



AUGUST 21-23, 2018 • CLEVELAND, OHIO

A Level Playing Field

New Tools and Programs for Energy Affordability

Speakers

- Michael DiRamio, U.S. Dept. of Energy (moderator)
- Kerry O'Neill, Connecticut Green Bank
- Michelle Gransee, State of Minnesota
- Emily Schapira, Philadelphia Energy Authority



Clean Energy for Low Income Communities Accelerator (CELICA): A Partnership Advancing Energy Affordability for All

Better Buildings Summit

“Leveling the Playing Field” Session

August 23, 2018

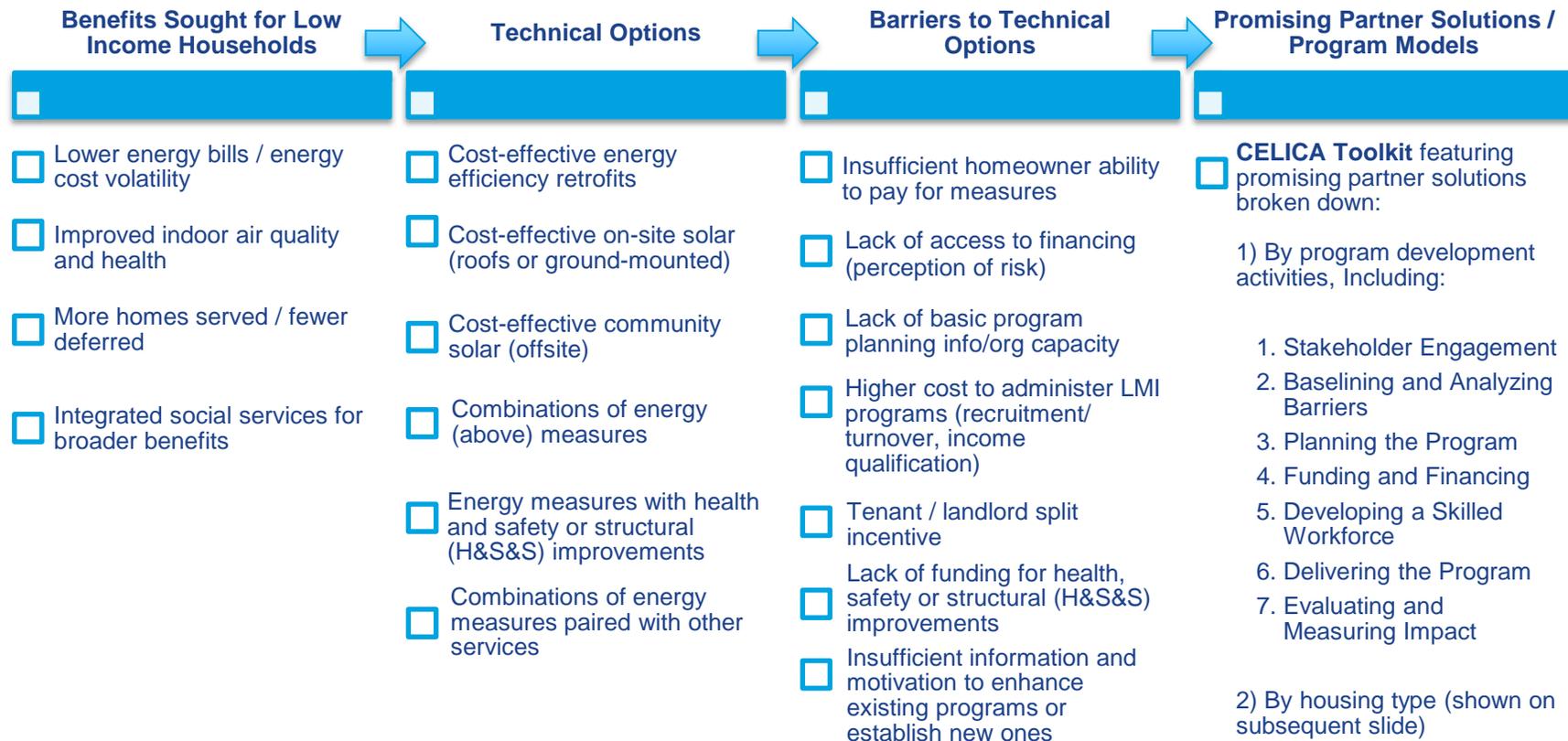
Clean Energy for Low Income Communities Accelerator (CELICA)

37 partners (14 state, 12 local, 11 community action agencies/non-profits/utilities)



May 2016 – Aug 2018

CELICA's Work to Level the Playing Field



Clean Energy for Low Income Communities (CELICA): Outcomes

During CELICA, partners committed **\$335 million** to help **155,000 low-income households** access energy efficiency and renewable energy, and demonstrated promising program models for:



Single Family

Example: **State of Connecticut** and CT Green Bank, through its Solar for All program offers bundled and subsidized Energy Saving Agreements (ESAs) + rooftop solar PV leases with flexible/alternative financing; with \$50/month savings, the average income of the solar owner in CT's income is now less than the median (i.e., achieved income parity for solar installation).



Low Income Community Solar

Example: **State of Michigan Energy Office** leveraged rural electric co-op investment in low income community solar program using SEP formula funds (>2-to-1 ratio). Project to deliver an estimated \$350/yr in additional savings for participating, previously weatherized, low income households.

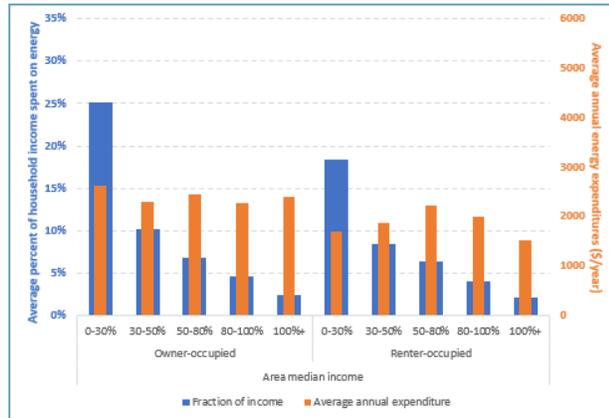


Multifamily Affordable

Example: **District of Columbia** is providing no cost energy and solar assessments to building owners and is incentivizing whole building retrofits including solar PV, towards its goal of serving 100,000 low income households with 240-300MW solar PV, with a focus on multifamily bldgs

DOE/CELICA Resources Available Now*

Low-income Energy Affordability Data (LEAD) tool



CELICA Program Funding Catalog

Program Name	Lead Agency	Eligible Households	Program Description	Program Goals	Program Funding	Program Contact
Heat Relief Assistance Program (HRAP)	DOE	Low-income	...	...	...	...
Low-income Community Energy (LICE)	DOE	Low-income	...	...	...	...
Weatherization Program (WAP)	DOE	Low-income	...	...	...	...
Weatherization Challenge	DOE	Low-income	...	...	...	...

Energy Efficiency Financing for Low-income Communities

DOE-EE-1034

SEE Action
STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

Energy Efficiency Financing for Low- and Moderate-income Households: Current State of the Market, Issues, and Opportunities

Financing Solutions Working Group
August 2017

The State and Local Energy Efficiency Action Network is a state and local effort facilitated by the federal government that helps states, utilities, and other local stakeholders take energy efficiency to scale and achieve all cost-effective energy efficiency by 2025.

Learn more at www.seeaction.energy.gov

Low-income Energy Baseline Assessment Guide

Better Buildings Partner Baseline Assessment Guide
Clean Energy for Low Income Communities

Introduction
The U.S. Department of Energy Better Buildings Clean Energy for Low Income Communities Accelerator aims to lower energy bills in low to moderate income communities through expanded installation of energy efficiency and distributed renewables. Upon joining the Accelerator, partners committed to developing Action Plans after a year. As shown in the diagram below, baselining is a useful approach to inform your planning efforts, and should involve input from a broad range of stakeholders. The following guide was developed by DOE to assist partners with baselining, and identifying needs and gaps to address in action plans.

Baseline Assessment
- Identify the goals and objectives of the assessment
- Determine the scope of the assessment
- Identify the stakeholders and their roles
- Develop a plan for the assessment
- Conduct the assessment
- Report the findings

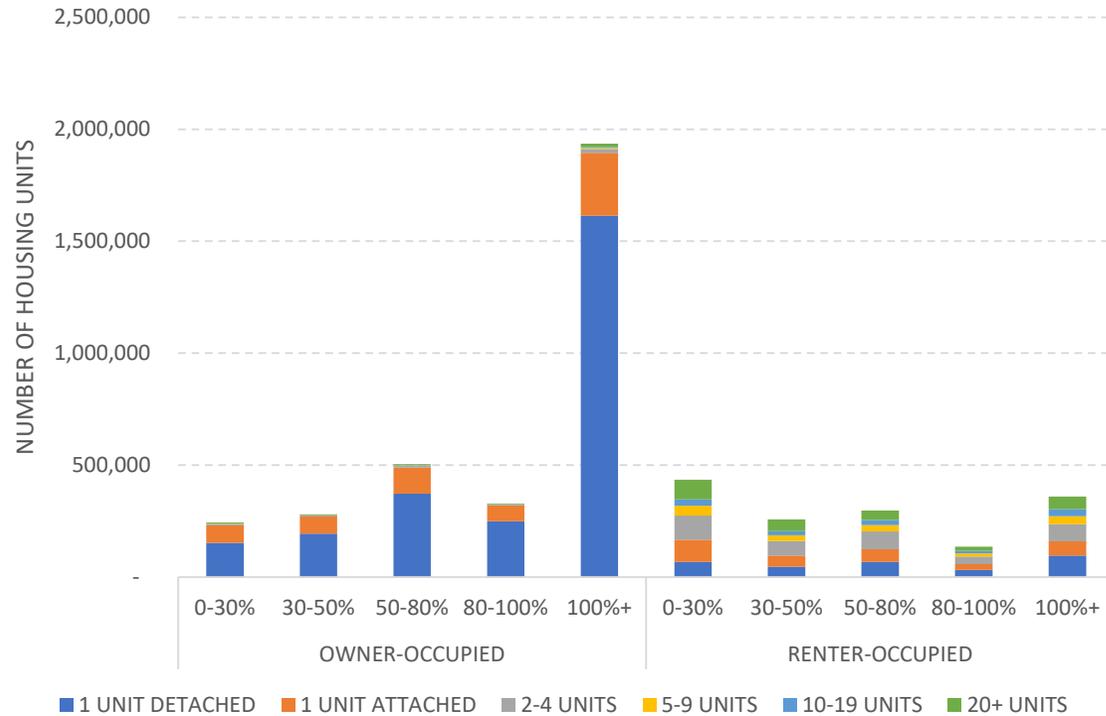
Planning
- Develop a plan for the assessment
- Identify the stakeholders and their roles
- Develop a plan for the assessment
- Conduct the assessment
- Report the findings

