



All-In: States, Localities, Utilities, and Nonprofits Creating Solutions for Underserved Communities

May 16th

2:00-3:15 PM

Panelists

- Brittany Sellers and Ian Lahiff, City of Orlando
- Keith Kueny, Community Action Partnership of Oregon
- Bryan Early, California Energy Commission
- Daniel White, District of Columbia
- Neil Matouka, Local Government Commission
- Arah Schuur, Commonwealth of Massachusetts

Brittany Sellers & Ian Lahiff

City of Orlando



CELICA Program Highlight: SELF

BRITTANY SELLERS & IAN LAHIFF

CITY OF ORLANDO







SELF
SOLAR AND ENERGY LOAN FUND



1

CDFI

Community Development
Financial Institution
(CDFI)

2

KIVA

International Crowdsourcing



Jody Polland

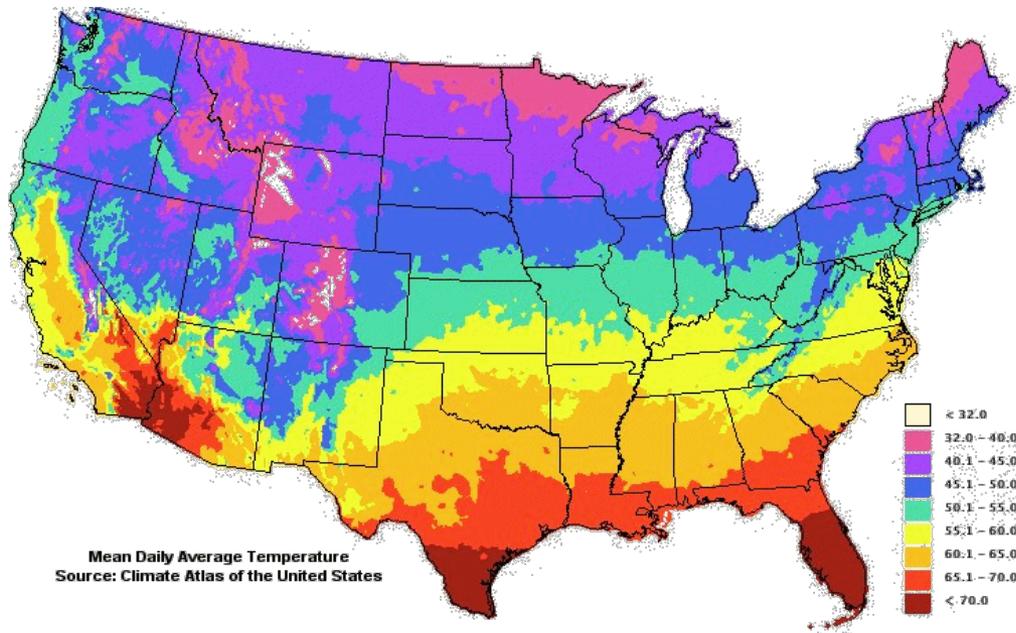
Loan Impacts:
Safety and
Security, Quality of
life

Amount of Loan:
\$6,152.35

Type of Loan: Wind
Hazard Mitigation
(*Veteran Program*)







David Garrett

**Loan Impacts: Health,
Quality of Life**

**Amount of Loan:
\$3,672.83**

**Type of Loan: Energy
Efficiency (*Veteran
Program*)**



Credit Score

Excellent

Good

Fair

Uncertain

Poor



Lesha Westberry

Loan Impacts: Quality of life, Asset Building, Savings, Reduced Carbon Footprint, Quality of Life

Amount of Loan: \$10,000.

Type of Loan: Energy Efficiency

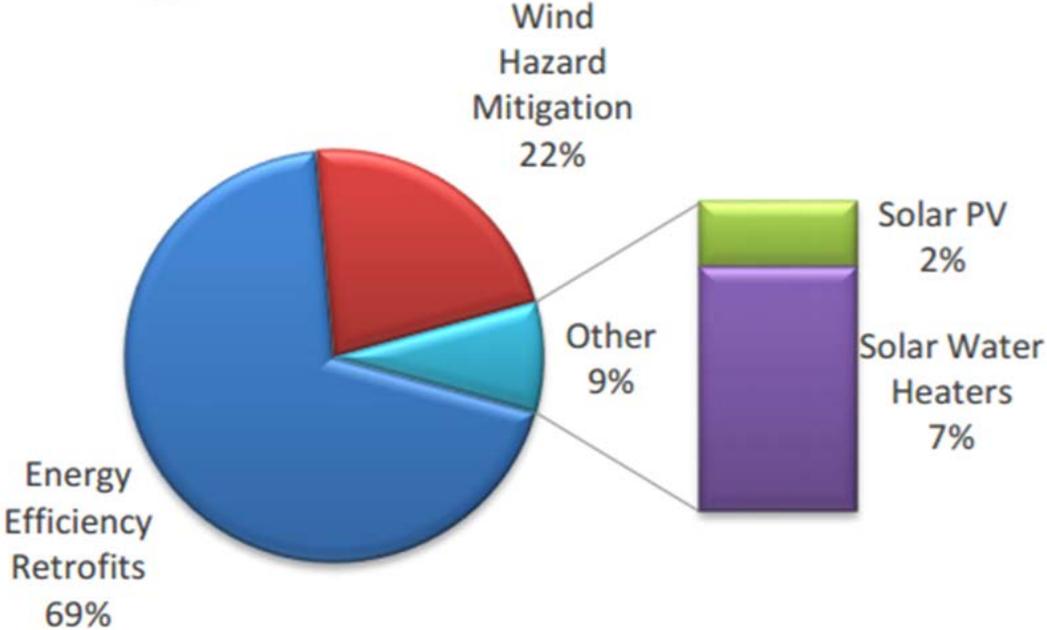


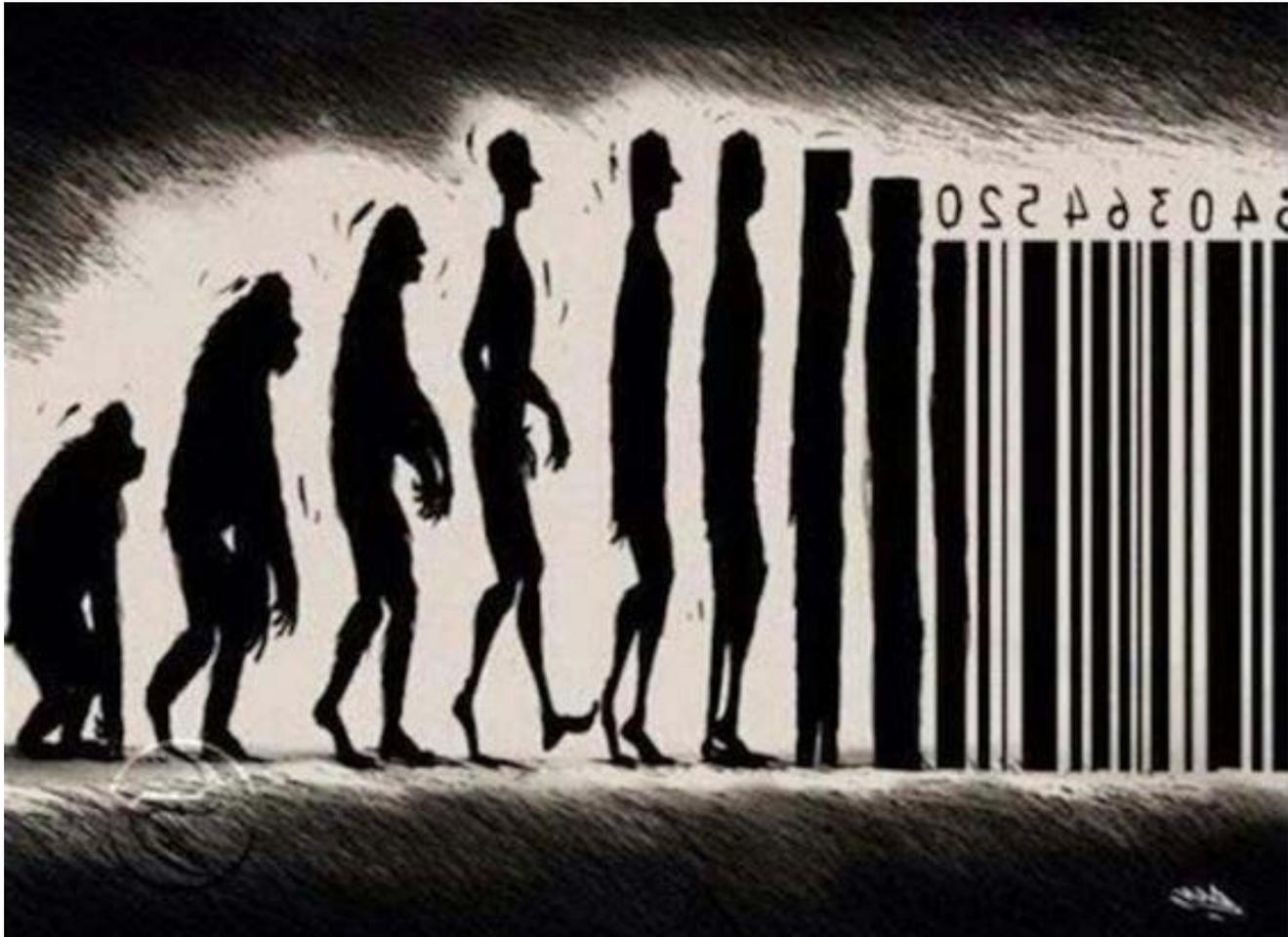


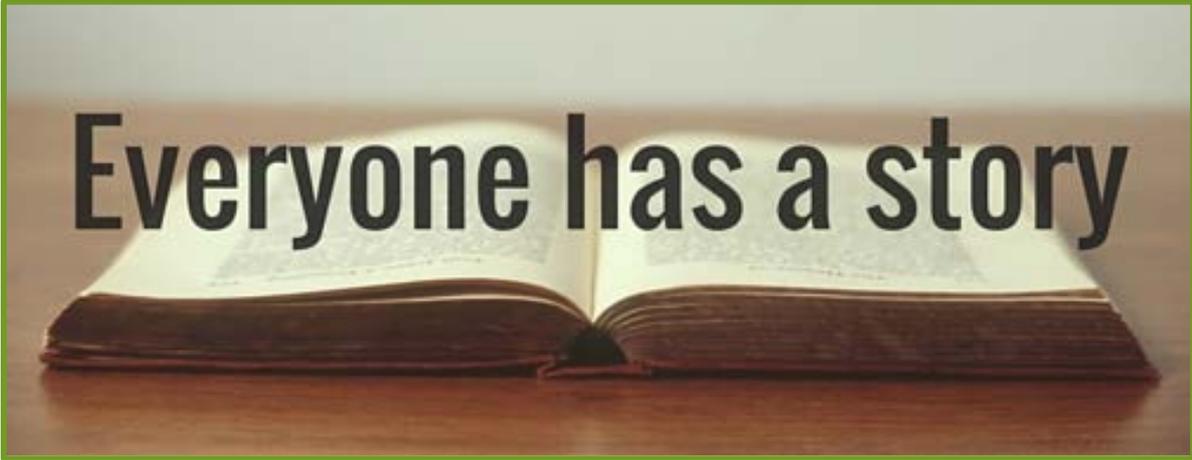




Loan Type Distribution







Everyone has a story

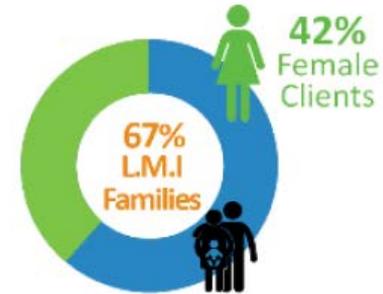


Pamela Turner

Loan Impacts: Safety,
Health, Quality of life,
Credit Rebuilding

Amount of Loan:
\$7,231.21

Type of loan: Wind
Hazard Mitigation
(Roof Repair)



We asked our clients "Why did you select SELF for your home improvement project?"

