

- Innovative ideas for deeper energy savings, and health, comfort and safety impacts
- Household-level savings goals, not just total treated households
- Higher participation rates for disadvantaged communities, hard-to-reach and tribal populations
- Expand multi-family to include whole building





## CSD: Barriers Recommendations 2 & 6

- The Department of Community Services & Development (CSD) administers several low-income energy assistance programs providing various services to address energy needs for low-income households.
- Low-Income Weatherization Program (LIWP) funded by California Climate Investments (Cap-and-Trade), reduces greenhouse gas emissions (GHG) and household energy costs through installation of EE and PV systems.
- LIWP Overview:

Component	Funding	Status
Community Solar Pilot	\$4.4M	Pilot – Full Implementation 6/2021
Multi-Family EE & Renewables	\$54.4M	Continuing thru mid-2021
Single Family EE and SPV - Farmworker Housing	\$10.2M	Newly implemented - thru December 2020
Single Family EE & SPV	\$121.0M	<b>Services suspended – pending additional appropriation</b>



# CSD: Barriers Recommendation 2

Enable community solar advantages

## ■ Actions Completed

### 1) Community Solar Demonstration Pilot

- Objective to lower energy costs and bring benefits of renewable energy to low-income residents unable to benefit from existing LI solar programs (renters, unsuitable roofs, etc.)
- After extensive stakeholder engagement and competitive procurement received 7 proposals
- Awarded only 2 projects (total of \$4.4M) due to limited funding available for the pilot
  - Richmond Port Community Solar Project – Richmond, CA - \$2.38M
  - Santa Rosa Band of Cahuilla Indians – Santa Rosa Tribal Lands, CA - \$2.05M
- Contracts executed for both projects with GRID Alternatives in April 2019





# CSD: Barriers Recommendation 2

Enable community solar advantages

## ▪ **Benefits & Outcomes - Community Solar Demonstration Pilot**

- Richmond Port Community Solar Project – Contra Costa County
  - Array Size: 989 kW (Carport mounted system at Port of Richmond – City owned)
  - Benefits: 155 low-income households (80 – 95% Affordable Housing Residents)
  - Offset approx. 75% of typical renter electric costs (Distributed thru off-bill mechanism)
- Santa Rosa Band of Cahuilla Indians – Riverside County
  - Array Size: 994 kW (Ground mounted on Santa Rosa Tribal Lands).
  - Benefits: 38 homes located on tribal lands and 150 – 250 other LI households served by Anza Electric Cooperative
  - Reduce household electric energy costs by at least 50% (Bill credits)
- WFD Co-Benefits – Paid Solar installation training at each project
  - Specific local hiring and prevailing wage requirements will be utilized (7 paid trainees at each site)



## CSD: Barriers Recommendation 2

Enable community solar advantages

### ▪ **Next Steps - Community Solar Demonstration Pilot**

- Construction scheduled to commence in early 2020
- Energy savings benefits of CS projects expected to start in 2<sup>nd</sup> quarter 2021
- CSD will conduct a comprehensive evaluation to assess whether community-focused models can serve as another investment pathway to channeling LIWP solar investment opportunities to low-income disadvantaged communities
- Opportunity to share data/lessons learned with CEC, CPUC, others





# CSD: Barriers Recommendation 6

## Expand PV and solar thermal opportunities

### ■ Actions Completed

#### 1) Multi-Family EE and Renewables

- Launched in early 2016 – funding awarded to date \$54.4M
- Specifically targets Disadvantaged Communities and properties within ½ mile radius
- Primary objective reducing GHG emissions/Energy usage – focused on deep energy retrofit measures paired with solar PV (Comprehensive/Integrated)
- Requires H&S issues be remediated by owner – prior to services
- Single Point of Contact/One-Stop-Shop – Technical Assistance
- Energy Modeling Approach – Flexibility – No set menu of qualified measures
- Continued Innovation – Electrification (Heat Pump Heating, Cooling, H2O Heating) integrated with solar PV
  - Nearing **net zero performance** in some buildings
- Aligns well with other incentive programs – leveraging (utility and other programs) helps to expand retrofit scopes





# CSD: Barriers Recommendation 6

Expand PV and solar thermal opportunities

## ▪ **Benefits & Outcomes - Multi-Family EE and Renewables**

- Property Assessment/Energy Modeling Analysis
  - 15% minimum energy usage reduction below existing conditions required
  - 25% energy usage reduction below existing conditions required if utilizing leveraged funding
- **Average 40% site energy savings across all properties to date**
  - Fifty-three (53) Properties Served – more than 5,900 HHs
    - \$22.8M Direct Program Expended to date
    - Projected energy savings \$43M (over first 15 years)
    - Projected 91,150 MTCO<sub>2</sub>e reduced (over first 15 years)
  - Greater incentives paid for measures that directly reduce tenant energy bills
  - Helps preserve affordable housing resources in LI and Disadvantaged Communities