Implementing
- Develop a plan for the assessment
- Identify the stakeholders and their roles
- Develop a plan for the assessment
- Conduct the assessment
- Report the findings

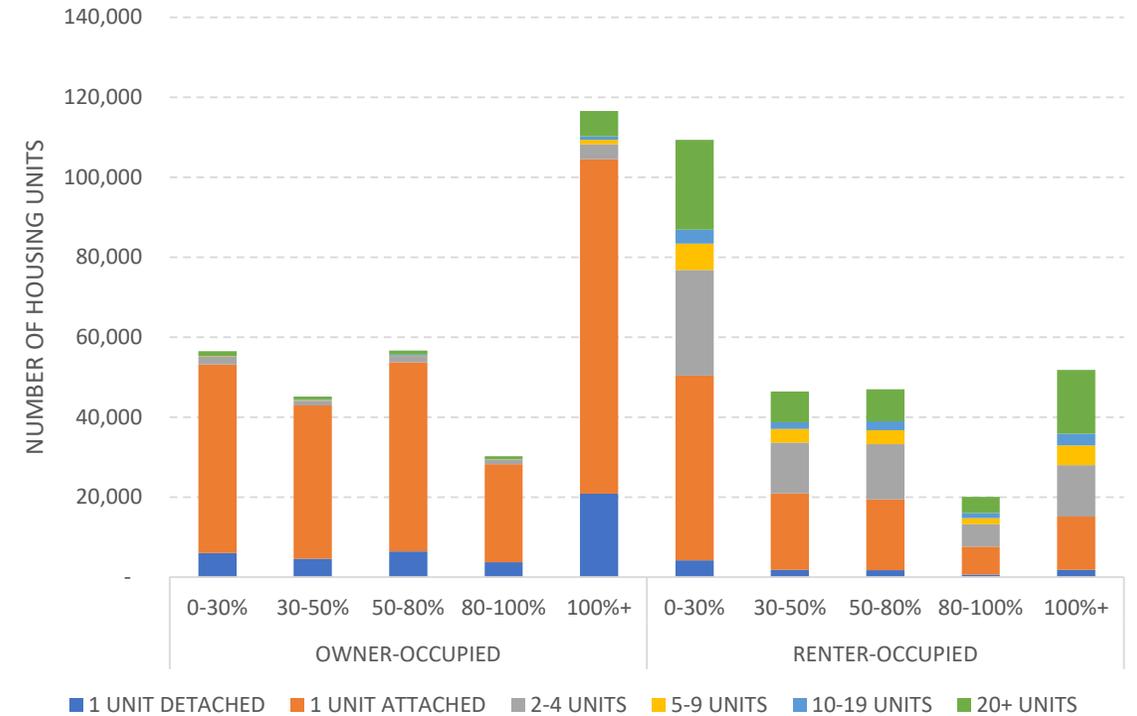
How to Use This Guide
Below is a list of questions to consider in your baseline assessment for low to moderate income (LMI) community energy efficiency (EE), renewables, and other service programs. Note that the language below is meant to serve as a prompt to assist your assessment. Partners may choose to use the questions as a guide or answer directly. In addition, this assessment should be informed by your stakeholder workshop. Please refer to the Program Catalog for assistance with mapping available programs.