213 clients responded with the top 4 reasons:

53% came to SELF because "It was Highly Recommended"

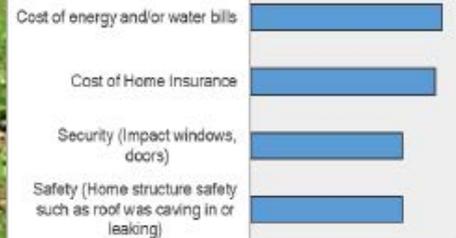
36.3% were "unable to obtain other sources of financing"

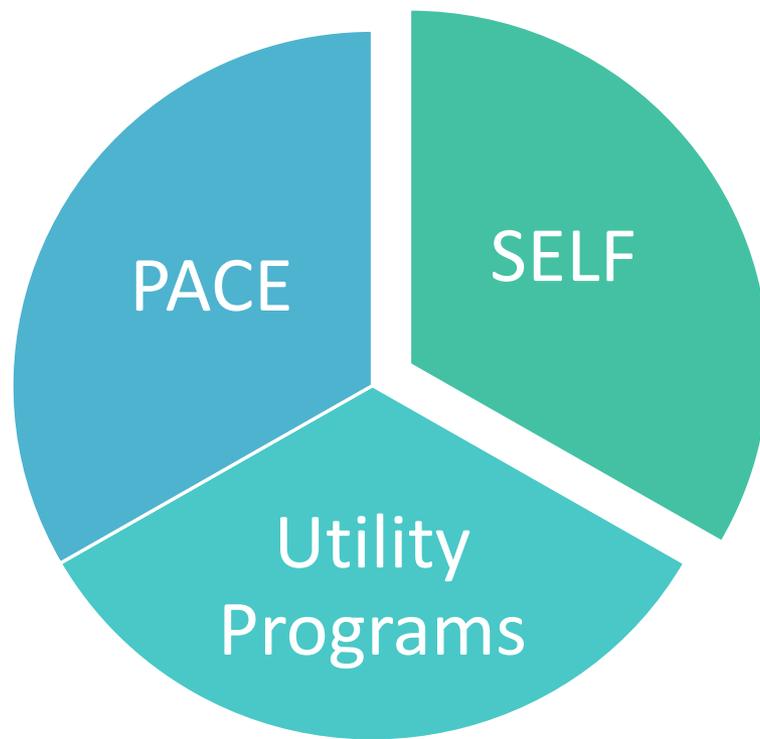
35.8% because of "lower rates than other available offers"

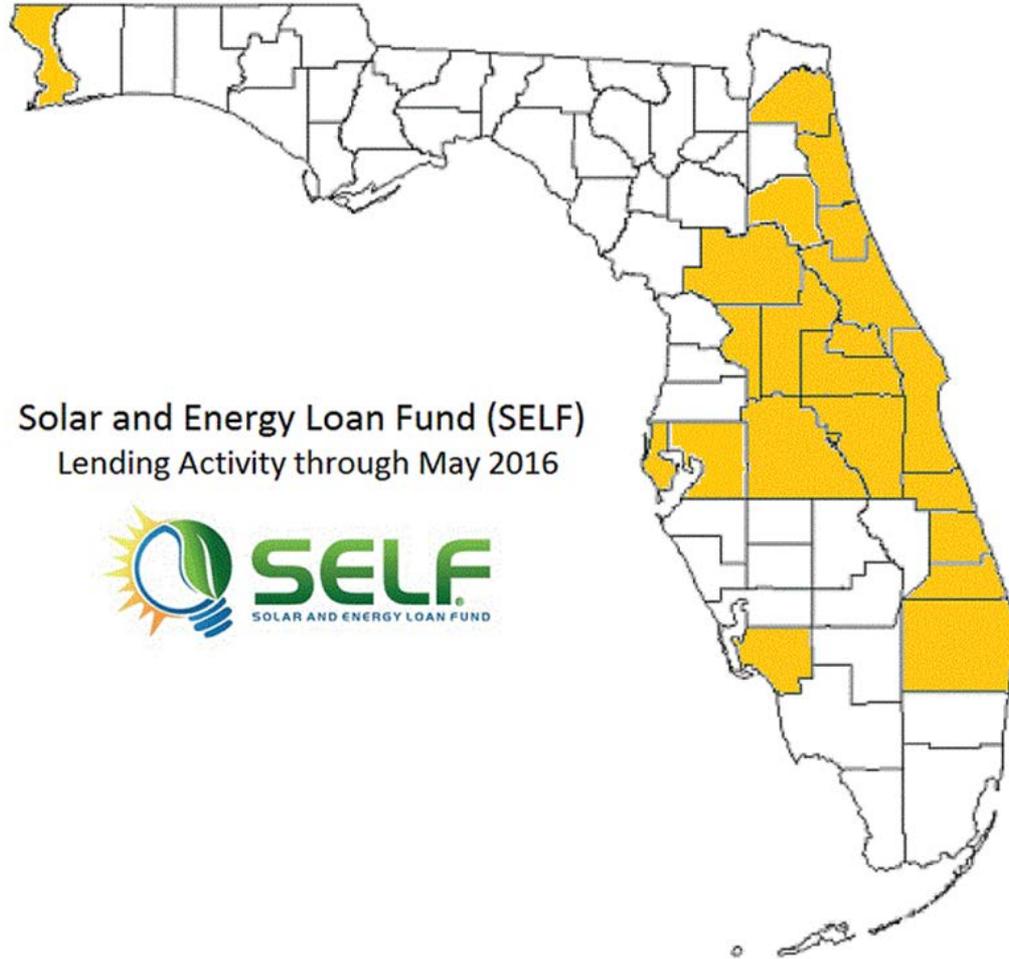
24.9% because SELF is a non-profit



Which Aspects of your life do you feel would improve if given access to SELF financing? * Top 4 answers excluding *







Keith Kueny

Community Action Partnership of Oregon

Community Solar & Affordable Housing



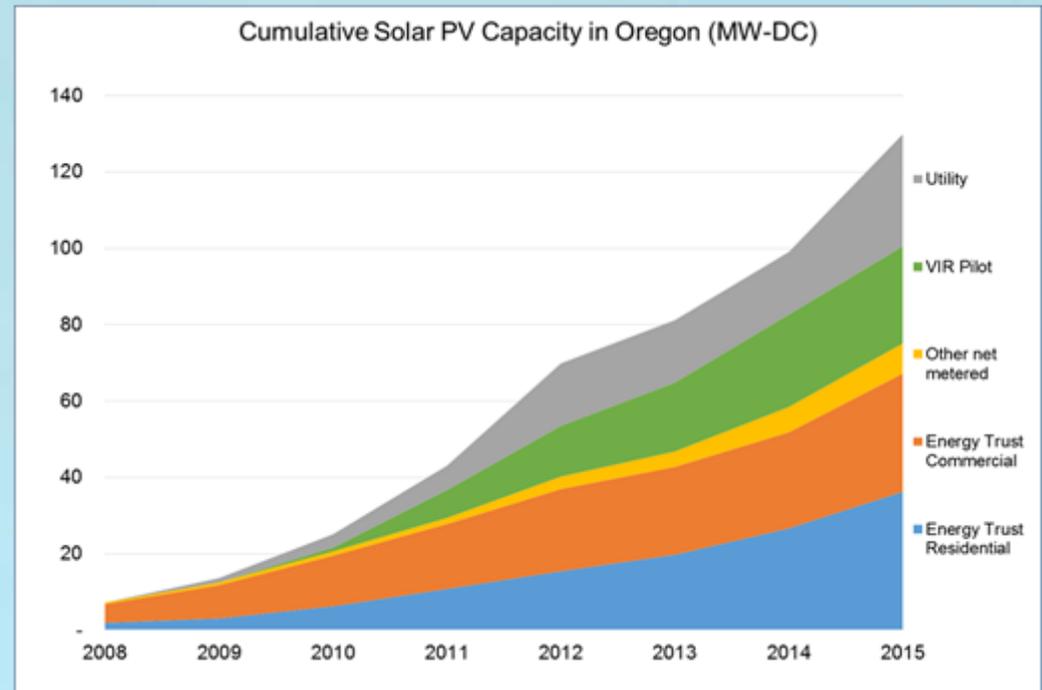
CAPO: Oregon's Poverty Fighting Network

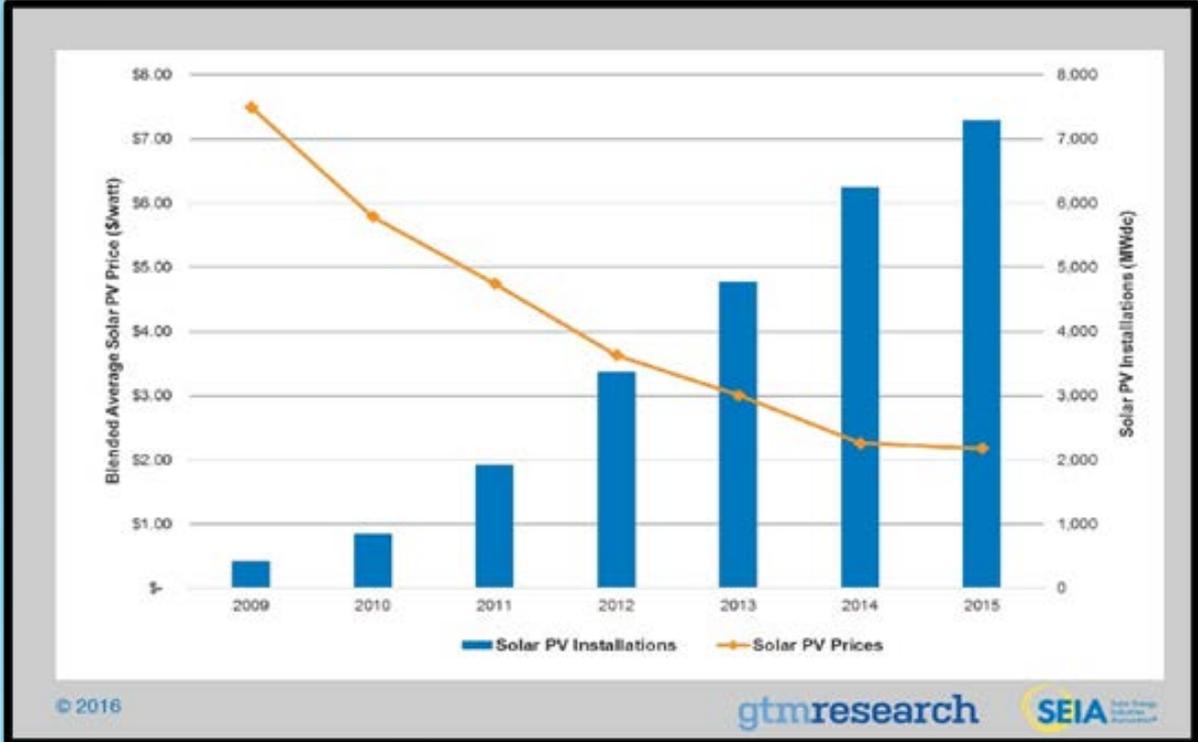
What is CAPO?

- Community Action Partnership of Oregon (CAPO) is the State Association for Oregon's Community Action network of 17 Community Action Agencies and Oregon Human Development Corporation, a statewide agency serving farmworkers. CAPO handles broad policy matters for the state association
- Provides advocacy services at the Oregon Public Utilities Commission, the Oregon Legislature, and additionally statewide forums.
- Is the legislatively mandated policy advisor to Oregon Housing and Community Services
- Delivers certain statewide grants through the CAA's: SSVF, Gas utility programs, and employee trainings

Solar in Oregon

- Solar energy has now become an established part of Oregon's energy supply mix. As of 2015, more than 10,000 solar PV systems have been installed with a combined capacity of 120 megawatts (MW).





- This growth is due to declining installation costs and incentive programs. From 2009 to 2015, the average cost of all types of solar PV installations fell from about \$7.50 per watt to about \$2.50 per watt.

Is Rooftop solar best for low-income ratepayers?

- Pace is not appropriate for low-income clients; If the homeowner fails to make the payments, homeowners risks losing home to foreclosure
- It should resemble, closely, a grant or subsidy program
- Avoid projects that rely on uncertain state commission policies, if possible (a change in policy, like net metering, could increase costs for residential ratepayer, causing harm)
- Potentially, rooftop solar could pose financial issues with repair and service

Why Community Solar?

- Allows all residential ratepayers access
- Customer/Client does not have to own the home
- Avoid issues with a transient population
 - Low-income populations move at a higher frequency than moderate or high-income earners
 - Bartlett, Sheridan. 1997. “The significance of relocation for chronically poor families in the USA.” Environment and Urbanization, Vol. 9, No. 1, 121-132
- Better value per dollar
 - In Oregon, Community solar can be sited East of the Cascades – highest solar penetration – and credits can be applied in Portland or Salem

Why Affordable Housing?