# CSD: Barriers Recommendation 6

Expand PV and solar thermal opportunities

## ▪ Next Steps - Multi-Family EE and Renewables

- Outreach and enrollment have been scaled-down due to reduced funding
- Fully subscribed (Approx. 180 projects on waiting list)
- Implementing Funding Agreements with IOUs (in-unit measures) – may help stretch LIWP MF \$'s further
- LADWP – Discussing opportunities to leverage available MF \$'s.
- Estimate current funding will provide energy retrofits / upgrades to approximately 100 additional projects (between 7 – 10K units) through mid-2021
- Focus on completing additional projects and fully expending remaining funds by 6/2021 - Uncertainty of Cap-and-Trade funding after that date

# CSD: Barriers Recommendation 6

Expand PV and solar thermal opportunities



## ▪ Actions Completed (cont'd)

### 2) Single Family EE and Solar PV - Farmworker Housing

- New LIWP program component – modified program design - targeting services to areas with highest farmworker populations
- Two regions (12 counties)
- Increased H&S and structural repair services
- Contracts awarded in May 2019 (\$10.5M Total) to La Cooperativa Campesina de California
- Outreach underway - Services begin August 2019







# CSD: Barriers Recommendation 6

Expand PV and solar thermal opportunities

- **Benefits & Outcomes – Single Family EE and Solar PV - Farmworker Housing**
  - \$5.25M awarded in each 6-county region
    - Project approx. 350 homes – EE services each region
    - Project approx. 65 homes – Solar PV each region
  - Program innovation:
    - Integrated EE and solar PV – Deep energy retrofits and savings
    - H&S and Structural Repair included (Age & Condition of homes)
    - Fuel switching – Electrification - Propane appliances – coupled with solar PV
  - Outreach Strategy
    - Utilizing trusted community partner – La Cooperativa – Familiar to farmworker families
    - Co-Benefits – Wraparound services (Food distribution, rental assistance, other)



# CSD: Barriers Recommendation 6

Expand PV and solar thermal opportunities

## ▪ **Next Steps - Single Family EE and Solar PV - Farmworker Housing**

- Farmworker program ends December 2020 – limited duration of program
- Uncertainty surrounding future allocations of CCI/Cap-and-Trade funding
  - Program could be augmented/extended with additional funding if available
- Energy Monitoring Pilot – Tracking pre and post energy usage data for homes – sample of homes and job types
  - Data available to both CSD and home occupants
- Quality Assurance – CSD will be inspecting early in program to ensure benefits of program align as designed

# CAEATFA: Barriers Recommendation 4

Develop energy upgrade financing pilot programs



## CA Hub for Energy Efficiency Financing (CHEEF)

- Authorized by the CPUC, designed to leverage private capital and reduce the upfront financing barriers of energy efficiency retrofits (credit enhancement, coordinated marketing)
- Targets: Residential, Affordable Multifamily, and Small Business markets
- Tests On-Bill Repayment (OBR) of private capital for public buildings
- Each pilot has a 2-year term and will be evaluated
- Designed to leverage (but not require) IOU/REN/CCA incentives

### ■ Actions Completed

#### 1) Residential Energy Efficiency Loan Assistance Program (REEL)

- ❑ Established in 2016, revamped in 2018 to remove structural barriers
- ❑ Currently in its evaluation phase



**gogreen**  
FINANCING™

# CAEATFA: Barriers Recommendation 4

## Develop energy upgrade financing pilot programs

### ▪ Actions Completed (cont'd)

#### 2) Small Business Financing Program

- ❑ Soft launch in April 2019; full program launch in Fall 2019
- ❑ Program rules adopted in June 2019; 3 lenders enrolled
  - Eligibility: 100 or fewer employees, or annual revenue of less than \$15 million, or meets SBA lending requirement
  - Renters OK — not restricted to property owners
  - Supports loans, leases, energy savings/service agreements (cash flow-positive)
  - Quick approval, 100% financing, \$10,000-\$5,000,000