LEAD Tool: Philadelphia Housing Example

State Housing Units

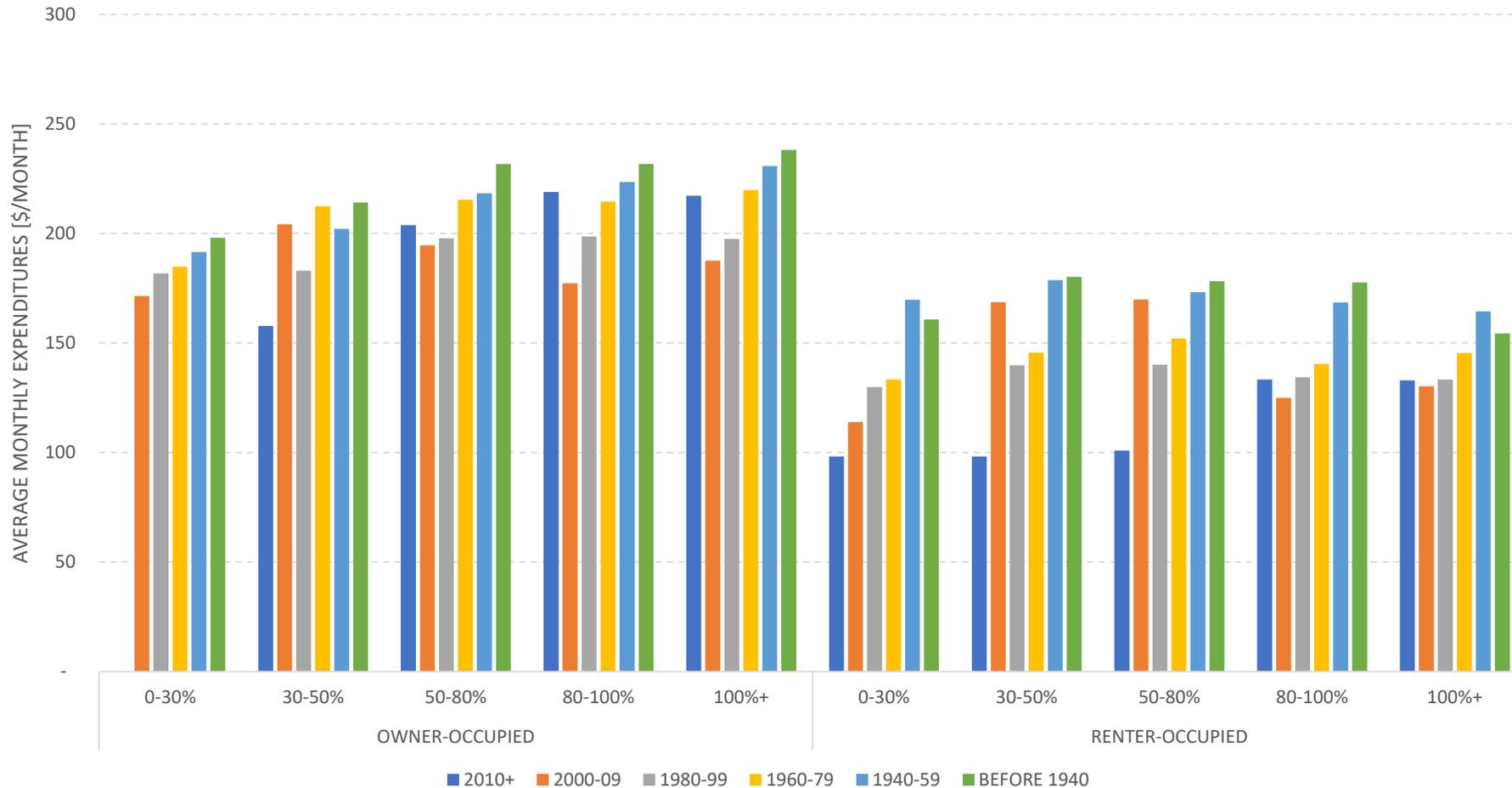


County Housing Units

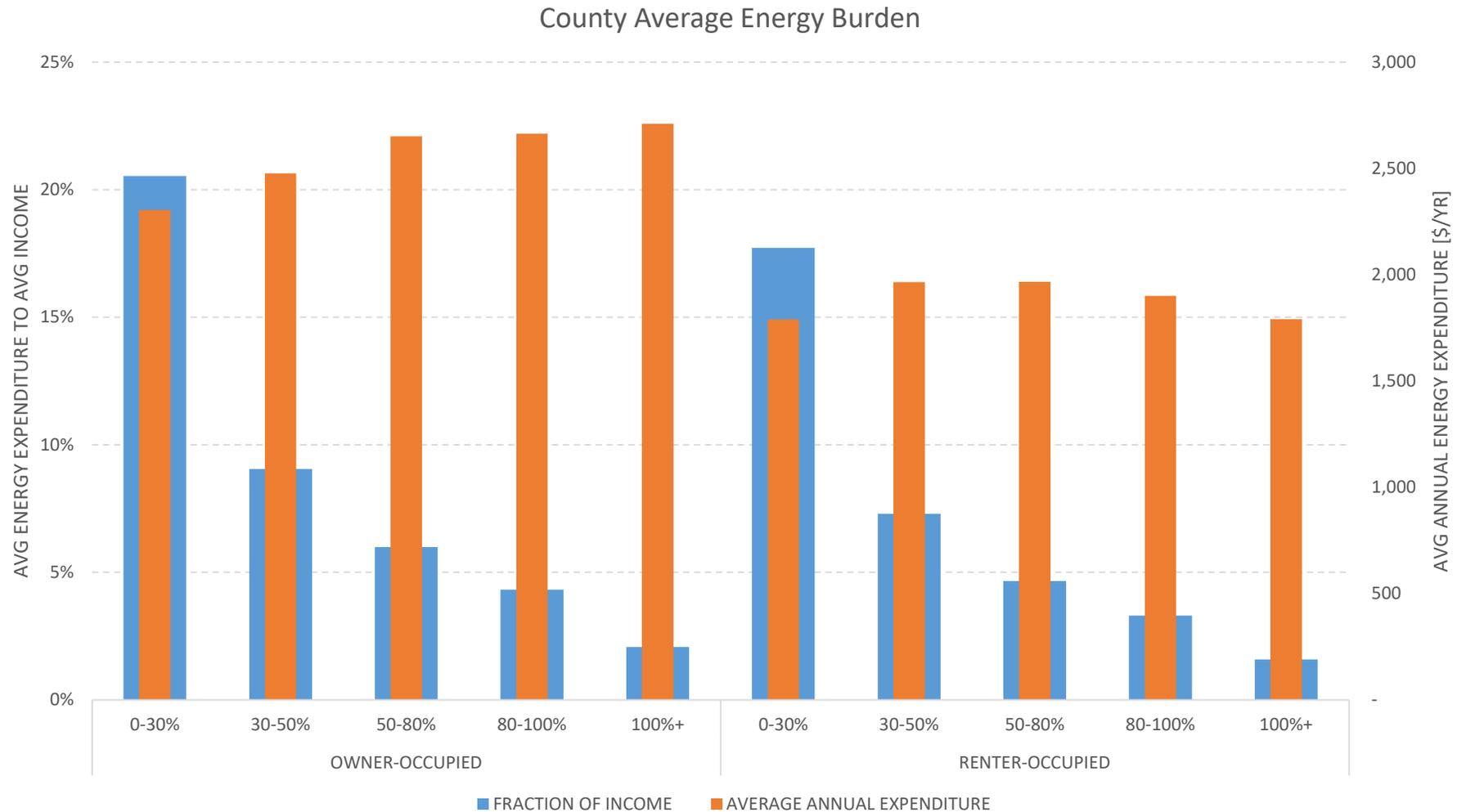


LEAD Tool: Philadelphia Energy Expenditures

County Average Monthly Energy Expenditures

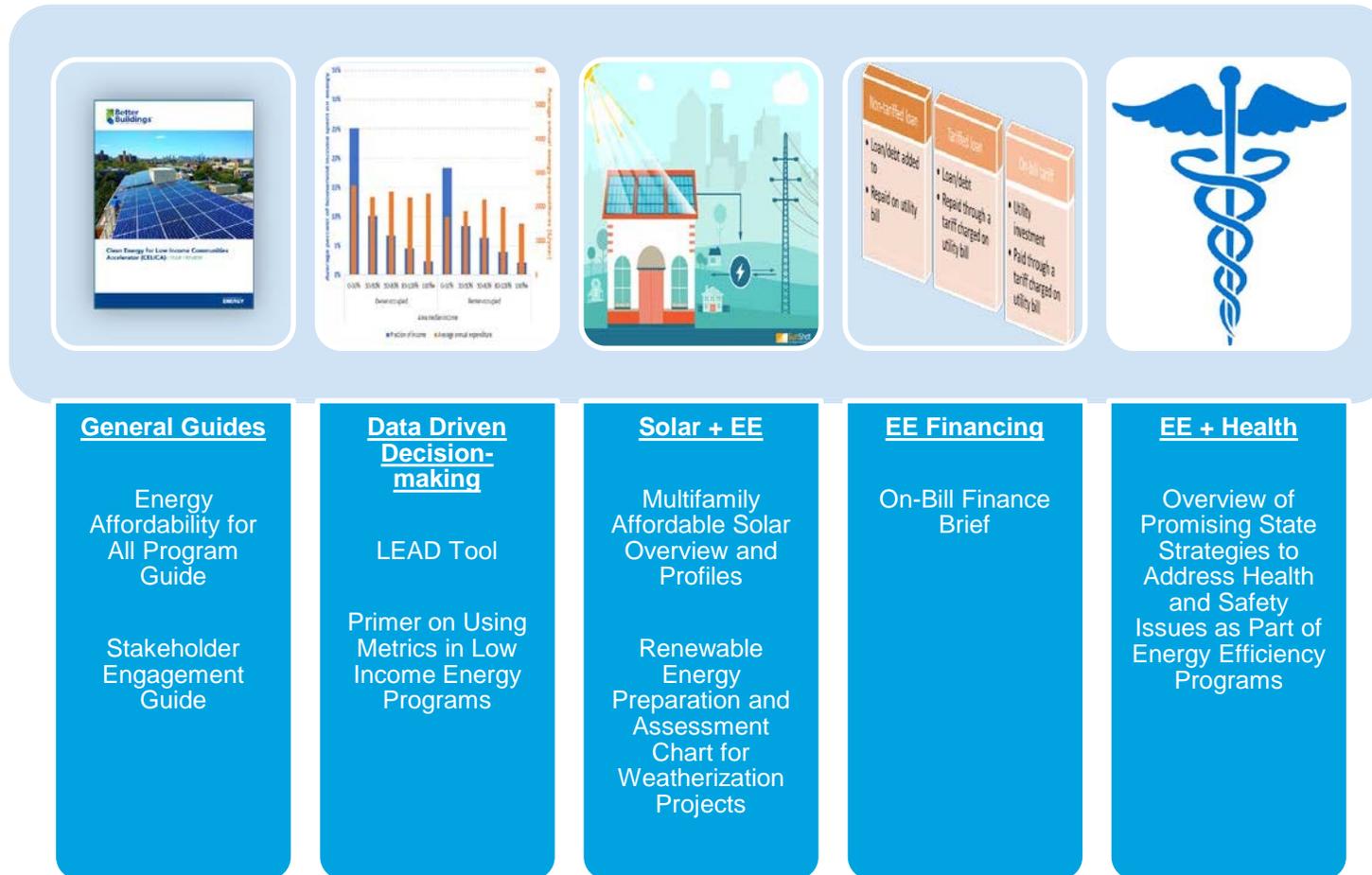


LEAD Tool: Philadelphia Household Energy Burden



Coming Soon (Planned)

Energy Affordability for All Online Toolkit



The image shows a preview of the 'Energy Affordability for All Online Toolkit'. It features five columns of content, each with a representative image at the top and a list of documents below. The images include a solar panel array, a bar chart, a house with solar panels, three types of financing cards, and a medical symbol. The document titles are listed in blue boxes below each image.

General Guides	Data Driven Decision-making	Solar + EE	EE Financing	EE + Health
<ul style="list-style-type: none">Energy Affordability for All Program GuideStakeholder Engagement Guide	<ul style="list-style-type: none">LEAD ToolPrimer on Using Metrics in Low Income Energy Programs	<ul style="list-style-type: none">Multifamily Affordable Solar Overview and ProfilesRenewable Energy Preparation and Assessment Chart for Weatherization Projects	<ul style="list-style-type: none">On-Bill Finance Brief	<ul style="list-style-type: none">Overview of Promising State Strategies to Address Health and Safety Issues as Part of Energy Efficiency Programs

CELICA Partner Panel and Q&A



Expanding Access to Clean Energy for LMI Communities through Data & Partnerships

A Level Playing Field: New Tools and Programs for Promoting Energy Affordability

August 23, 2018



Connecticut Green Bank

Delivering Results for Connecticut



- **Investment** – mobilized nearly **\$1.3 billion** of investment into Connecticut’s clean energy economy so far, using a **8:1 leverage** ratio
- **Energy Burden** – reduced the energy burden on over **30,000 households and organizations**, including **“beyond parity”** for LMI solar
- **Jobs** – created over an estimated **16,000 total job-years** – 6,200 direct and 9,700 indirect and induced*
- **Clean Energy** – deployed more than **285 MW** of clean renewable energy helping to reduce over 4.6 million tons of greenhouse gas emissions that cause climate change

Private investment drives economic growth
Creates jobs, lowers energy costs, and generates tax revenues



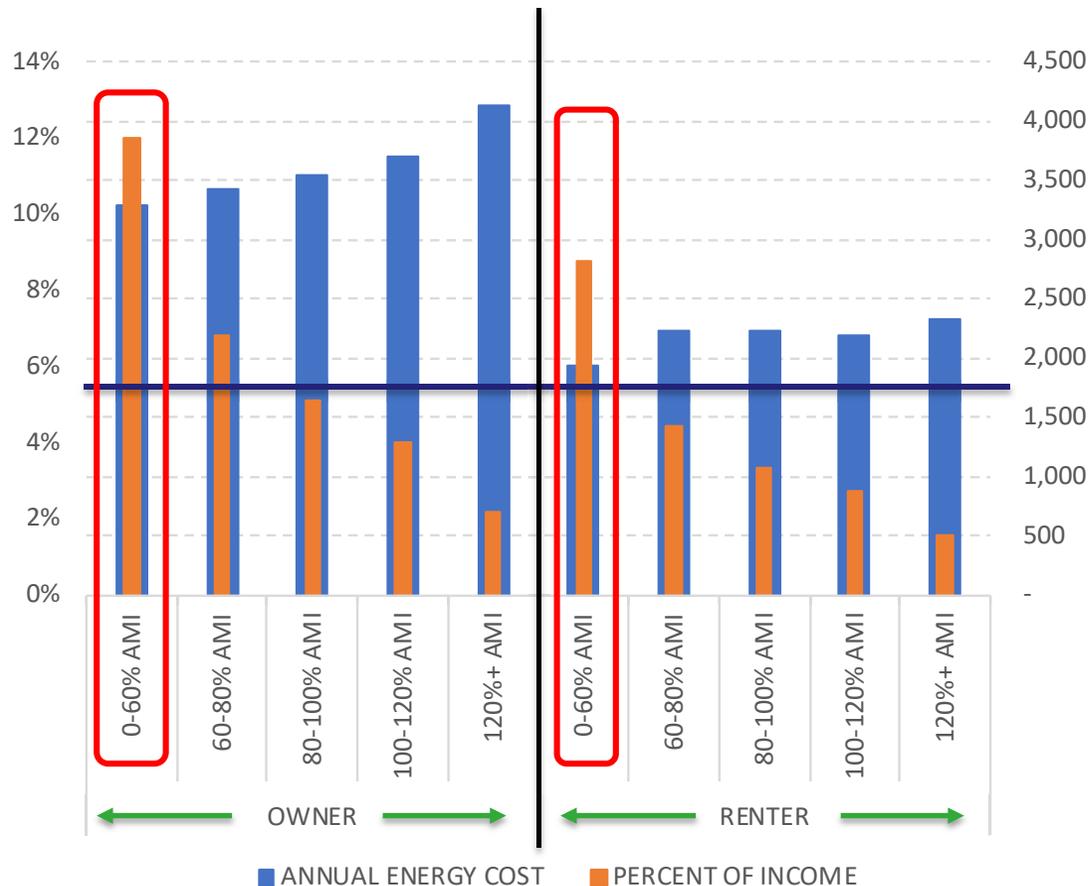
REFERENCES

CT Green Bank data warehouse report from July 1, 2011 through February 28, 2018

*62,500 private non-farm jobs created in the state over 5 years since Green Bank creation mid-2011. Green Bank statistics are in job-years; “total jobs” include direct, indirect and induced. CT DOL statistics are aggregated from monthly point-in-time estimates. CT Department of Labor - <http://www1.ctdol.state.ct.us/lmi/privatesectoremployment.asp>