- Lowers acquisition costs – customers/clients are certainly low-income – no need for income verification
- Large rooftops in urban areas
- Potential for additional housing tax credits to lower project costs
- Benefits going to very low-income residents – Below 150% of FPL in most cases – to stabilize the home

Oregon-specific Issues

- Cheap Power Rates – In some cases as low as .05kw/hr
 - Bonneville Power Administration delivers cheap hydroelectric power to the region
- Unregulated Public Utilities that don't need, or want, to take on solar
- Low solar penetration east of the Cascades
- Uncertainty around final rules from Community Solar and Value of Solar dockets

Elkhorn Valley Apartments – Baker City, Oregon



Project Overview

USDA MULTIFAMILY SOLAR PROJECT SUMMARY			
Project: Elkhorn, Baker City		36	Units
State:		Oregon	
Annual Usage per Unit		5,500	
Total Kw Usage Project		198,000	
Project Size		85,000	Kw
Estimated Annual Rate Increase		3%	
Starting Energy Rate		0.071	
Project Price Per Watt		\$2.25	
Estimated Annual Production	1.40	119,000	kwh
UA - Reduction		(8,392)	
Net Solar Revenue		8,392	- Virtual Net
Estimated Project Cost		\$191,250	
Project Oversight		\$19,125	
Total Estimated Project Costs		\$ 210,375	

Project Savings

Solar Generation - Project Savings						
Energy Savings Breakdown:	KWH Rate	KWH Generated	SAVINGS Solar Generation	Projected UA Reduction	COST Jr. Lein Pmt	Savings
Year 1	0.071	119,000	8,391.88		(8,965.23)	(8,965.23)
Year 2	0.073	118,405	8,643.64	8,208.00	(8,965.23)	(757.23)
Year 3	0.075	117,813	8,902.95	8,500.00	(8,965.23)	(465.23)
Year 4	0.077	117,224	9,170.03	8,800.00	(8,965.23)	(165.23)
Year 5	0.079	116,638	9,445.13	9,100.00	(8,965.23)	134.77
Year 6	0.082	116,055	9,728.49	9,400.00	(8,965.23)	434.77
Year 7	0.084	115,474	10,020.34	9,700.00	(8,965.23)	734.77
Year 8	0.087	114,897	10,320.95	10,000.00	(8,965.23)	1,034.77
Year 9	0.089	114,322	10,630.58	10,300.00	(8,965.23)	1,334.77
Year 10	0.092	113,751	10,949.50	10,600.00	(8,965.23)	1,634.77
Year 11	0.095	113,182	11,277.98	10,900.00	(8,965.23)	1,934.77
Year 12	0.098	112,616	11,616.32	11,200.00	(8,965.23)	2,234.77
Year 13	0.101	112,053	11,964.81	11,500.00	(8,965.23)	2,534.77
Year 14	0.104	111,493	12,323.76	11,800.00	(8,965.23)	2,834.77
Year 15	0.107	110,935	12,693.47	12,200.00	(8,965.23)	3,234.77
Year 16	0.110	110,381	13,074.28	12,600.00		12,600.00
Year 17	0.113	109,829	13,466.50	13,000.00		13,000.00
Year 18	0.117	109,280	13,870.50	13,400.00		13,400.00
Year 19	0.120	108,733	14,286.61	13,800.00		13,800.00
Year 20	0.124	108,190	14,715.21	14,200.00		14,200.00

Biggest Hurdles

- Finding a private developer with tax credit appetite
- Working around the utility allowance adjustment
- Securing gap funding
 - LIHEAP or Energy Conservation Helping Oregonians (ECHO)
- Locating an affordable housing project in a utility territory open to solar development
- Overcoming cheap utility rates

Hurdle: Utility Allowance Adjustment

- Under statute, residents of project-based Section 8 properties must not pay more than 30% of their adjusted income for housing. The regulations include utility costs as a component of housing cost.
- Therefore, when residents pay their own utilities, the owner must establish, with state or federal approval, a utility allowance amount that is deducted from the residents' rent payment to the owner. If the utility bill decreases, rent is increased, keeping the amount the resident pays for both at 30%
- A waiver would allow for the utility bill credit to be applied to the housing unit without a future adjustment or the waiver could allow for a portion of the credit be applied to the property's primary loan

Utility Allowance Overview

Tenant Rent and Subsidy without Solar					
Tenant	Basic Rent	30% of Income	UA	Tenant Rent	Rental Assistance
Studio	545.00	163.50	52.00	111.50	4,768.50
1-Bedroom	610.00	183.00	53.00	130.00	11,040.00
2-Bedroom	680.00	204.00	60.00	144.00	1,072.00
Total Rental Assistance				385.50	16,880.50

Utility Allowance – with solar

Tenant Rent and Subsidy with Solar					
Tenant	Basic Rent	30% of Income	UA	Tenant Rent	Rental Assistance
Studio	545.00	163.50	33.00	130.50	4,559.50
1-Bedroom	610.00	183.00	34.00	149.00	10,603.00
2-Bedroom	680.00	204.00	41.00	163.00	1,034.00
Total Rental Assistance				442.50	16,196.50
Net Rental Assistance Cost - Studio	11		(19.00)	(209.00)	(2,508.00)
Net Rental Assistance Cost - 1 Bedroom	23		(19.00)	(437.00)	(5,244.00)
Net Rental Assistance Cost - 2 Bedroom	2		(19.00)	(38.00)	(456.00)
*Projected UA Savings Year 1 - Rounded to \$1					(8,208.00)

Hurdle: Utility Collaboration

- **Consumer Owned Utility**

- 36 COUs in Oregon
- Have first right to purchase BPA power
- Ability to negotiate policies like virtual net meter
- Avoids lengthy process because not under the authority of OPUC
- Utility Benefits
 - Reducing low-income utility bills increases likelihood of payment, decreasing utility debt
 - Diversifies generation portfolio as projected environmental changes will decrease the Pacific Northwest snowpack and BPA's ability to deliver cheap power

Hurdle: Utility Collaboration

- **Investor Owned Utilities: Pacific Power and Portland General Electric**

- New Renewable Portfolio Standard

- 50% renewable by 2050

- Low-income projects that allow the utility to use RECs for compliance

- Existing low-income funding streams, like energy assistance and weatherization funding programs, that could be used for expanding solar access

On the horizon

- New Community Solar rules for investor owned utilities
- Community Solar will use a value of solar tariff
- Has a distinct low-income element – 10% of the benefit must be “made available” to low-income ratepayers
- Specific Low-income third-party administrator
- Can connect to grid in any part of utility territory

Low Income Administrator (For Investor-owned Utilities)

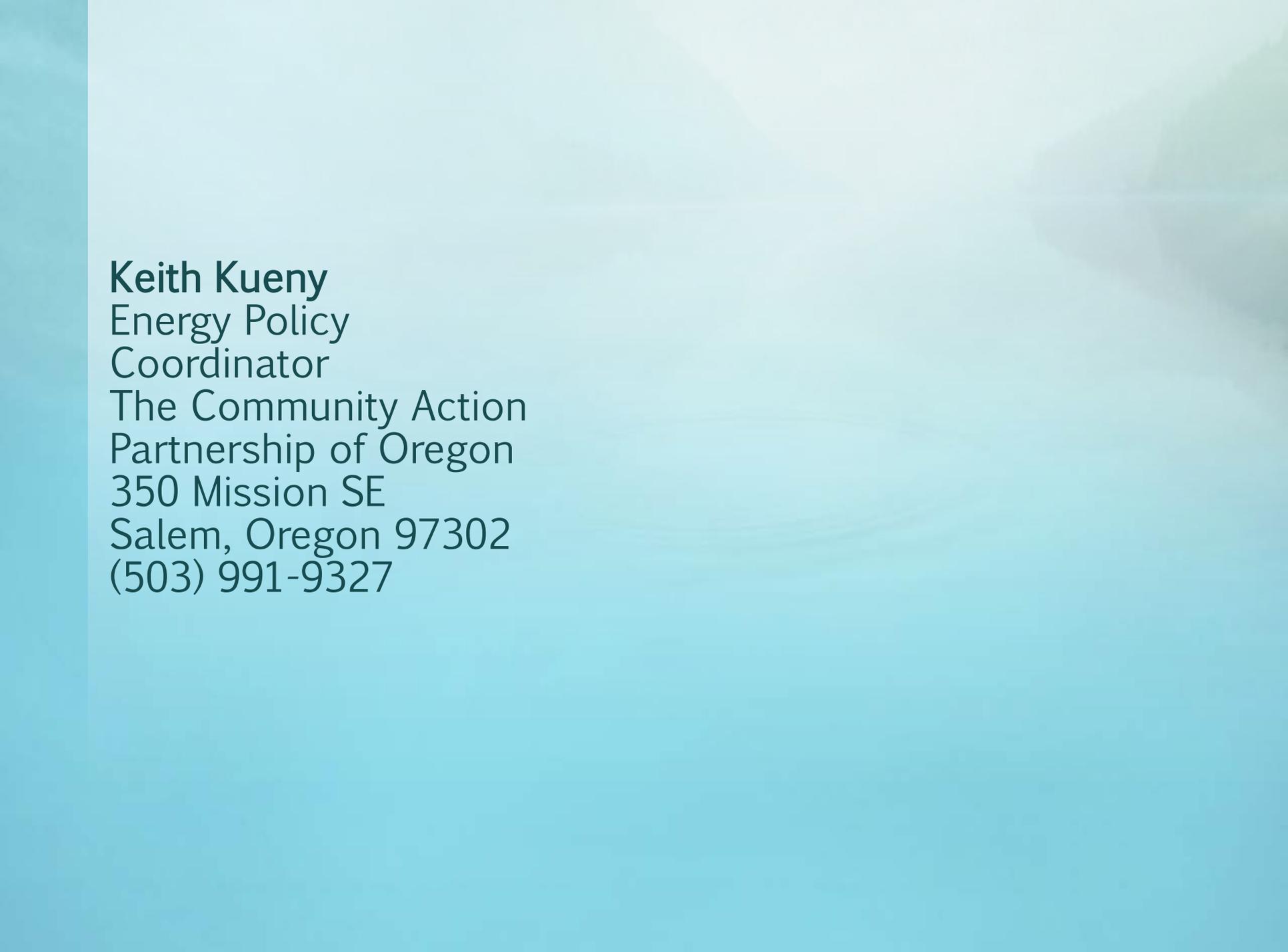
A) Every project must make 10 percent of its total nameplate capacity available to qualifying residential low-income customers.

Project managers must submit comprehensive plans in project certification applications that:

- 1) Describe a project manager's plan to satisfy the 10 percent requirement; and
- 2) Work with the Low-Income Community manager on outreach and education efforts.
- 3) Project managers may propose alternative schemes in which 10 percent is allocated.

B) These will be reviewed on a case-by-case basis by the Commission. Project benefits and risks must ultimately be linked with discrete low-income residential accounts.

C) Every two years, the advisory group, Low-Income Community Manager, third-party administrator and Staff must participate in a public workshop to produce recommendations regarding the percentage of low-income allocation.



Keith Kueny
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Coordinator
The Community Action
Partnership of Oregon
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(503) 991-9327

Bryan Early

California Energy Commission



States, Localities, Utilities, and Nonprofits Creating
Solutions for Underserved Communities

CA LOW-INCOME BARRIERS STUDY

May 16, 2017

Bryan Early

Advisor to Commissioner Andrew McAllister
California Energy Commission



LEGISLATIVE BACKGROUND

- California SB 350 by Senate Pro Tem De Leon in 2015

Los Angeles Times

Gov. Brown signs climate change bill to spur renewable energy, efficiency standards



Gov. Jerry Brown, shown at the Griffith Observatory last year, signed new climate legislation in a Los Angeles park on Thursday. (Luis Sinco / Los Angeles Times)

By **Chris Megerian and Javier Panzar** · Contact Reporters



SB 350 DIRECTIONS TO CEC

CA Public Resources Code §25327.

(a) The Legislature finds and declares all of the following:

- (1) There is insufficient information available to fully realize the potential of solar photovoltaic energy generation to serve low-income customers, including those in disadvantaged communities.
- (2) There is insufficient understanding of the barriers to access for low-income customers to all forms of renewable energy being generated in the state.
- (3) There is insufficient understanding of the barriers to access for low-income customers to energy efficiency investments.
- (4) There is insufficient understanding of the barriers to access for low-income customers to zero-emission and near-zero-emission transportation options.

(b) On or before January 1, 2017, the commission, with input from relevant state agencies and the public, shall conduct and complete a study on both of the following:

- (1) Barriers to, and opportunities for, solar photovoltaic energy generation as well as barriers to, and opportunities for, access to other renewable energy by low-income customers.
- (2) Barriers to contracting opportunities for local small businesses in disadvantaged communities.

(c) On or before January 1, 2017, the commission, with input from relevant state agencies and the public, shall develop and publish a study on barriers for low-income customers to energy efficiency and weatherization investments, including those in disadvantaged communities, as well as recommendations on how to increase access to energy efficiency and weatherization investments to low-income customers.



WHY CEC?

The California Energy Commission Core Responsibilities

Edmund G. Brown Jr.
Governor

Robert B. Weisenmiller
Chair

Robert Oglesby
Executive Director

Commissioners
Karen Douglas
David Hochschild
Andrew McAllister
Janea A. Scott



**CALIFORNIA
ENERGY COMMISSION**

energy.ca.gov | facebook.com/CAEnergy | twitter.com/calenergy



PROCESS

Literature review



Internal draft



Internal review

Community outreach

Workshops

Public Draft



Internal and external review

Workshops

Final report with recommendations



COMMUNITY OUTREACH

La Comisión de Energía desarrolló el estudio sobre barreras mediante la realización de una exhaustiva revisión de la literatura, reuniones con comunidades

de bajos ingresos y comunidades menos favorecidas a el acceso de las energías renovables y eficiencia energética en general pueden clasificarse como estructurales o políticas/relacionados con el programa.

SB 350 Estudio de Barreras



100+

Estudios revisados para entender los obstáculos a las comunidades de bajos ingresos.