#### 3) Affordable Multifamily Energy Efficiency Financing Program

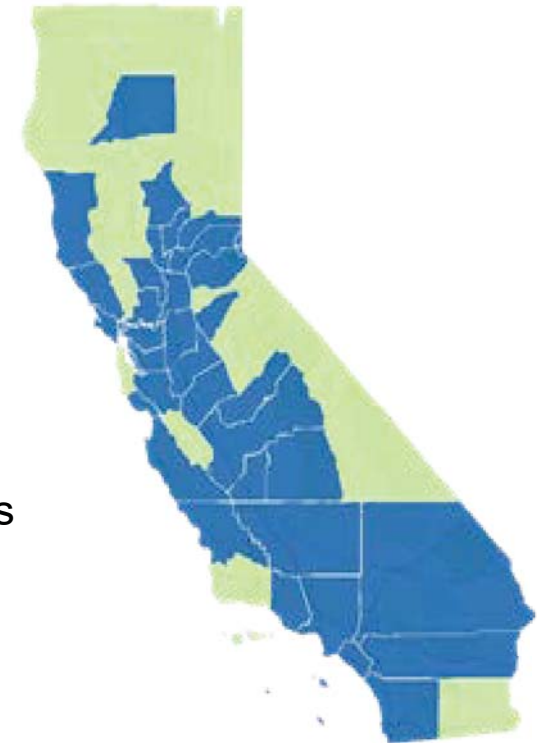
- ❑ Program rules adopted in May 2019; currently enrolling lenders
  - For properties >50% of units are income-restricted; 5+ units
  - Flexibility with AMF debt stack; service/savings agreements
  - In-unit and common space retrofits allowed
  - Integrates with IOU/REN/CCA, LIWP, SOMAH rebates and incentives



## Develop energy upgrade financing pilot programs

## ▪ Benefits & Outcomes of REEL

- Private Capital Providers are Entering the Market
  - 7 credit unions participating, 2 statewide lenders
  - 6 out of 7 lenders are new market entrants
  - Loan range: \$1,500 - \$50,000 (average: \$16,916)
- Program Designed to be Accessible
  - 100% financing: no liens, no collateral, no closing costs
  - Lower interest rates (3.9%-9.99%)
  - Lower monthly payments (longer terms)
  - 1/3 of credit enhancement funds targeted to LMI and credit-challenged borrowers
  - Average borrower saves \$1,587
  - Tenants eligible
- Broad Program Uptake
  - 344 contractors enrolled
  - 446 projects across 34 counties (common measures: HVAC, building envelope, water heater)
  - \$7.5 million in private capital leveraged; \$1.07 million in CE can be revolved

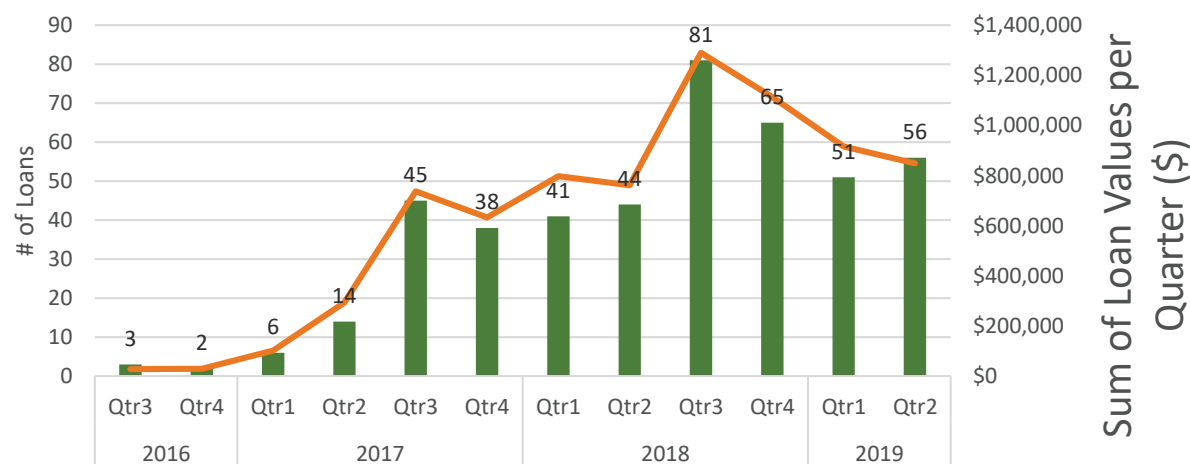


# CAEATFA: Barriers Recommendation 4

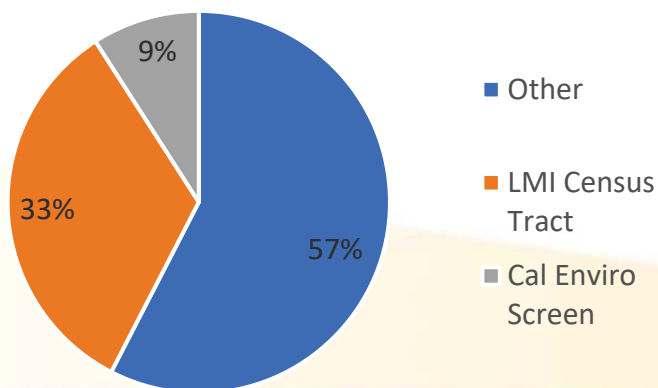
Develop energy upgrade financing pilot programs