Reducing Energy Burdens For Those That Need It Most

ENERGY BURDEN [AVG. EXPENDITURES/AVG. INCOME, \$/YEAR]



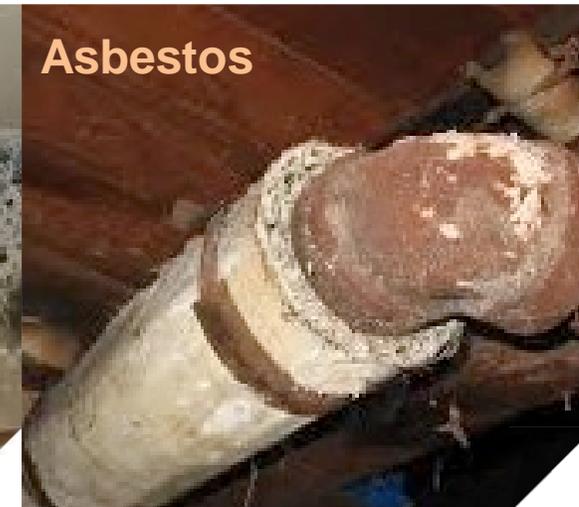
Energy costs are amongst the highest in the country and a significant portion of household expenses

More than half our low income residents suffer a high energy cost burden (>10% of income)

AMI Bands	Avg. Household Income – MF
0-60%	\$20,000
60-80%	\$48,000
80-100%	\$65,000
100-120%	\$77,000
120%+	\$131,000

To have meaningful impact on energy burdens we must provide comprehensive solutions that combine solar + EE

Low-to-Moderate Income Residential Properties: Old and Aging (In Place)



Low income households are concentrated in older properties in poor condition, in need of significant capital improvements.

NOT just about energy, whole home solutions are needed
Health and safety issues estimated in 25-40% of units

Tapping into our LMI Market

Market research and data-driven approaches are key to:

- **Identifying** our target audiences
- Developing programs that **identify and address the needs** of our target audiences
- **Targeting** our efforts and developing community partners
- Adapting our messaging and **communicating** benefits

DATA WE USE

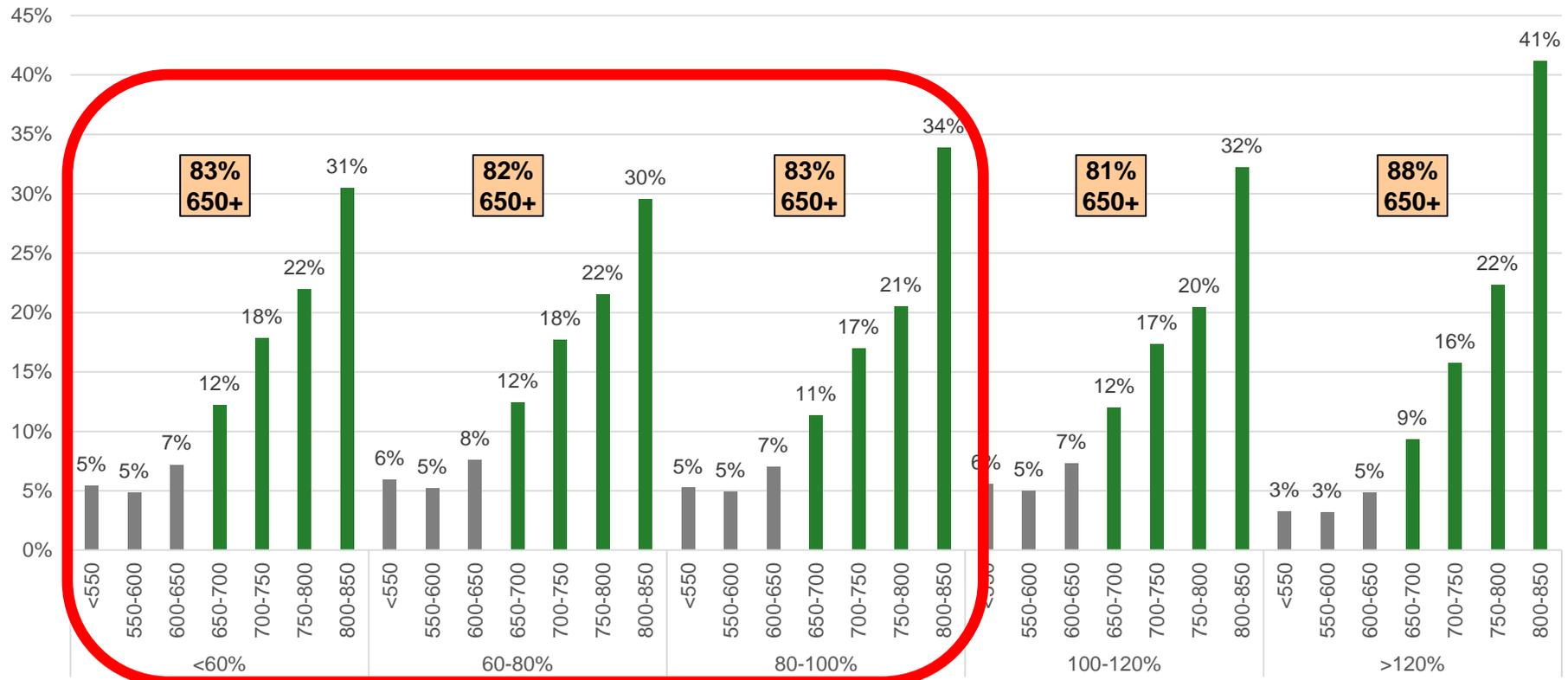
- Competitive product scan
- Census and general market data (DOE LEAD)
- Credit data (FICO)
- Customer segmentation data (PRIZM)
- Energy burden modeling



Credit-Worthy LMI Borrowers In Greater #'s in CT than Presumed



CT Homeowners 2017 FICO Scores by Income Band



This presents an opportunity for financing for some segments of the low-to-moderate income market

Customer Segmentation

A targeted approach to customer acquisition

DOLLARS & SENSE



“Judy & Dante”



Total Customer Count:
74,143

SEEKING STABILITY



“Kurt”



Total Customer Count:
61,434

SURVIVING NOT THRIVING



“Emma”



Total Customer Count:
18,186

Top home improvement measures likely to be adopted by these customer segments:

- Windows
- Heating & cooling
- Hot water heaters
- Insulation

Residential 1-4 Owner Occupied Low-to-Moderate Income Portfolio



- Residential Solar Investment Program
- Low-to-Moderate Income **Performance Based Incentive** for Third Party Owners
- Nearly 3x market rate incentive
- Income screen of 100% AMI or lower
- 2 Contractors approved to access
- Enhanced consumer protection



- Financing RFQ helped create a \$45MM+ Fund – Solar for All
- \$8.5MM CGB investment
- Product offering combines non-escalating **solar lease with energy efficiency** services
- Utility weatherization programs (HES or HES-IE) leveraged
- Alternative underwrite
- Community partnerships



- 2nd loss reserve used to attract local lenders
- Low interest, flexible terms
- Unsecured loan
- 40+ measures (EE and RE), managed contractor network
- **580+ FICO, 50% DTI** (waived for 680+ FICO, offered through CDFI and credit unions)
- 25% of loan for health and safety upgrades

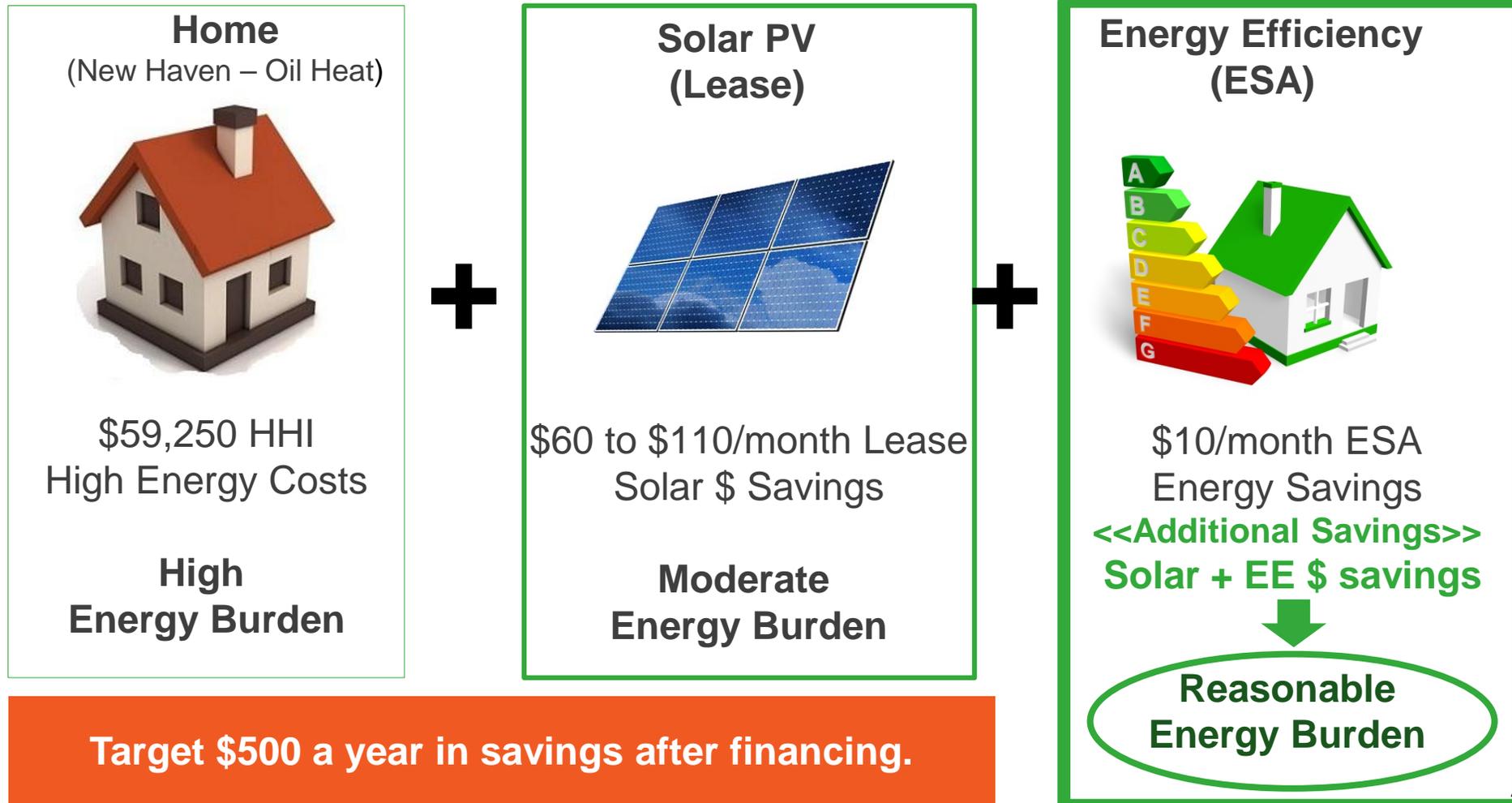
Thoughtful program guidelines help achieve strong consumer protections