7

El número de reuniones de la comunidad celebradas con 3 diferentes idiomas hablados.

7

El número de idiomas a los que documentos clave han sido o

Las barreras estructurales, que a menudo son inherentes a las condiciones de pobreza como los grandes mercados de alquiler resultando en dividir los incentivos y estructurales o cuestiones de diseño a menudo asociados con casas antiguas. Estos tipos de barreras pueden ser mitigados, pero son a menudo difíciles de erradicar. Barreras políticas y programas incluyen: mercado de entrega en la que los programas pueden excluir de manera desproporcionada a los clientes de bajos ingresos, la necesidad de una mejor coordinación entre los programas, y la necesidad de una mejor utilización de la información para mejorar el diseño de los programas. Estas barreras pueden abordarse a través de cambios en el diseño del programa o la legislación.

Ahora que el estudio de las primeras barreras está completo, la Comisión de Energía trabajará con otras agencias estatales, grupos de la comunidad, partes interesadas, y la legislatura para acelerar el acceso a inversiones en energía limpia en comunidades de bajos ingresos.

Como próximos pasos, la comisión de energía tiene planes de:

- Celebrar talleres de ejecución a comienzos de 2017.
- Considerar los detalles específicos de implementación de las recomendaciones.
- Desarrollar los plazos para llevar a cabo las



TECHNICAL WORKSHOP

Explore barriers to low-income participation, and opportunities for improvement in delivery of services to low-income communities, in state, utility and local energy efficiency and renewable programs. Panelists will be given the opportunity to make a short statement, then the moderator will lead a discussion.

Moderator: Jeanne Clinton, California Public Utilities Commission
Chuck Belk, California Community Services Development
Robert Castaneda, Low Income Oversight Board
Hazlyn Fortune, California Public Utilities Commission
David Jacot, Los Angeles Department of Water and Power
Sara Kamins, California Public Utilities Commission
Elizabeth Kelly, Marin Clean Energy
Maria Stamas, Natural Resources Defense Council

Public Comment

Lunch Break

Panel: Providing Clean Energy in Low-income Housing

Explore the unique challenges, financing and otherwise, to serving low-income multifamily housing and explore possibilities for better serving low-income housing with clean energy services. Panelists will be given the opportunity to make a short statement, then the moderator will lead a discussion.

Moderator: Allison Joe, Strategic Growth Council
Lisa Baker, Yolo Housing
Nick Dirr, Association for Energy Affordability
Sophia Hartkopf, TRC
Heather Larson, StopWaste
Shana Lazerow, Communities for a Better Environment
Phoebe Seaton, Leadership Counsel for Justice and Accountability
Wayne Waite, California Housing Partnership Corporation



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



PROGRAMMATIC BARRIERS

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



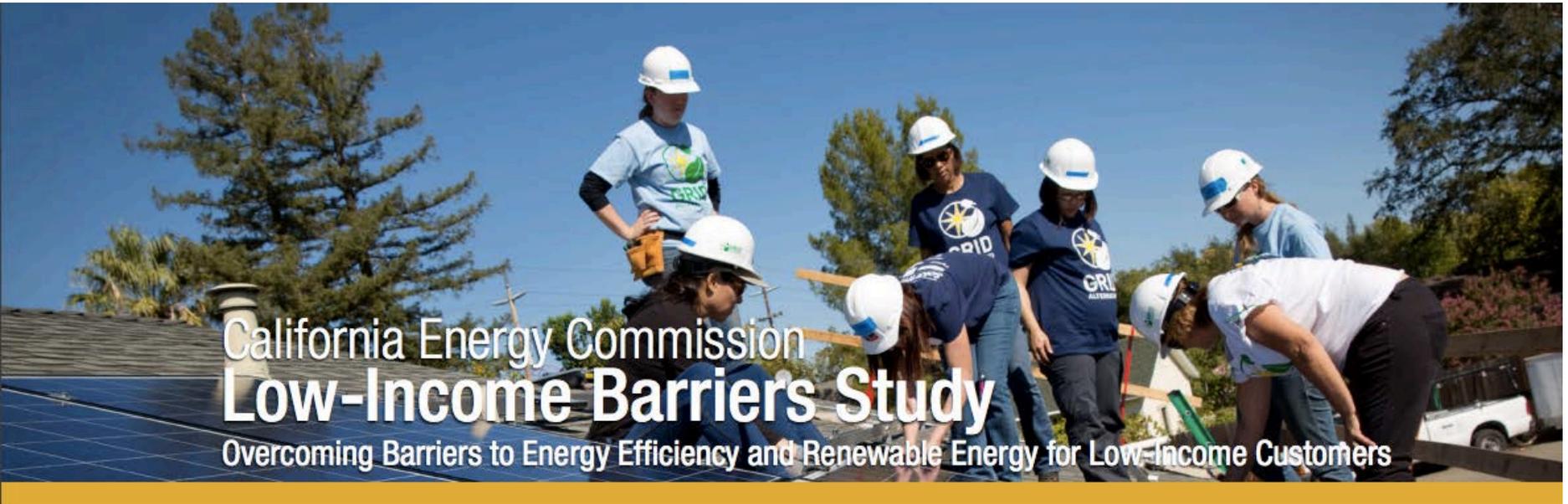
LOCAL SMALL BIZS IN DACS

- Lack of access to information
- Technical assistance and workforce development needs
- Lack of access to financial resources
- Lack of access to support, opportunity



RECOMMENDATIONS

- Don't be afraid to be bold



California is Transforming Clean Energy Investments for Low-Income Customers and Local Small Businesses in Disadvantaged Communities.

To meet climate change goals, clean air standards, and energy security goals, California is transforming the way its energy is

2. The state should act to enable the economic advantages of community solar to be readily accessible to low-income and disadvantaged populations across California.
3. The Energy Commission, California Public Utilities



RECO #1: TASK FORCE





CALIFORNIA ENERGY COMMISSION

RECO #2: COMMUNITY SOLAR





CALIFORNIA ENERGY COMMISSION

RECO #3: WORKFORCE





RECO #4: PILOTS





RECO #5: DATA





OTHER RECOMMENDATIONS

- Expand opportunities for renewable energy
- Enhance affordable housing tax credits/credit enhancements supporting clean energy upgrades
- Establish a pilot program for multiple regional one-stop shops
- Heightened consumer protection
- Collaboration with qualified CBOs
- Research, development, demonstration, and market facilitation programs include targeted benefits
- In-depth study to increase contracting opportunities



CALIFORNIA ENERGY COMMISSION

HOW IT WAS RECEIVED





IMPLEMENTATION

ESTADO DE CALIFORNIA - AGENCIA DE RECURSOS NATURALES

EDMUND G. BROWN JR., Gobernador.

La Comisión de Energía de California

1516 Ninth Street
Sacramento, California 95814

Página Principal: www.energy.ca.gov



En la cuestión de,)	Numero de Expediente. 17-IEPR-08
)	
2017 Informe Sobre Política Energética Integrada)	ANUNCIO DE TALLER
(2017 IEPR))	
		RE: Estudio Sobre Aplicación de Barreras

**Anuncio de Taller Conjunto de la Agencia sobre la Ley
Senatorial 350
Implementación del Estudio de Barreras de Ingreso Bajo**

La Comisión de Energía de California y la Comisión de Servicios Públicos de California (CPUC) va a realizar conjuntamente un seminario para discutir sobre la implementación del *Estudio de las Barreras de Ingreso Bajo, Parte A: la Superación de las Barreras a la Eficiencia Energética y las Energías Renovables para los Clientes de Bajos Ingresos y Oportunidades de Contratación para Empresas Pequeñas en las Comunidades Desfavorecidas ("Estudio sobre Barreras")*. El Estudio de Barreras fue encargado por el Proyecto de Ley Senatorial 350 (de León, capítulo 547, estatutos de 2015), la Ley de Energía Limpia y Reducción de la Contaminación de 2015. El Estudio de las Barreras fue publicado en Diciembre de 2016 y está disponible en el sitio web de la Comisión de Energía: www.energy.ca.gov/sb350/barriers_report/.

Presidente Robert B. Weisenmiller es el Comisario principal para el IEPR de 2017, y estará acompañado por el Comisario Janea Scott, quien ha sido asignado como Comisario Principal de la Implementación del Estudio de las Barreras. Este taller será realizado conjuntamente con la CPUC, con el Comisario Cliff Rechtschaffen sirviendo como el Comisario Principal de CPUC. Un representante de la Junta de Recusos del Aire de California también puede estar presente. Otros Comisarios en la Comisión de Energía y la CPUC también pueden asistir y participar en el taller. Un quórum de Comisarios de la CPUC y/o la Comisión de Energía pueden estar presentes, pero no votos serán tomados.

Martes, 16 de Mayo de 2017
9:30 A.M.

Comisión de Energía de California
1516 Ninth Street
Primera planta, Sala de Audiencia Art Rosenfeld
Sacramento, California
(Accesible en Silla de Ruedas)



Bryan Early

Advisor to Commissioner Andrew McAllister
California Energy Commission

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(916) 508-7893

Daniel White

District of Columbia

ALL-IN: STATES, LOCALITIES, UTILITIES, AND NONPROFITS CREATING SOLUTIONS FOR UNDERSERVED COMMUNITIES:

AFFORDABLE SOLAR PROGRAM
2017 BETTER BUILDINGS SUMMIT







Discover Your Potential
Select a System
Get Solar!

Search in Washington, DC



Get Solar!

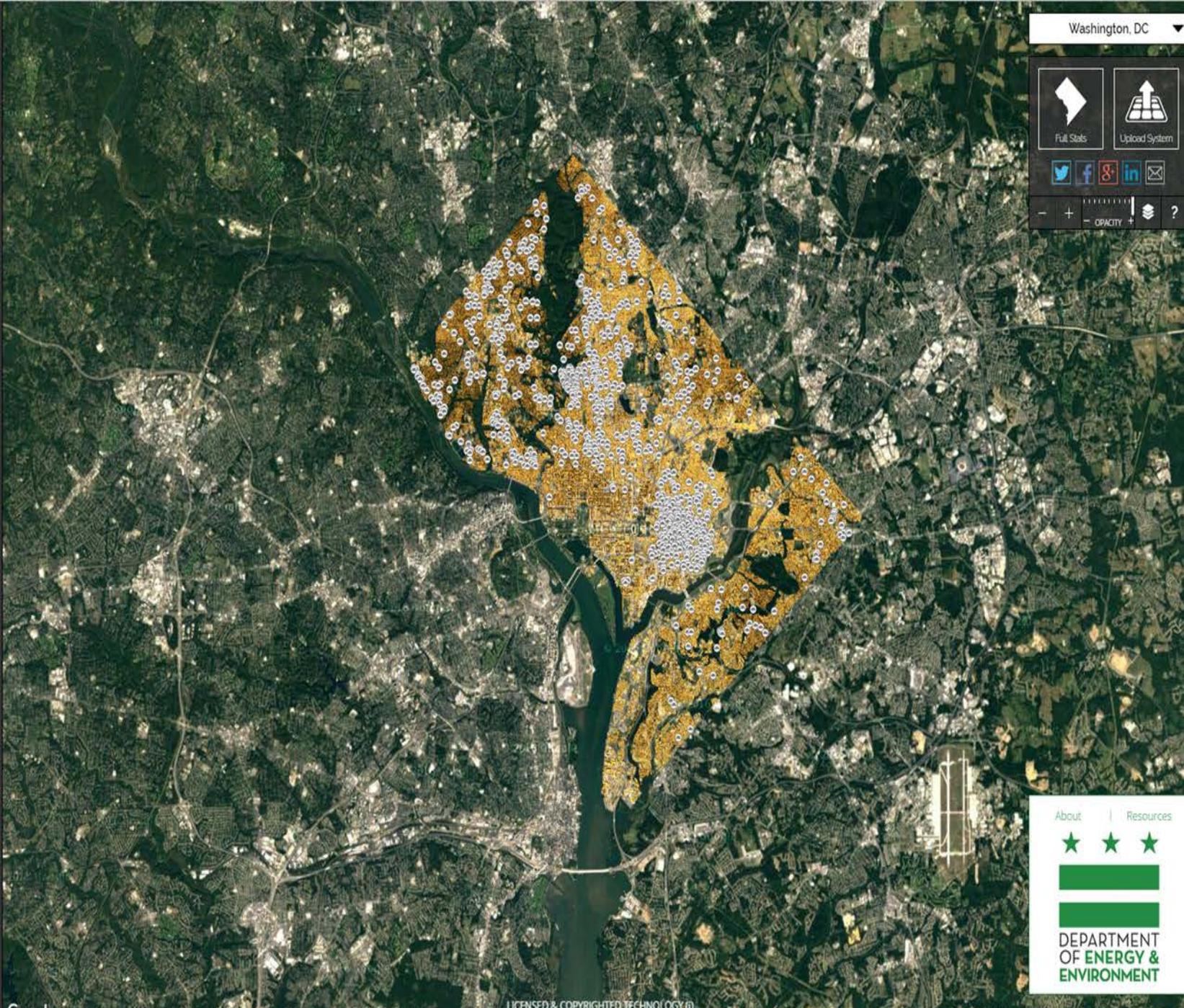
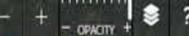
work with the sun®