## • Benefits & Outcomes of REEL (cont'd)

Quarter-over-quarter growth



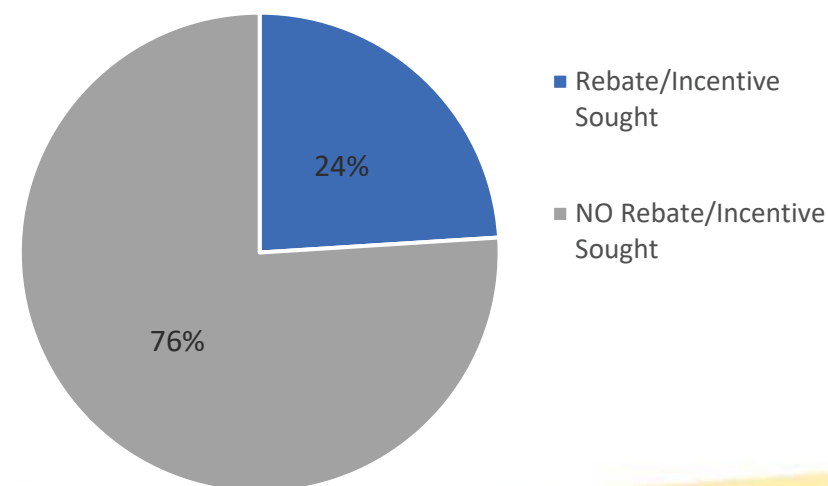
Project location



### Flexible Features for LMI

- Single Measures OK
- Renters and mobile homes OK
- Will help get houses “to code”

REEL projects that sought IOU rebate/incentive



# CAEATFA: Barriers Recommendation 4

Develop energy upgrade financing pilot programs



- **Lessons Learned and Policy Tensions**

- Financing programs take time to launch and mature
- Integrated approach important (e.g., lenders, contractors, marketing)
- Need flexibility in program design. Lenders don't have the same barriers/territories as IOUs or funding sources (EE only)
- Design of program will impact the type of lenders and size of capital investment (e.g., retail program vs. origination model vs. secondary market)
- Lending programs should not target all demographics

# CAEATFA: Barriers Recommendation 4

Develop energy upgrade financing pilot programs



## ■ Next Steps

### CA Hub for Energy Efficiency Financing

- **Residential Pilot:** EM&V Process Underway; CPUC Evaluation Summer/Fall 2019
- **Small Business Pilot:** Full Program Launch in Fall 2019 (2-year program)
- **Affordable Multifamily Pilot:** Lender Enrollment, Program Launch (2-year program)
- Add OBR functionality to Small Business and AMF Pilots (2020)
- Public Building (OBR only) will not be launched before end of 2019 (CPUC timetable)

### Expansion of Pilots

- **Identify a “neutral” funding source to:**
  - ☐ Expand pilots beyond IOU territory
  - ☐ Enable comprehensive measures beyond EE: Solar, ZEV Infrastructure, Storage, Health and Safety
  - ☐ Explore other funding structures (e.g., originator model, subordinated capital)
- **Explore leveraging the infrastructure of the HUB**



# CWDB: Barriers Recommendation 3

Develop workforce development partnerships



## ▪ Actions Completed

- Research: AB 398 report
- Technical assistance: CPUC's Environmental & Social Justice Action Plan
- Field investments: High Road Construction Careers initiative/Prop 39

## ▪ Benefits & Outcomes

### **Results of Prop 39 investments (2014-2018) in multi-craft construction pre-apprenticeship:**

- Over 1,400 people served, mostly individuals with barriers to employment
- Relatively high completion and placement rates
- Developed and socializing best practices

# CWDB: Barriers Recommendation 3

Develop workforce development partnerships



## ▪ Next Steps

**CWDB focused on scaling up field investments and technical assistance to sister agencies**

- \$75M for High Road Construction Careers
- \$100M for High Road Training Partnerships
- Looking for dedicated funds to scale up interagency collaborations

# Comments? Questions?



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