Solar For All with PosiGen

Lease & ESA for Single Family LMI Market



PosiGen Co-investment: \$8.5 million in Green Bank capital leveraged to create a **\$45 million fund**



Solar for All with PosiGen



Solar for All Campaign Progress

- ✓ 1,600+ contracts since 2015, ~10 MW of solar PV
- ✓ ~2/3 of contracts are LMI (*getting the LMI tiered incentive*)
- ✓ 75% of projects in census tracts <80% AMI

Energy Efficiency Progress

- ✓ 99.9 % of households get Direct Install EE measures, 19,500 MMBTUs saved
- ✓ 69% of households also undertake “deeper” energy efficiency projects through \$10 ESA payment/month for 20 years



Smart-E Loan *Now Focusing on Credit-Challenged and LMI*



- Approaching **market penetration parity** across income-banded census tracts
- Much work still to do on reaching **credit-challenged**
 - Contractor **education**
 - Testing digital marketing – what’s the **right message**?
 - Partnering with credit unions on **targeted outreach leveraging Experian data**



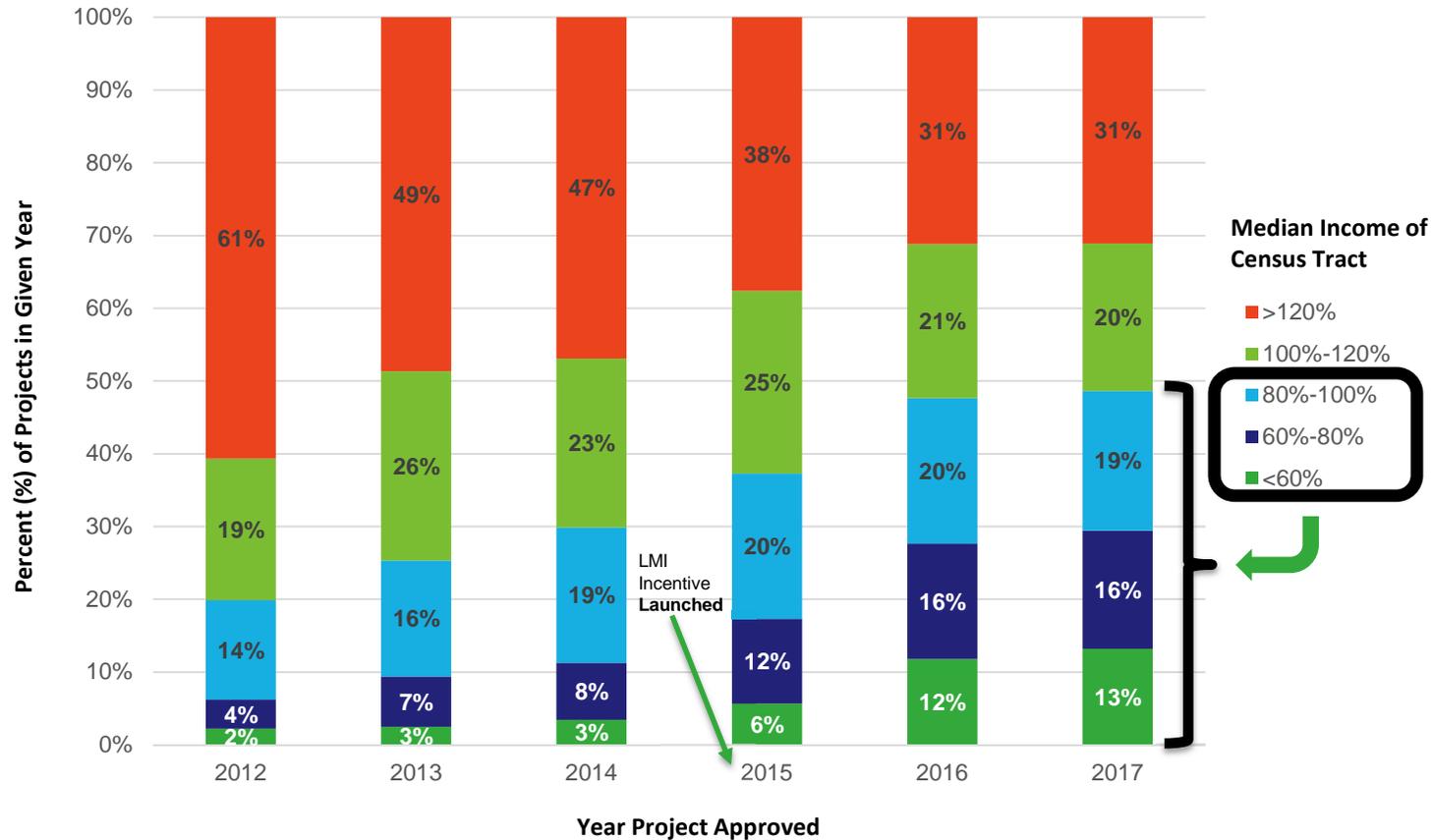
Loan Terms			
5-yr	7-yr	10-yr	12-20-yr
4.49%	4.99%	5.99%	6.99%

- Standard: **640+ FICO**, 40-45% DTI
- Credit-Challenged: **580+ FICO**, 50% DTI

smart-e loan

Moving the Needle on Inclusive Prosperity – Residential Rooftop PV

Solar Penetration by Census Tract Median Income 2012-2017



Solar penetration in census tracts earning <100% of area median income grew from 17% in 2012 to 48% in 2017

Mobilizing Investment for All

“Beyond Parity” for Rooftop Solar



AMI Band	# of Solar PV Projects	# Owner Occupied HH (1-4 Units)	% of Total Owner Occupied HH (1-4 Units)	% Projects in AMI Band
<60%	2,179	60,769	7.1%	8.1%
60-80%	3,347	99,220	11.6%	12.5%
80-100%	5,152	165,331	19.3%	19.2%
100-120%	6,070	187,463	21.8%	22.6%
>120%	10,077	345,311	40.2%	37.6%
Total	26,826	858,094	100%	100%

“There can be no renewal of our relationship with nature without a renewal of humanity itself. There can be no ecology without an adequate anthropology.”

Pope Francis

More Info:

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Michelle Gransee



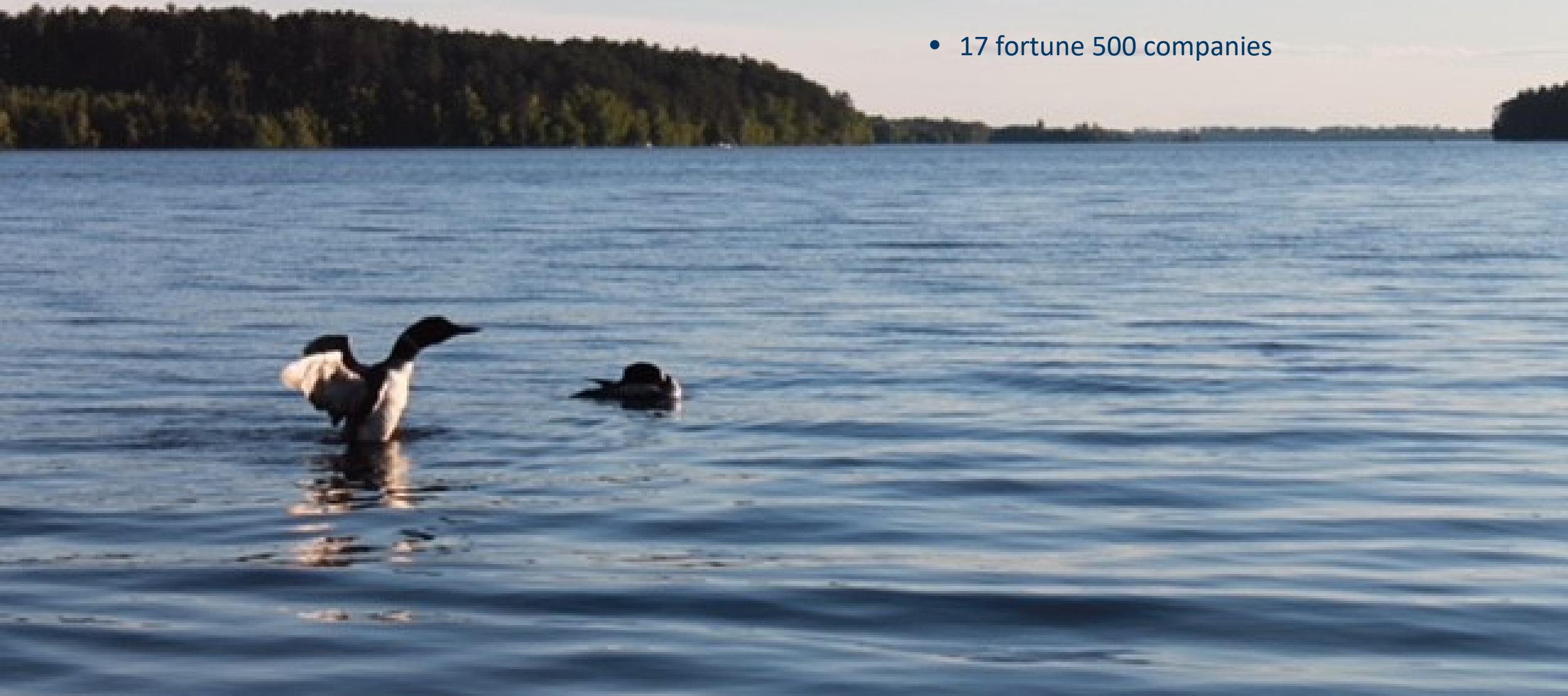
Energy Burden Leveraging Analysis

Better Buildings Conference - August 23, 2018

A Level Playing Field: New Tools and Programs for Energy Affordability

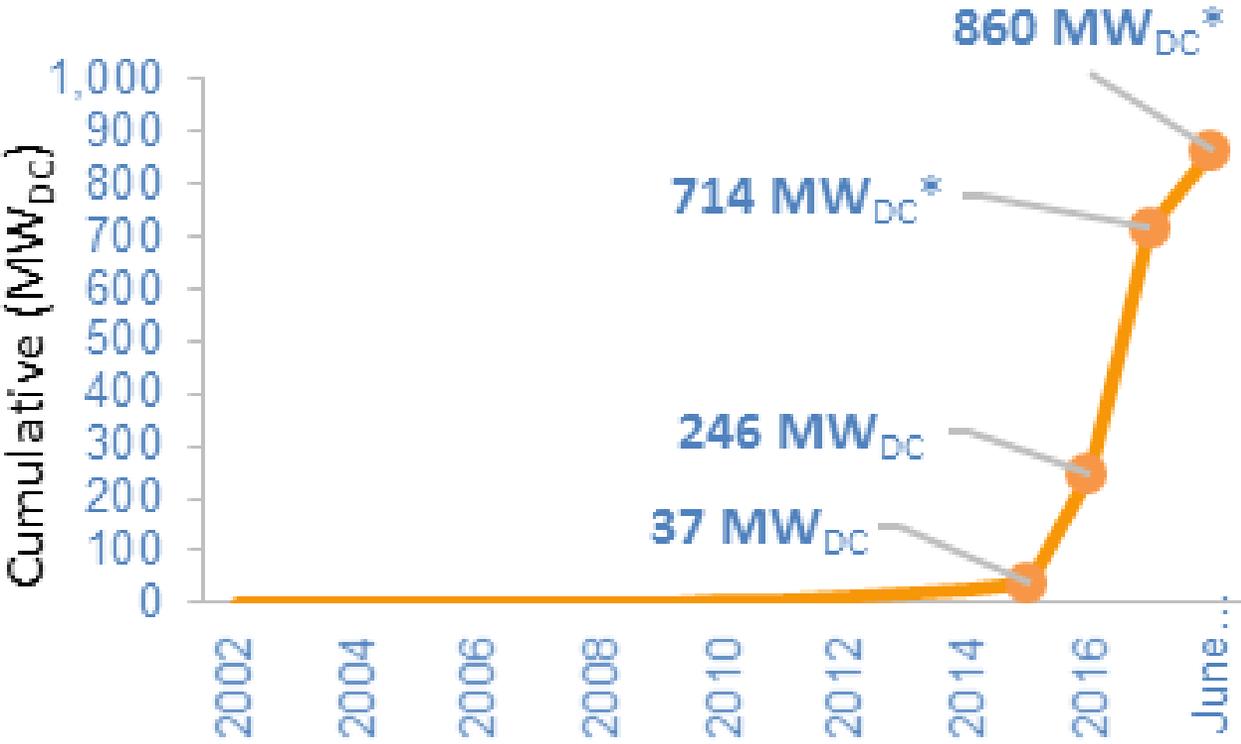
MINNESOTA

- Judy Garland, Chris Pratt, and Prince
- Lakes, skyway, & bike trails
- Volunteers, SPAM, & twine
- 17 fortune 500 companies



Minnesota's Solar Capacity

as of June 2018 (*preliminary)



Source: MN Department of Commerce

Dictionary

Enter a word, e.g. "pie"

a level playing field

phrase of level

noun: level playing field

1. a situation in which everyone has a fair and equal chance of succeeding.



Translations, word origin, and more definitions

Experiencing Poverty in Minnesota

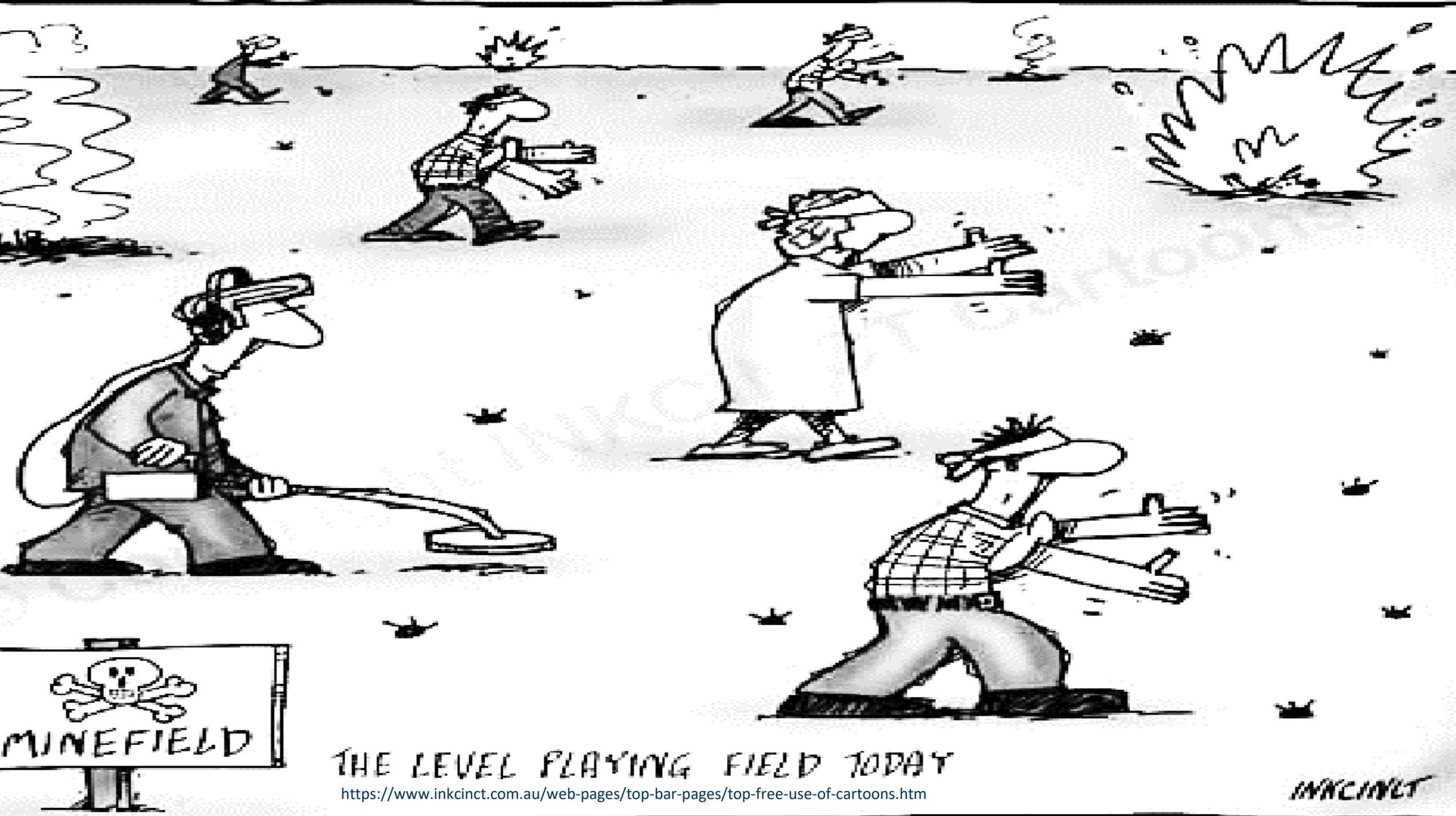
- **10.8%** **Minnesotans are experiencing poverty**
- **8.2%** **White, non-Hispanic**
- **22-26%** **Hispanic**
- **28-31%** **American Indian**
- **34-39%** **Black**

Minnesotans Experiencing Poverty

498,000 income-eligible households

- **125,000 = LIHEAP**
- **2,000 = WAP**
- **Average = \$18,626/annual**
- **Highest burden = \$7,959/annual**





THE LEVEL PLAYING FIELD TODAY

<https://www.inkcinct.com.au/web-pages/top-bar-pages/top-free-use-of-cartoons.htm>

INKCINCT



Go and
Listen

Don't Believe
Everything
You Think

Do no
harm



Go and
Listen

Current Program Landscape (some of them)

PACE Pay as You Save On Bill Financing

Green Banks MHFA Loans PPAs/Leases

LI Carve Out for CSGs, RPS Solar Sense

Solar*Rewards Just Community Solar

Community Action for Community Solar

CEF DC Solar for All Tax Credits

Solar in Your Community SolSmart WAP

LIHEAP Host Credit SASH MASH

Grid Alternatives Green for All REEGP

Weatherization + Health REAP RDF

Renewable Energy Partners Job Training LCCMR

North Green Homes Solar along the Greenway

CSGs for manufacturing homes MassCEC

White Earth and Leech Lake Solar Training

AEOA Business Energy Retrofit Power On

CPE/Xcel Multi family for LI properties

Core Advisory Committee

- Arnie Anderson, MN Community Action Partnership
- Timothy DenHerder-Thomas, Cooperative Energy Futures
- Jason Edens, Rural Renewable Energy Alliance
- Lynette Engelhardt Stott, Three Rivers Community Action
- Katie Frye, MN Power
- Nick Mark, CenterPoint Energy
- Pam Marshall, Energy CENTS Coalition
- Rebecca Olson, Center for Energy and Environment
- Ben Passer, Fresh Energy
- Jessie Peterson, Xcel Energy
- Jodi Slick, Ecolibrium3
- Jamez Staples, Renewable Energy Partners
- Janet Streff, Streff Consulting
- Katherine Teiken, MN Housing Finance Agency
- Brandy Toft, Leech Lake Band