Full Stats

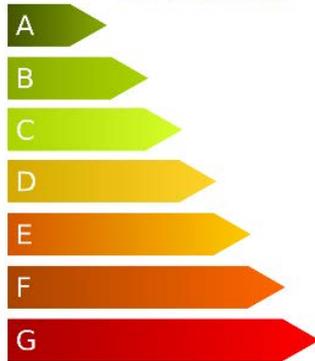


Upload System





Solar Rebates





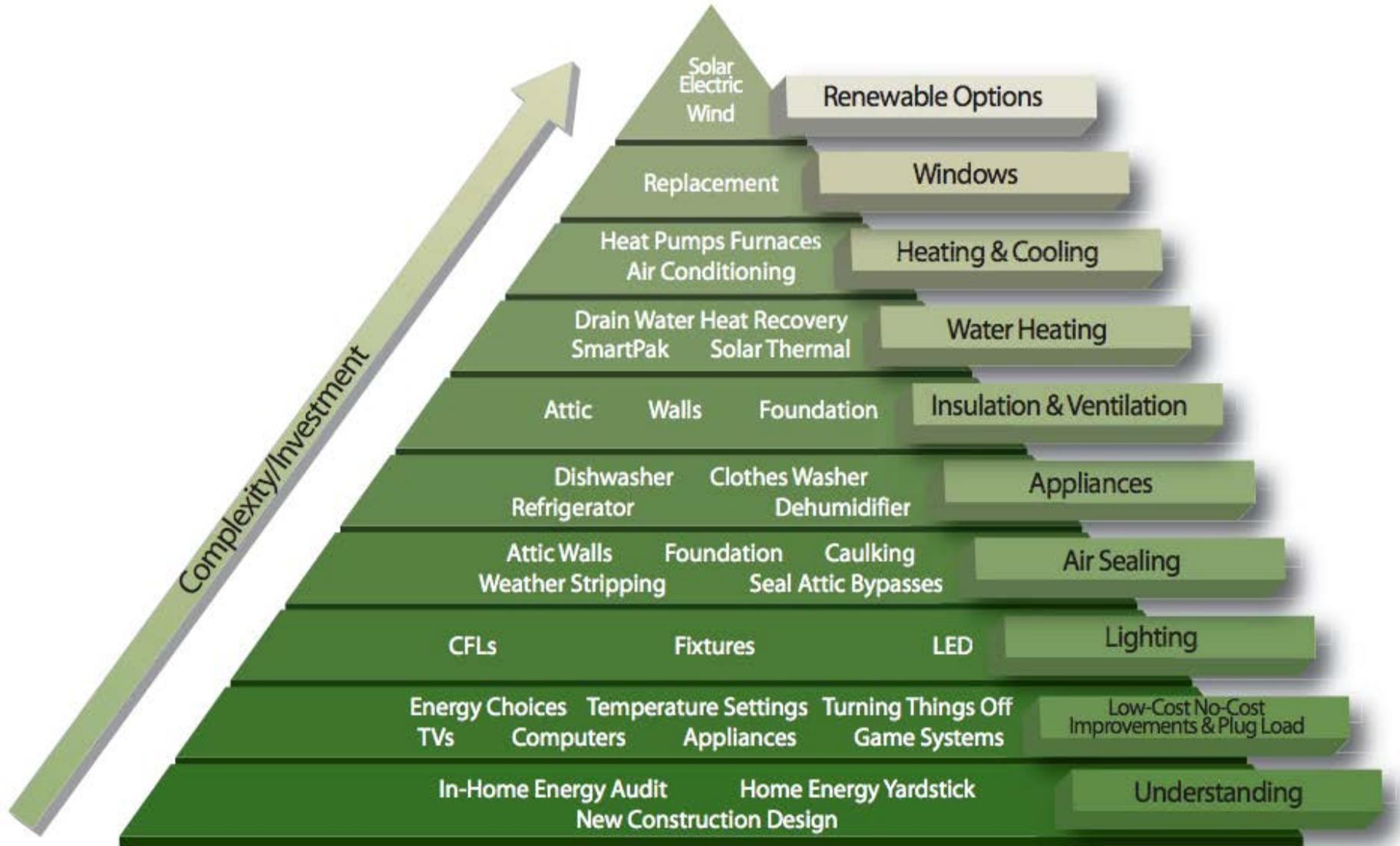




"The Preferred Choice"







SOLAR FOR ALL







Duane and Laura's house

Your house

The Brown's house

Roy and Beth's house

Bob's house

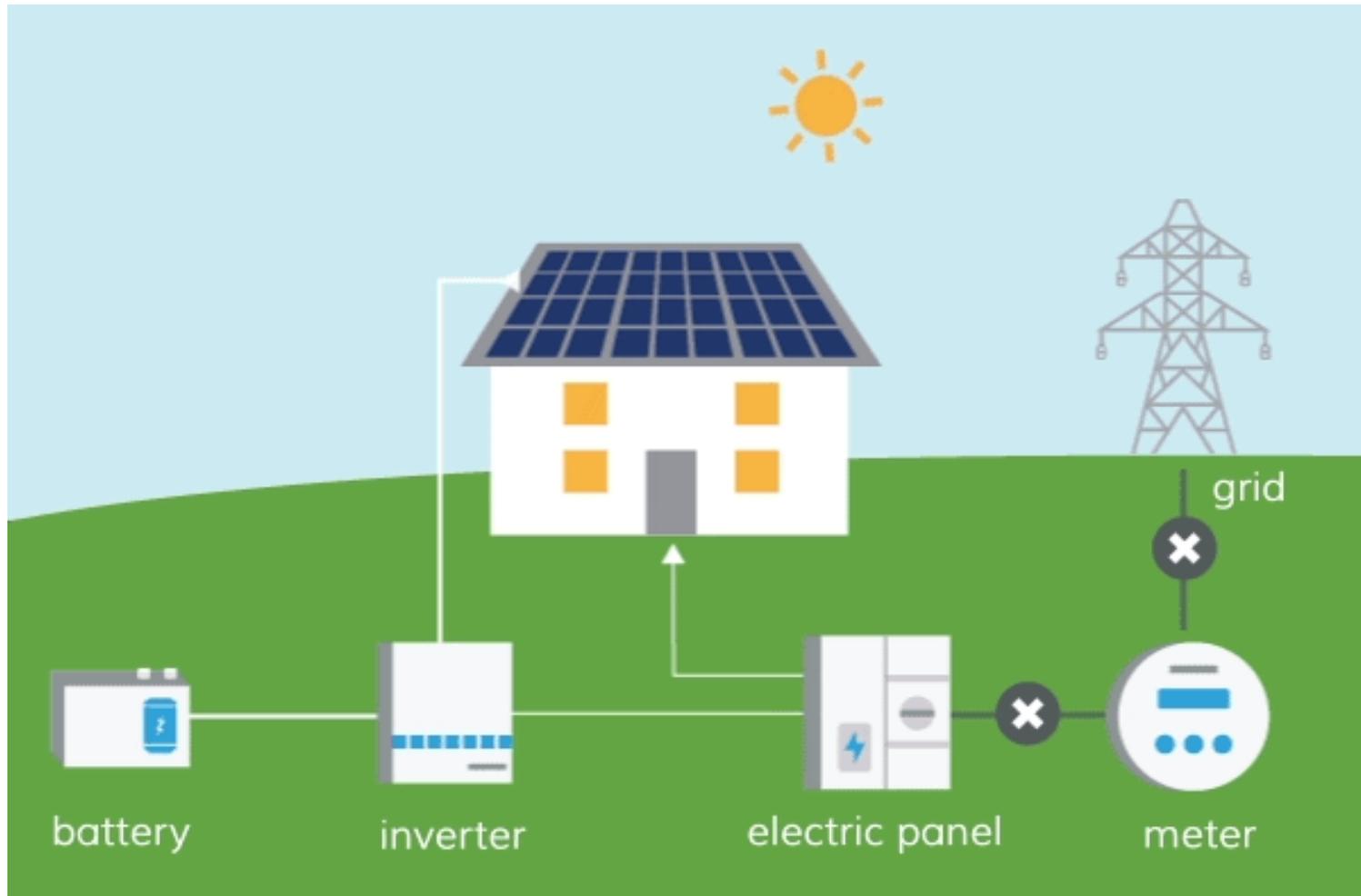
Mary's house

Sue & Pam's house



This legislation would make the District of Columbia the first city in the United States to establish a Green Bank.





CONTACT INFO

Daniel White

Energy Program Specialist

Energy Administration

Department of Energy & Environment

daniel.white2@dc.gov

Neil Matouka

**Organization: Local Government
Commission**

Energize Fresno

\$1.5 million California Energy Commission-funded **Advanced Energy Community** project under the **Electric Program Investment Charge**.

Energize Fresno is working to bring advanced energy technologies and clean energy to Fresno – a disadvantaged community disproportionately affected by poverty and pollution.

Objectives

1. Build a System
 - Project pipeline
 - Funding library
 - Resource verification and tracking toolkit
2. Apply the System in Fresno
 - Master Community Design and Community Recommendation Report
3. Share Tools with Communities Across California

Partners



Local Government Commission
Leaders for Livable Communities





Local Government Commission

Leaders for Livable Communities

www.lgc.org

The LGC Approach

Connecting Leaders.



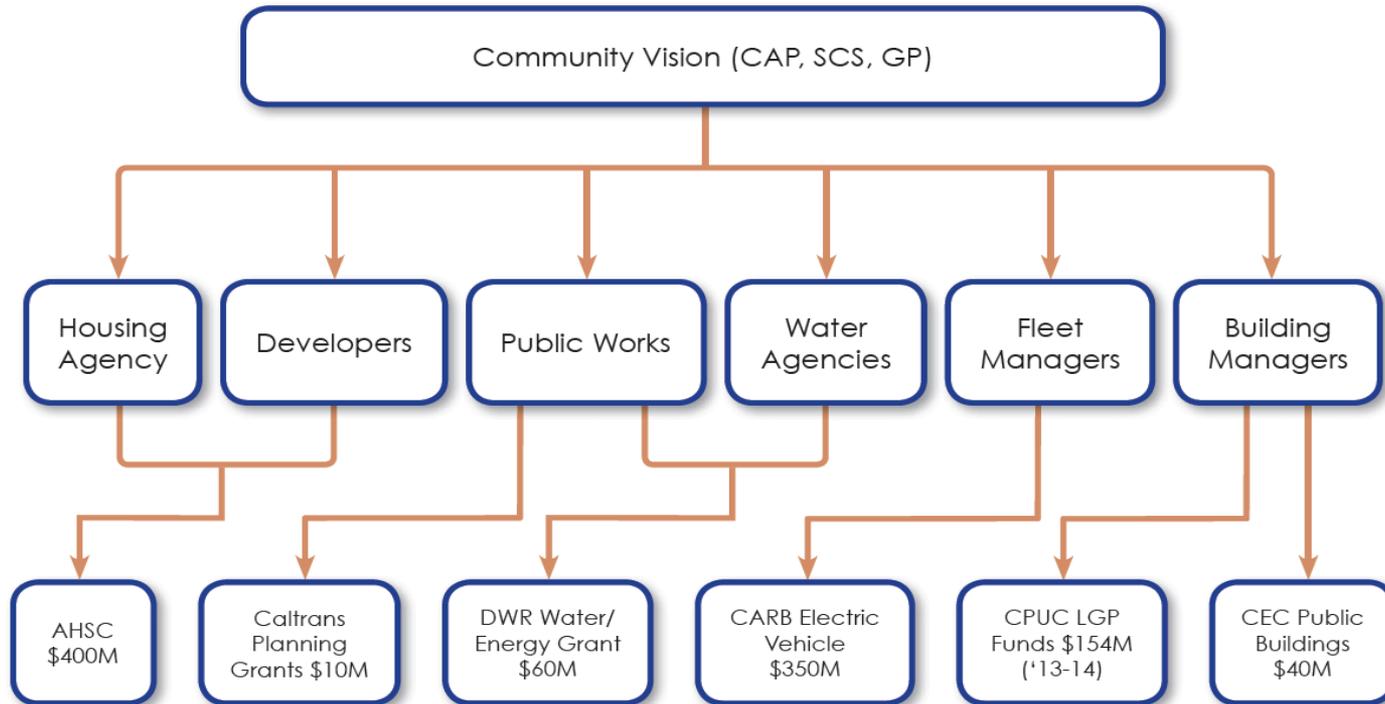
Advancing Policies.