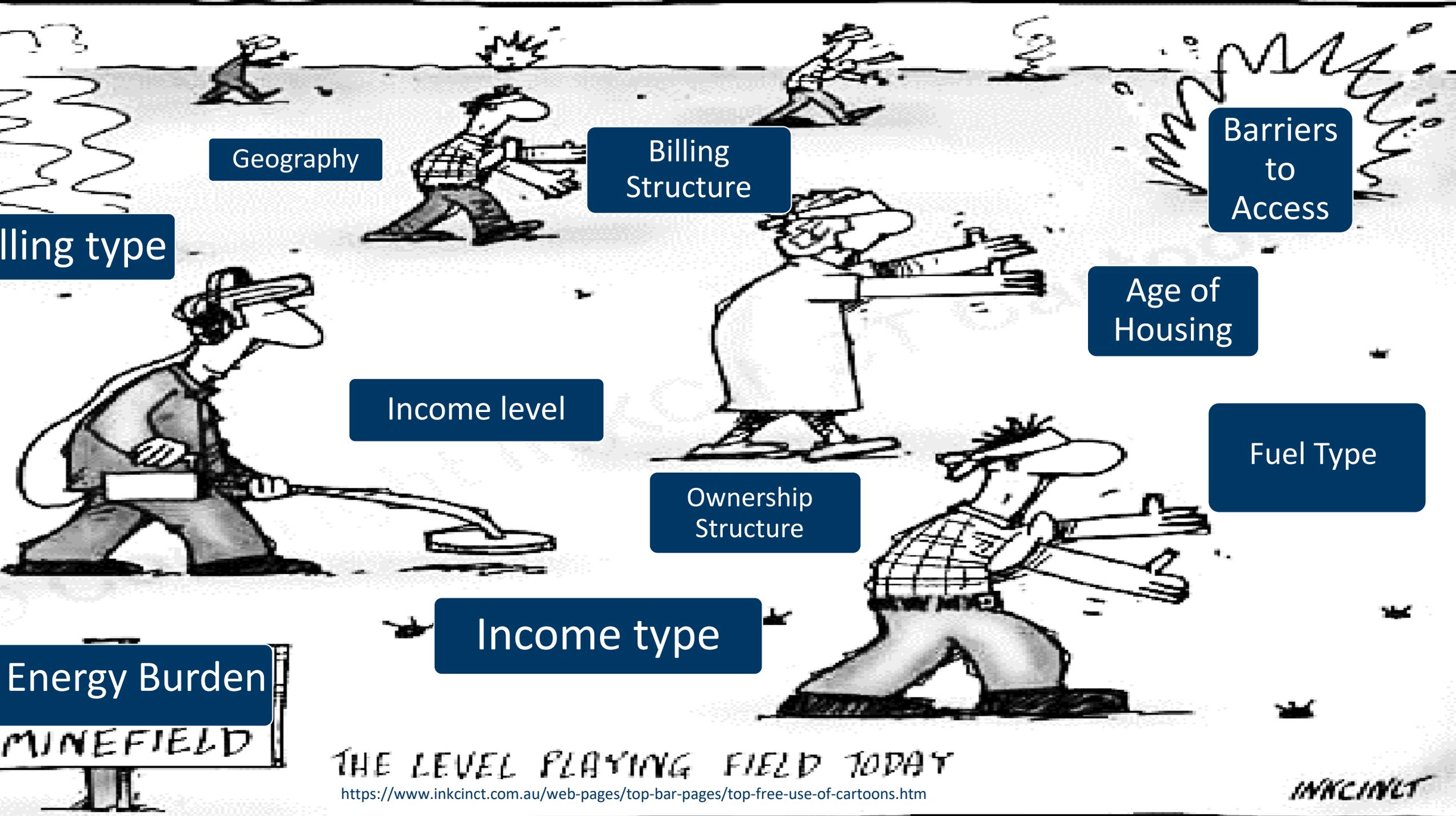
CLICERS Task Forces

Program Evaluation Task Force

- BJ Allen, Rural Renewable Energy Alliance
- Deb Flannery, Greater MN Housing Fund
- Katie Frye, MN Power
- Jason Grenier, Otter Tail Power
- Ralph Jacobson, Innovative Power Systems
- Nick Mark, CenterPoint Energy
- Rebecca Olson, Center for Energy and Environment
- Ben Passer, Fresh Energy
- Yvonne Pfeifer, Xcel Energy
- Katherine Teiken, MN Housing Finance Agency
- Luke Tessum, SEMAC
- Scott Zahorik, Arrowhead Economic Opportunity Agency

Reducing Energy Poverty Task Force

- Arnie Anderson, MN Community Action Partnership
- Melissa Birch, CERTs
- Anna Carlson, Bemidji State University
- Victoria Clark, North Country Foundation
- Courtney Overby, North Country Foundation
- Lisa Daniels, Windustry
- Lynette Engelhardt Stott, Three Rivers Community Action
- Julia Frost Nerbonne, MN Interfaith Power and Light
- Pam Mahling, Honor the Earth
- Chris Meyer, SE Regional CERTs
- Vicki O'Day, Rural Renewable Energy Alliance
- Pam Schmidt, MN Power
- Ryan Zemek, Headwaters Regional Development Commission



Billing type

Geography

Billing Structure

Barriers to Access

Age of Housing

Income level

Fuel Type

Ownership Structure

Income type

Energy Burden
MINEFIELD

THE LEVEL PLAYING FIELD TODAY

<https://www.inkcinct.com.au/web-pages/top-bar-pages/top-free-use-of-cartoons.htm>

INKCINCT

Barriers (& Eventually Solutions) Identified

Household/Program

Access to capital/funding

Language, location,
transiency, information

Transportation or Distance

Inconsistent offerings

Housing, fuel type, age

Program Specific

Potential Barrier
Minimum credit score
Long-term commitment
Onerous contract document
Remote or inconsistent recruitment
Enrollment fees
Ongoing or hidden fees
Unfamiliar project champions
No connection to facility
Non-English language needs

Institutional

Statutory

Bureaucratic

Designers lens

Discomfort with self-
ignorance

From Xcel RENEWS Pilot Proposal
Jun 30, 2017 – Barriers to CSGs



DON'T BELIEVE EVERYTHING YOU THINK

– Thomas Kida

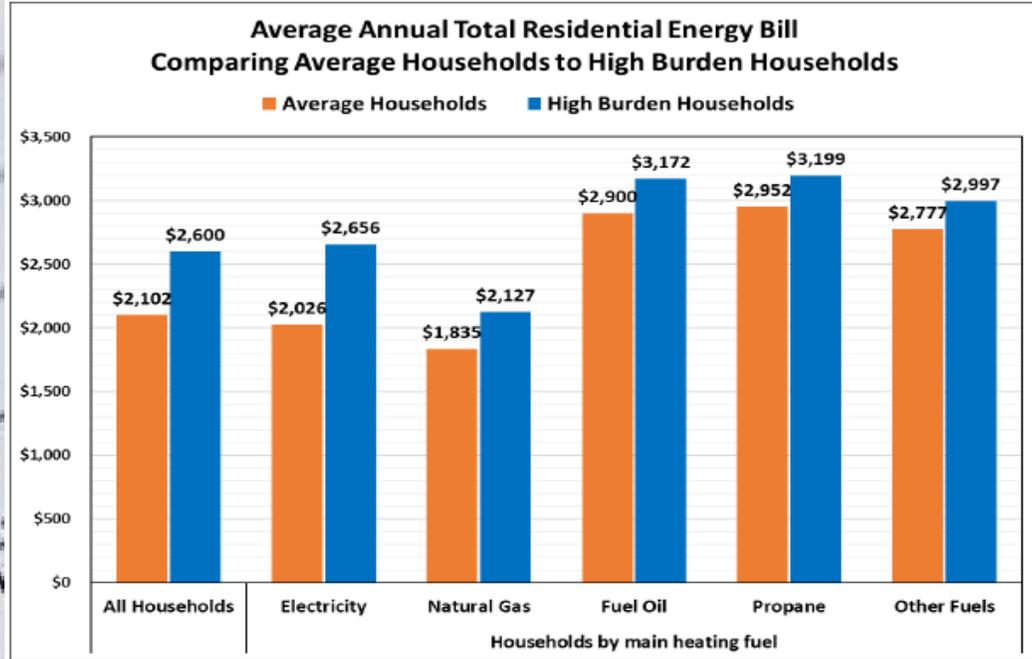


Low-Income Energy Burden Energy Poverty

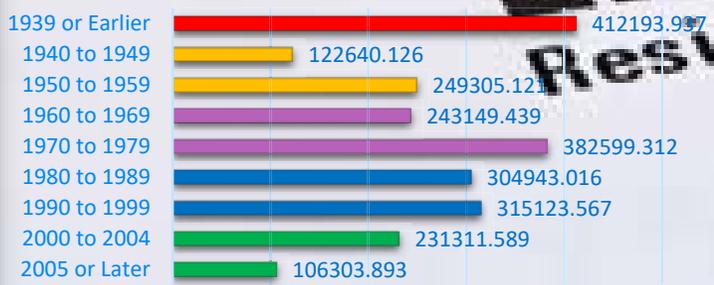
Definitions & Data

DATA RESOURCES – NREL, HEAG, LIHEAP, USDOE, WAP

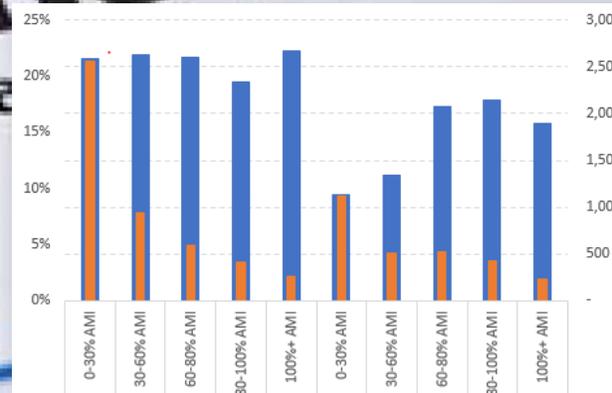
County_Only	Less than 50% of Federal Poverty Level			
	Individual HH Shortfall	Number of Households	Aggregate Shortfall	Home Energy Burden
Jackson County	\$1,881	150	\$282,150	33.1%
Kanabec County	\$2,306	351	\$809,313	37.5%
Kandiyohi County	\$1,993	950	\$1,892,933	33.7%
Kittson County	\$2,313	77	\$178,088	39.7%
Koochiching County	\$1,937	356	\$689,599	34.9%
Lac qui Parle County	\$2,001	100	\$200,079	35.4%
Lake County	\$1,838	311	\$571,515	34.2%
Lake of the Woods County	\$2,405	47	\$113,055	40.0%
Le Sueur County	\$1,878	335	\$629,199	31.8%
Lincoln County	\$2,012	66	\$132,802	35.5%
Lyon County	\$1,955	684	\$1,337,273	33.3%
McLeod County	\$1,870	533	\$996,488	32.4%
Mahnomen County	\$2,714	253	\$686,583	41.8%
Marshall County	\$2,365	101	\$238,841	40.1%
Martin County	\$1,695	323	\$547,490	30.8%
Meeker County	\$2,165	325	\$703,482	36.1%
Mille Lacs County	\$2,125	546	\$1,160,246	35.2%
Morrison County	\$2,056	514	\$1,056,844	34.9%
Mower County	\$1,793	676	\$1,212,026	30.7%
Murray County	\$2,016	106	\$213,697	35.6%
Nicollet County	\$1,766	951	\$1,679,758	31.0%
Nobles County	\$2,112	659	\$1,391,750	33.8%
Norman County	\$2,364	133	\$314,428	39.4%



Age of Minnesota Housing Stock



Electric Bill



High Energy Burden

$$\text{Energy Burden} = \frac{\$2,600 \text{ (energy costs)}}{\$7,959 \text{ (HH income)}} = 32.7\%$$

Energy Poverty = Burden of > 6%



Income

Energy
Costs

Methods to
reduce
energy
burden

ENERGY BURDEN REDUCTION FRAMEWORK

Current Burden	\$ 2,498.76	12.49%
Solar Savings	\$ 328.35	1.64%
Gas savings		0.00%
>Furnace	\$ 82.70	0.41%
>Water Heater	\$ 21.29	0.11%
Weatherization %	\$ 499.75	2.50%
LIHEAP	\$ 500.00	2.50%
Education %	\$ 49.98	0.25%
New Burden	\$ 1,016.69	5.08%

Future Components

LEAD TOOL: county, utility, housing

NEAT: specific audit tool

PV Watts

LIHEAP intake data

Integrated calculation in FACSPRO

DO NO HARM

Building upon existing efforts

Building upon Existing Efforts



Healthy AIR
Program



Multifamily
Pilot

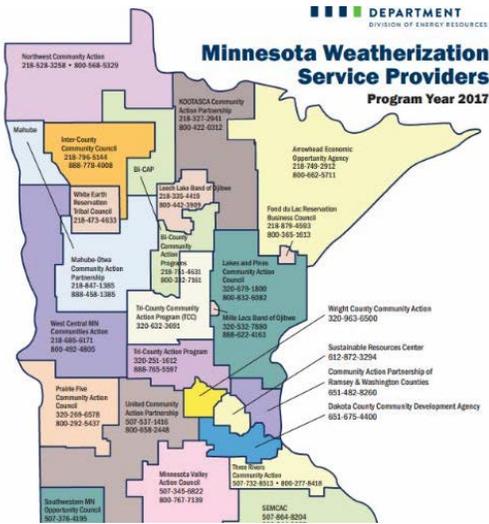


Pre-Assess
For Solar



Post-WAP
Info/\$

Building upon Existing Efforts



Survey for Best Practices



Promote Innovation



Solar Strategic Plan

Building upon Existing Efforts



Protect &
Expand CSG
Market

Current Burden	\$ 2,498.76	12.49%
Solar Savings	\$ 328.35	1.64%
Gas savings		0.00%
>Furnace	\$ 82.70	0.41%
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Education %	\$ 49.98	0.25%
New Burden	\$ 1,016.69	5.08%

Build out
Resource Tool



10% Solar
Carve-out

A sunset background with three overlapping circles. The largest circle is dark blue and contains the text "Don't Believe Everything You Think". A smaller green circle overlaps the top right of the blue circle and contains "Go and Listen". A black circle overlaps the bottom right of the blue circle and contains "Do NO Harm".

Don't Believe
Everything
You Think

Go and
Listen

Do NO Harm

Thank you

Michelle Gransee | SEO Manager

Michelle.gransee@state.mn.us | 651.539.1855

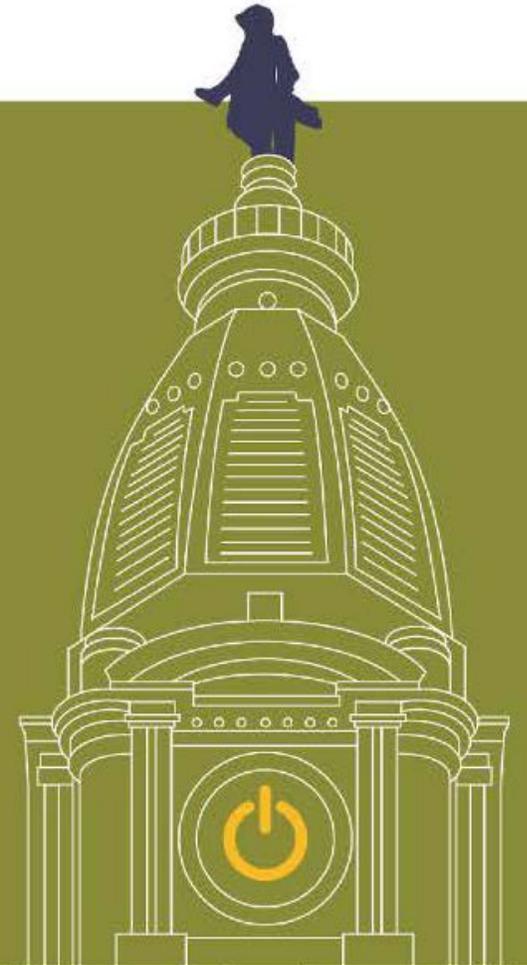
mn.gov/commerce



Energy as a Tool for Impact: The Philadelphia Energy Campaign

*Better Buildings Summit
August 21-23, 2018*

Emily Schapira, *Executive Director*



“The Poorest Big City in America”

- 1.6M residents, population increasing, 6th largest city in US
- 26% live below the poverty line, incl. 1 in 3 children
- Real estate boom, thriving downtown and inner ring neighborhoods
- 5.8% unemployment citywide, unemployment among African-Americans historically 2x the city average



Philadelphia's Energy Issues

- Residents below 30% AMI pay 23% of their income to utilities
- >50% of African-American households at any income level faced energy insecurity at least once last year
- >40% renters faced energy insecurity last year
- Corner stores pay more for utilities than rent



CLEAN, EFFICIENT, AFFORDABLE

energy as a tool for impact

ECONOMIC development

Projects that move the needle on carbon reduction are bringing established companies, investors and entrepreneurs to the city.

CREATING jobs

Statewide, the number of clean energy jobs already outpaces the number of fossil fuel jobs.

ALLEVIATING poverty

Reducing the energy burden for Philadelphians means homes that are safe, warm, healthy and affordable for the long term.

IMPROVING public health

In public buildings, schools, homes and businesses, clean and efficient energy is a vehicle for improving the health of our communities.



The Philadelphia Energy Campaign

- **\$1 billion investment over 10 years** in energy efficiency and clean energy projects, leveraging public and private dollars
 - **10,000 jobs**
 - 25,000 households
 - 2,500 small businesses
- **Year 1 Results:**
 - \$53 million in active projects
 - 225 jobs
 - \$750M+ pipeline
- No state, city or utility funding



PEA Programs

1. City Buildings

- Philadelphia Museum of Art
- Renewables PPA
- LED Streetlighting
- Prisons & Public Safety

2. Schools

- 3-School Efficiency Pilot
- Phase 1 EPC
- Solar Installer Training (CTE, PYN, OIC, ECA)

3. LMI Residential

- Multi-family Affordable Housing Efficiency Pilots
- City Council Housing Preservation Initiative
- Philadelphia Housing Authority EPC
- Solarize Philly (Market & LMI)
- Water/Sewer Line Insurance Program

4. Small Business

- Corner Stores, Restaurants, Auto Mechanics & Laundromats Energy Efficiency Pilot

5. Other

- Flat Rock Dam Hydro partnership (PEA, PWD)
- Commercial Solar & Microgrid development
- Scaled Financing (Philadelphia Green Bank)
- LMI Solar Tax Equity Investment Fund

City Buildings & Schools

- City of Philadelphia is a BBC partner, halfway to 2020 goals
- **Philadelphia Museum of Art**
 - JCI EPC, under construction
 - Largest City energy user (\$3M/yr), 24% energy savings
- **\$225 million City project pipeline**
 - LED Streetlighting, Renewables PPA, Prisons Complex
- **Energy Master Plan & City Climate Commitments**
 - 100% renewable electricity by 2030
 - 80% carbon reduction by 2050
- **School District EPC – Pilot + Phase I**
 - Pilot – 3 high schools, \$22M, major capital work, 20% savings, currently under construction



Small Business Energy Efficiency Pilot



Small Business Energy Efficiency Pilot

- Round 2 currently active, over 100 audits
- Focusing on corner stores, food businesses, laundromats, and auto services
- Targeting 30% energy savings and immediate positive cash flow with financing
- Affordable long-term financing through WPFSI (local CDFI, 7-yr term, 7.75%, business counseling included)
- Utility incentives and state grant (up to \$7000 matching)



Multi-Family Affordable Housing Pilot



Multi-Family Affordable Housing Pilot

- Pilot 1 delivered comprehensive building retrofit with >30% energy savings over 2 phases
- 4 properties, 190 units, all low-income:
 - Phase 1 completed December 2017 and produced 15-30% savings
 - Smart thermostats, boiler controls, lighting, low-hanging fruit measures
- Pilot 2 using more traditional ESCO model and single phase, no up front audit cost, leveraging utility programs



KEY PARTNERS:





Solarize PHILLY

A CITYWIDE
PROGRAM TO HELP
ALL PHILADELPHIANS

GO SOLAR
AT HOME

SIGN UP BY SEPTEMBER 30 at
solarizephilly.org



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ENERGY AUTHORITY

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Solarize Philly

- Philadelphia 4th fastest growing solar market in US in 2017 (46%)
- 3,500 sign-ups, 240 contracts
- 43 new solar jobs created
- 52 students trained in clean energy, 10 paid internships
- 2 new adult training programs



LMI Solar Tax Equity Investment Fund

- **Program Features:**
 - 45 participating LMI households, 203 kW, \$638,000 investment
 - Income requirements (150% FPL to 80% AMI)
 - 12 months on-time payment in full of electric bills
- **Key contributions (pilot phase):**
 - \$300,000 tax equity investment, ROI to P3 partner: 12.48%
 - \$338,000 in loan funds at 3% interest rate, 15 years
 - 10% loan loss reserve
- **Future opportunity (through 2026, Philadelphia-only)**
 - 1000 participating LMI households, 4.5 MW, \$14.2M investment

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