Implementing Solutions

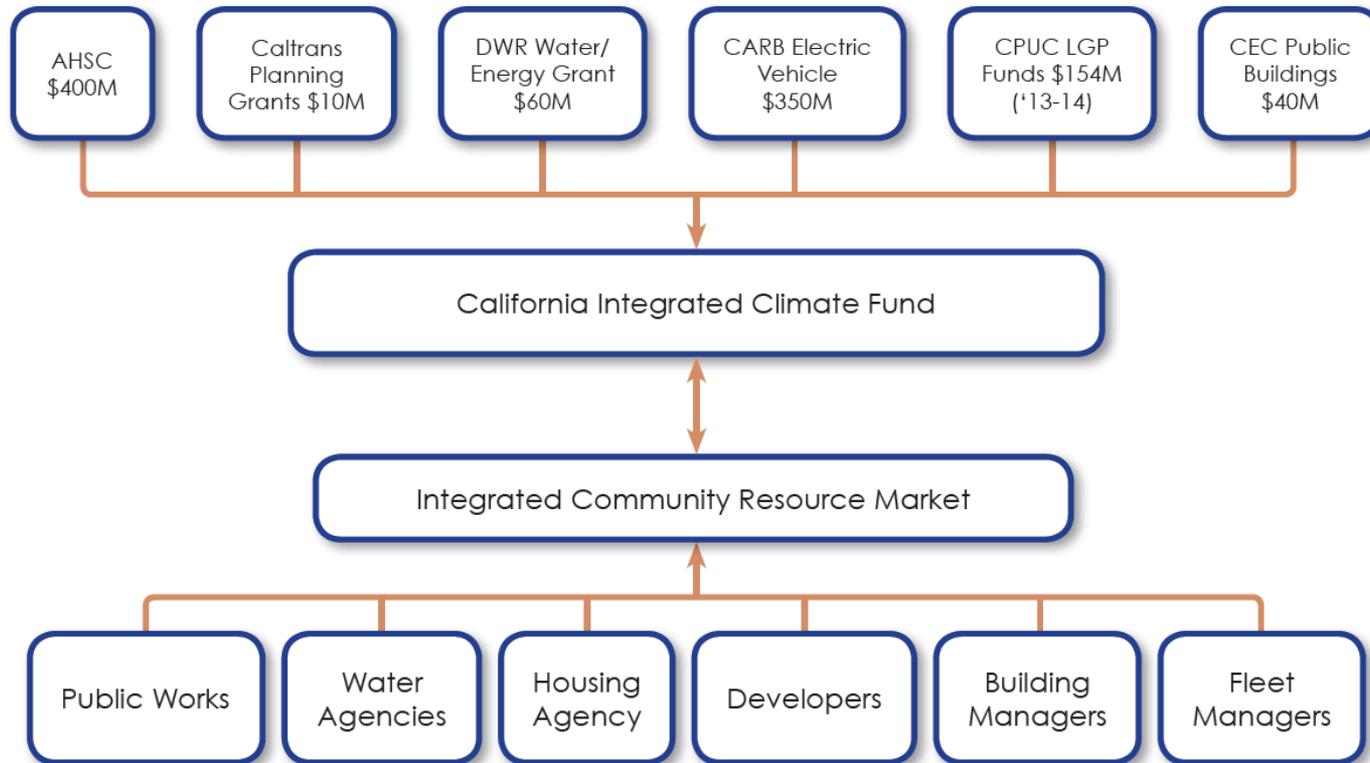


Current Funding Paradigm

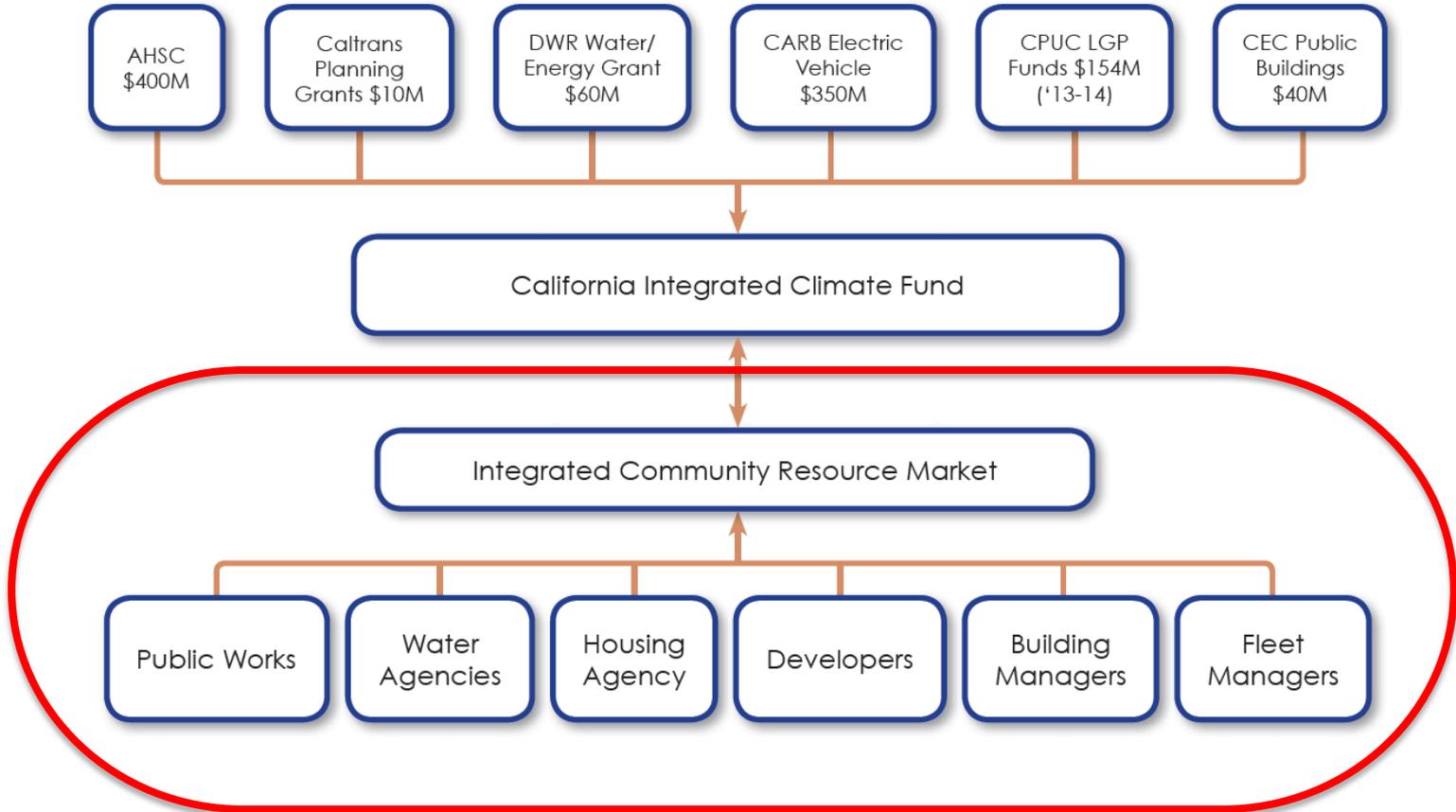


Comprehensive Community Visions are Siloed to Meet State Funding Parameters

Goal: Integrated Climate Funding Market



Goal: Integrated Climate Funding Market



Fresno Energy Opportunity Zone

Fresno is among the most disadvantaged areas in California, suffering from high unemployment and disproportionate pollution burden.

We are developing a comprehensive plan for an Advanced Energy Community focused on the Blackstone Corridor and downtown Fresno.



What is an Advanced Energy Community?



Minimize new infrastructure



Zero Net Energy Community status



Support grid reliability and resiliency



Easier integration and alignment with CPUC procurement



Replicable and scalable



Financially attractive



Affordable access to renewable energy and energy efficiency



Incorporate smart-grid technologies



Align with other state energy and environmental policies

Example: The Diamanti



Source: <http://www.thediamanti.com/>

- Potential AEC Measures:
 - Energy Efficiency
 - Renewable Energy
 - Battery Storage
- Benefits:
 - Higher rent
 - More comfortable
 - Lower energy bills

Example: Fresno City College



- Potential AEC Measures:
 - ZNE Transportation Design
 - Renewable Energy
 - Microgrid
 - Battery Storage
- Benefits:
 - Reduced traffic congestion
 - Ability to generate, store, and use own energy
 - Insulated from blackouts/brownouts
 - Lower energy bills

Example: Neighborhood



- Potential AEC Measures:
 - Renewable Energy
 - Energy Efficiency
 - Demand Response
- Benefits:
 - Lower energy bills
 - Less pollution
 - Higher home value
 - More comfortable houses
 - Improve grid reliability

Overview of Energize Fresno

INTEGRATED COMMUNITY RESOURCE MARKET ACTIVITIES



Pipeline



Funding



Caltrans

CARB

IOU



PACE

HUD



CPUC

Private



Bond

CARB

Verification



Caltrans



Integrated Community
Resource Market



CARB

Master Community Design

Master Community Design

Projects

Resource Savings

Community
Partnerships

Funding Options

Fresno City Council

CEC Phase II Funding

Energize Fresno

Project Manager: Neil Matouka
nmatouka@lgc.org

www.lgc.org/energize-fresno

Arah Schuur

Commonwealth of Massachusetts

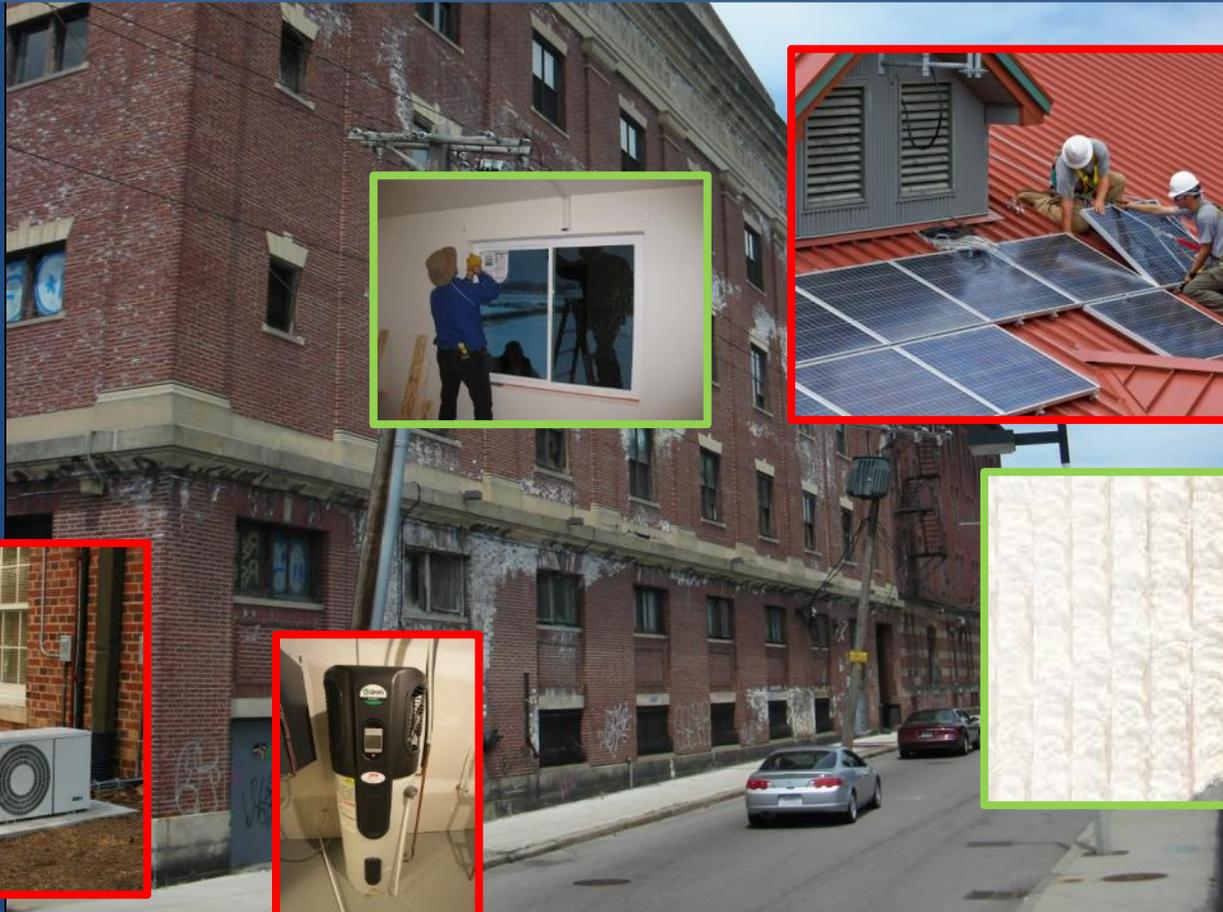


Massachusetts Department
of Energy Resources

Energy Efficiency and Renewable Energy: Whole Building Approach

Arah Schuur

MA Department of Energy Resources



Energy Efficiency

Protected funding

Robust delivery network

High achievement



*Low Income Energy Affordability
Network*

LEAN

Energy Efficiency

Protected funding

Robust delivery network

High achievement

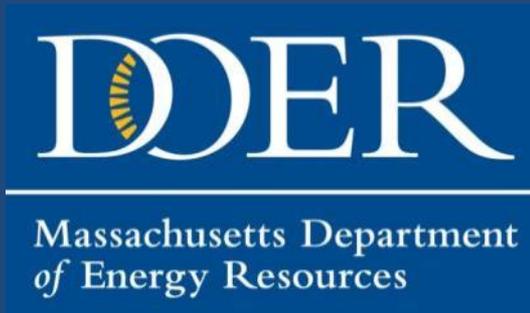


Renewable Energy

Significant funding

Multiple sources of grants

Multiple technologies





Energy Efficiency

Wx + other measures

On CAP agency
schedule

Ruled by cost
effectiveness test



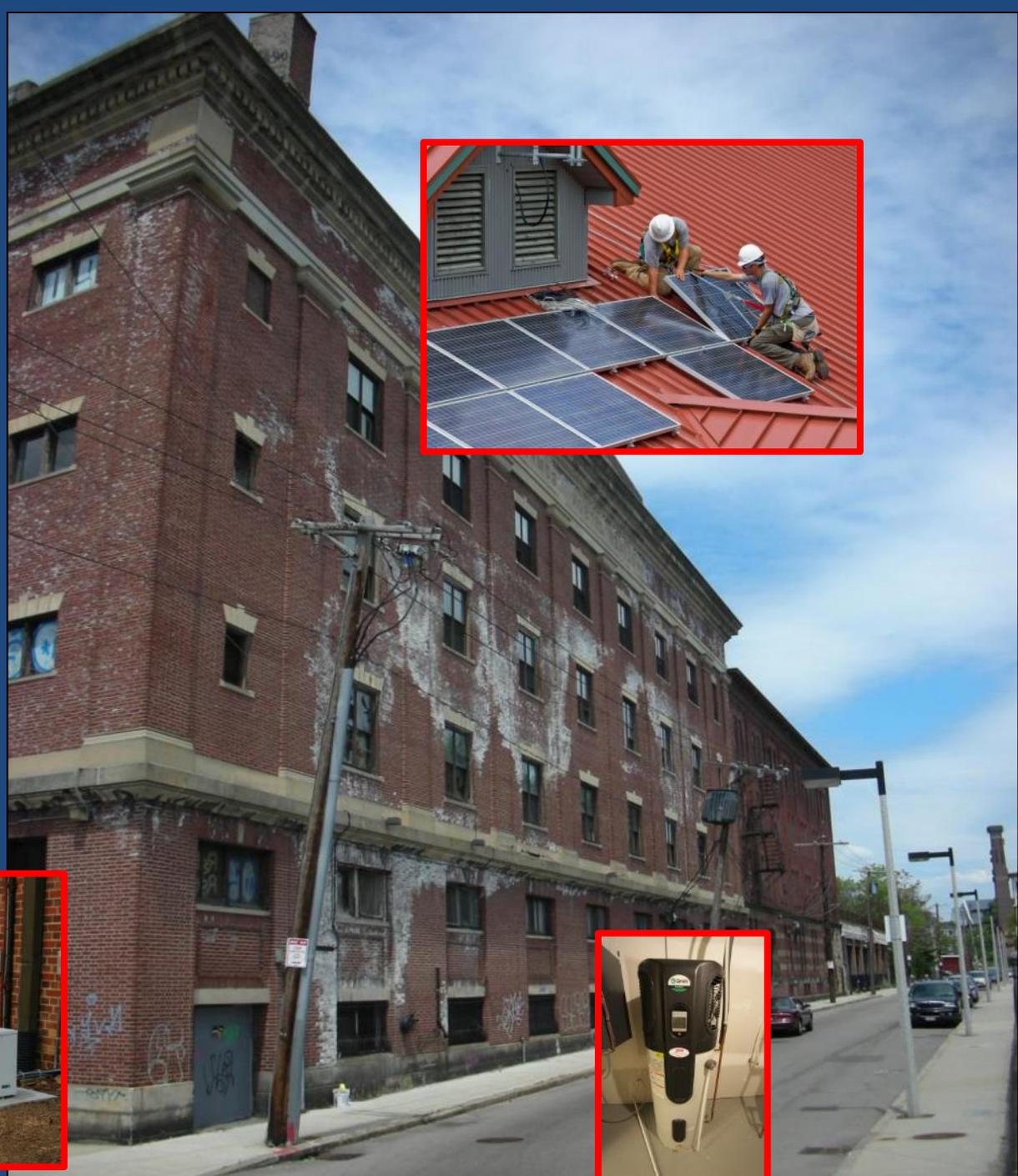
Renewable Energy

Grant funded

Timing based on grants

Single-measure projects

“Add on” measures

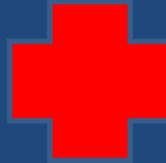


AACEE



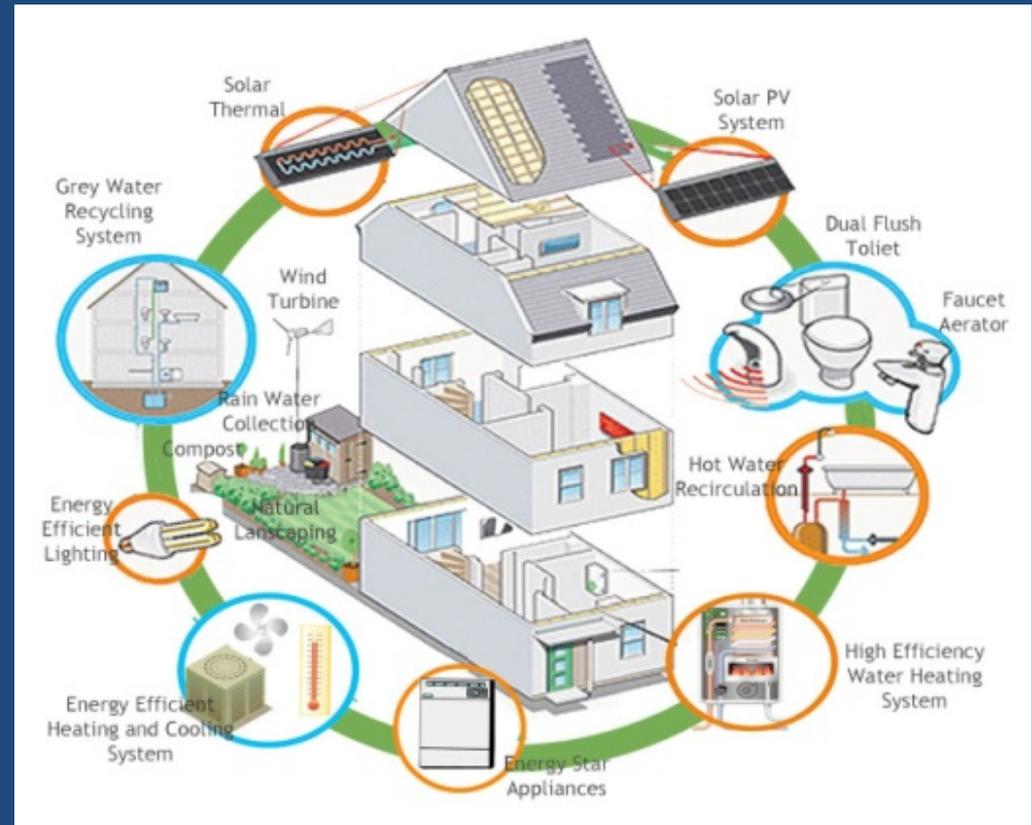
**Affordable Access to
Clean and Efficient Energy**
Final Working Group Report

*Massachusetts Department of Energy Resources and Department of Housing
and Community Development and Massachusetts Clean Energy Center with
Technical Assistance from Meister Consultants Group
4/20/2017*





Address all energy opportunities at one time



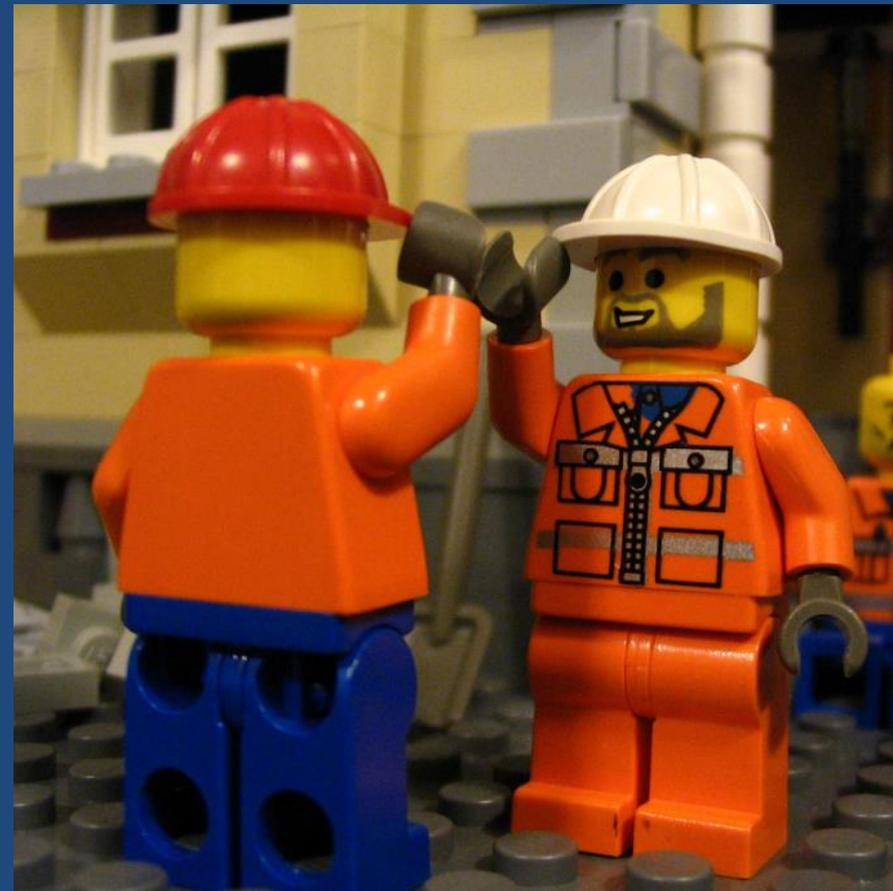
\$\$ / various units

Upfront cost

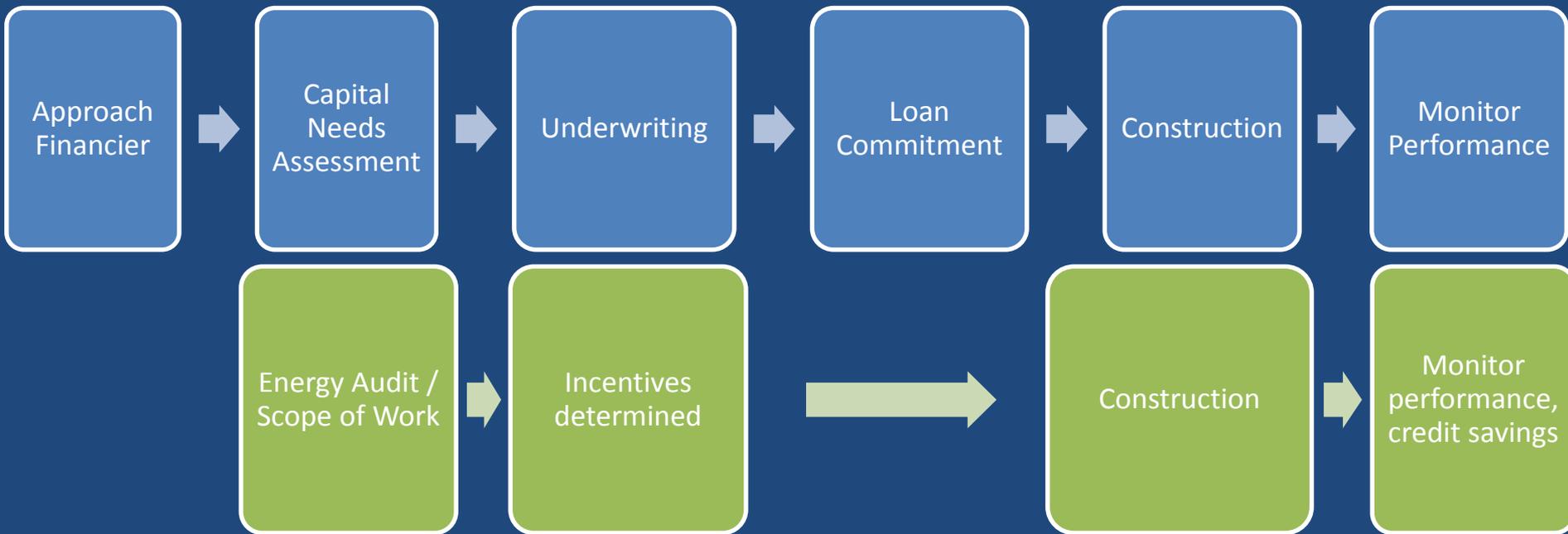
\$\$ / mmbtu

Lifetime cost

With one team

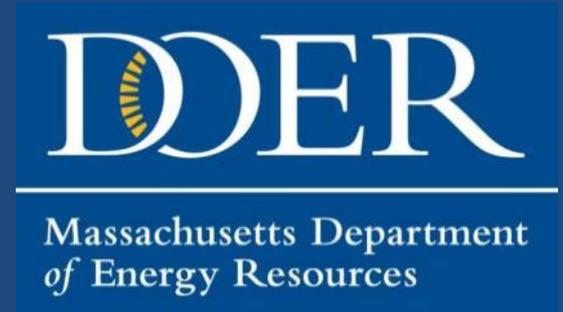


Align Energy Upgrade and Recapitalization Cycles

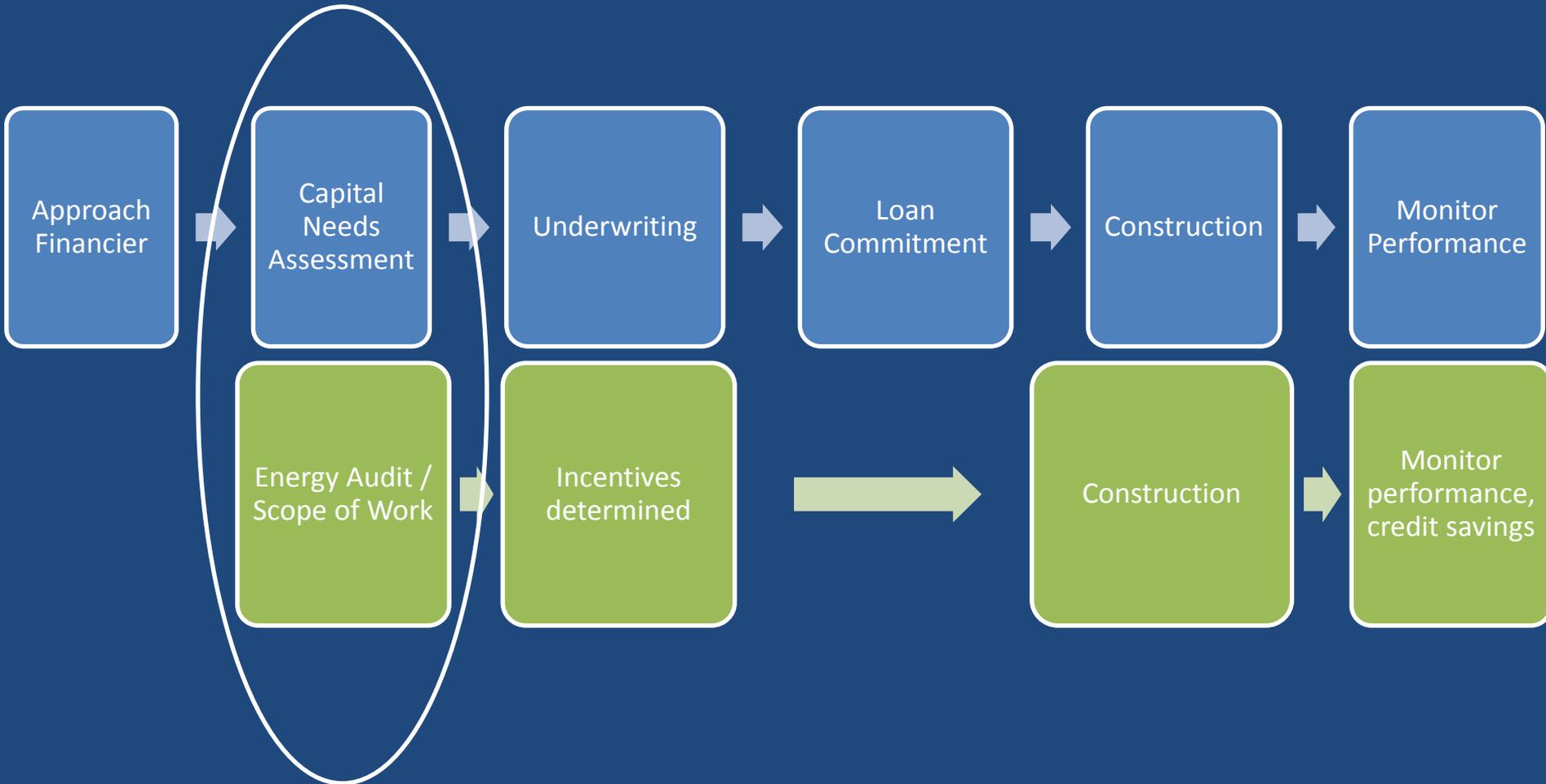


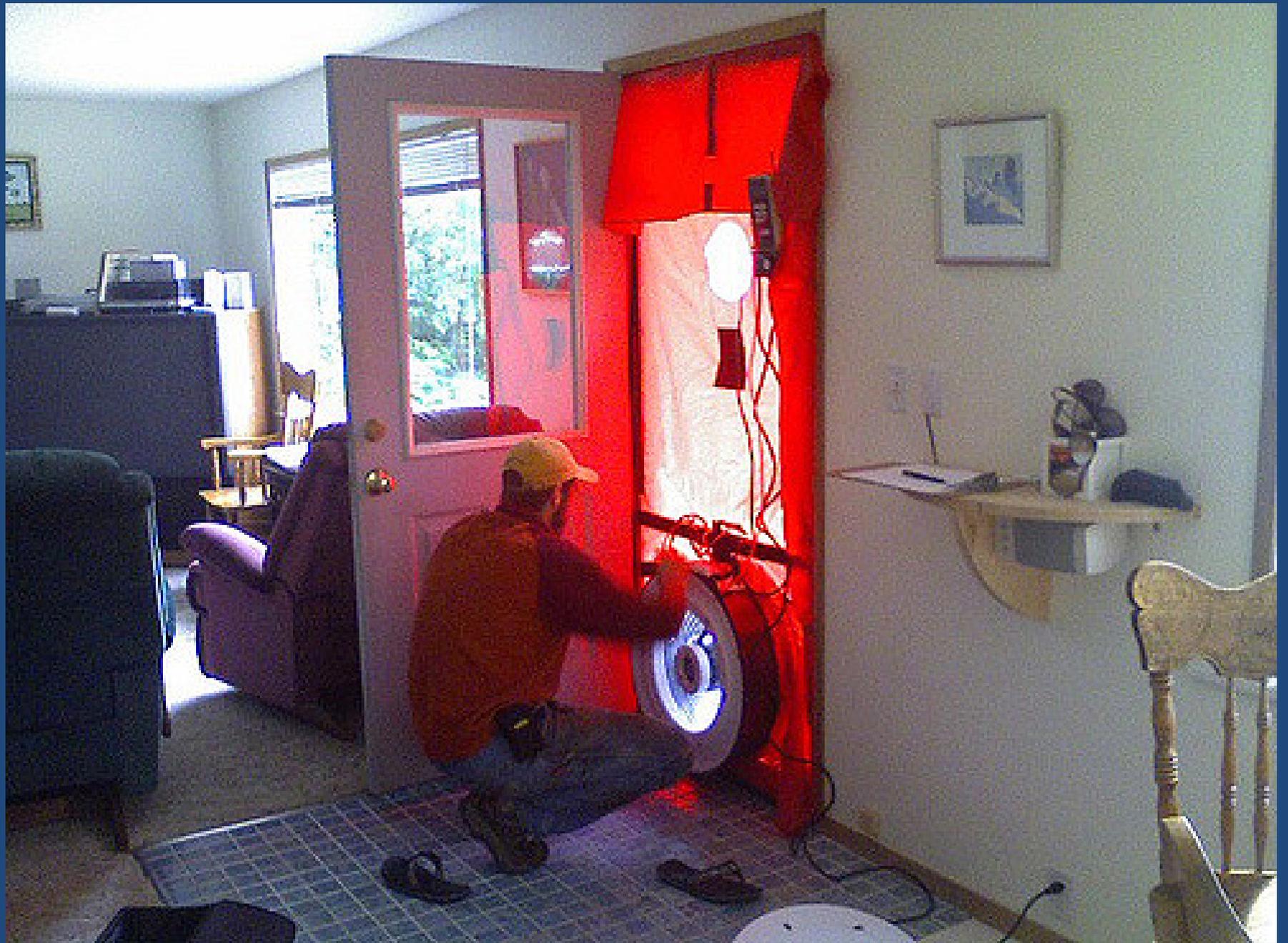


&



1. EE + RE audits

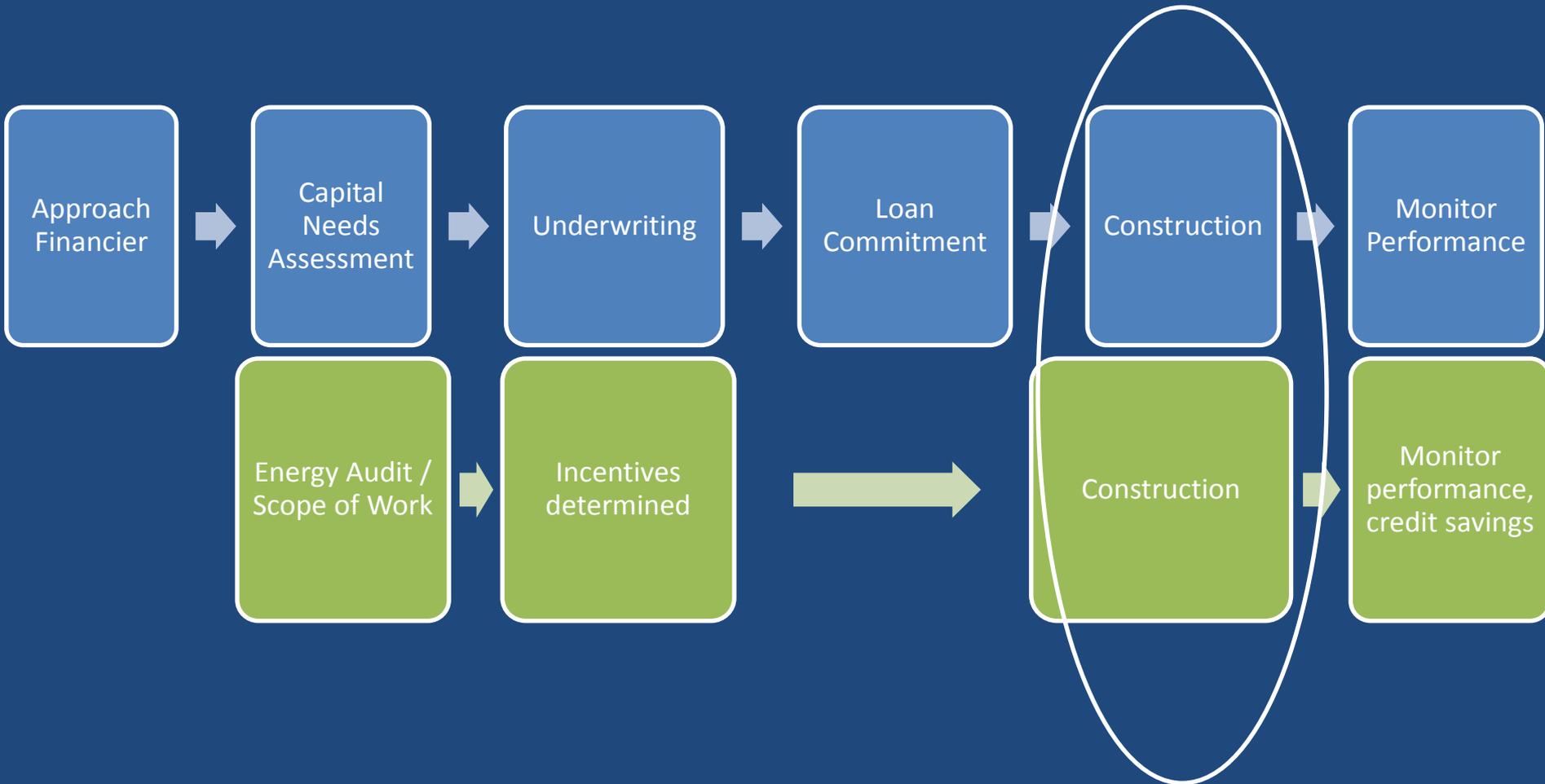




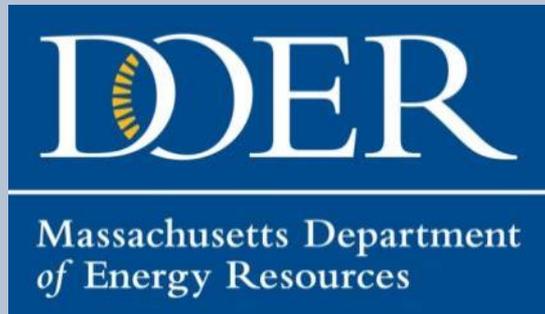




2. Whole building, performance based incentives







Arah Schuur
Director, Energy Efficiency
MA Department of Energy Resources

Thank You

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