AUGUST 21-23, 2018 • CLEVELAND, OHIO
CELICA Sunset Workshop

Wednesday, August 22, 2018
8:00 am - Noon
CELICA Sunset Workshop

- Alana Mathews, California Energy Commission
- Hans Berg, State of Washington
- Kerry O’Neill, Connecticut Green Bank
- Terri Novak, State of Michigan
Alana Mathews
California Energy Commission
Energy Equity Indicators

An Assessment and Tracking Resource

Alana Mathews
Public Adviser
California Energy Commission
In The Beginning....

2015
Clean Energy and Pollution Reduction Act

2016
Low-Income Barriers Study (12 Recommendations)

2017
Implementation/Tracking Progress
Energy Equity Indicators Overview

• Set Statewide Baseline

• Advance Energy Savings

• Track Performance

<table>
<thead>
<tr>
<th>#</th>
<th>Recommendation</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Organizing a multiagency task force to facilitate coordination across state-administered programs</td>
<td>Health and safety issues abated</td>
</tr>
<tr>
<td>2</td>
<td>Enabling community solar offerings for low-income customers</td>
<td>Community energy resilience</td>
</tr>
<tr>
<td>3</td>
<td>Formulating a statewide clean energy labor and workforce strategy</td>
<td>Clean energy jobs</td>
</tr>
<tr>
<td>4</td>
<td>Developing new financing pilot programs to encourage investment for low-income customers</td>
<td>Energy savings</td>
</tr>
<tr>
<td>5</td>
<td>Establishing common metrics and encouraging data sharing across agencies and programs</td>
<td>All indicators</td>
</tr>
<tr>
<td>6</td>
<td>Expanding funding for photovoltaic and solar thermal offerings for low-income customers</td>
<td>Rooftop solar</td>
</tr>
<tr>
<td>7</td>
<td>Enhancing housing tax credits for projects to include energy upgrades during rehabilitation</td>
<td>Amount invested</td>
</tr>
<tr>
<td>8</td>
<td>Establishing regional outreach and technical assistance one-stop shop pilots</td>
<td>Number served</td>
</tr>
<tr>
<td>9</td>
<td>Investigating consumer protection issues for low-income customers and small business in disadvantaged communities</td>
<td>Number served</td>
</tr>
<tr>
<td>10</td>
<td>Encouraging collaboration with community-based organizations in new and existing programs</td>
<td>High energy bills</td>
</tr>
<tr>
<td>11</td>
<td>Funding research and development to enable targeted benefits for low-income customers and disadvantaged communities</td>
<td>Amount invested</td>
</tr>
<tr>
<td>12</td>
<td>Conducting a follow-up study for increasing contracting opportunities for small businesses located in disadvantaged communities</td>
<td>Small businesses</td>
</tr>
</tbody>
</table>
Energy Equity Indicators Overview

- Set Statewide Baseline
- Advance Energy Savings
- Track Performance
Energy Equity Objectives

Access
- Number served
- Small business contracts
- Clean energy jobs

Investment
- Amount invested
- Energy savings
- Rooftop solar

Resilience
- August electricity bill
- Health and safety issues abated
- Energy resilient communities
August Electricity Bill

Source: Energy Commission analysis based on CPUC historical data, CalAdapt for cooling degree days; U.S. Census Bureau 2010 census tract boundaries, 2011-2015 ACS.
Clean Energy Jobs

Sources: Advanced Energy Economy Institute; U.S. Census Bureau. Semicircles are placed in the center of each county but represent data for the whole county.
Small Business Opportunities

Percentage of California State Government Contract Dollars Awarded to Small Businesses and Microbusinesses: Annual Results (Fiscal Year 2009-2015)

Source: Department of General Services

California Small and Microbusinesses in Low-Income Areas

More Information

• Energy Commission Tracking Progress Reports
  http://www.energy.ca.gov/renewables/tracking_progress/

• Draft Energy Equity Indicators Tracking Progress Report
  http://www.energy.ca.gov/2018_energypolicy/documents/#03022018

• Energy Commission Low-Income Barriers Study, Part A
  http://www.energy.ca.gov/sb350/barriers_report/

• California Air Resources Board Clean Transportation Access Guidance Document (Barriers Study, Part B)
  https://www.arb.ca.gov/msprog/transoptions/transoptions.htm

• SB 350 Disadvantaged Communities Advisory Group
  http://www.energy.ca.gov/sb350/DCAG/
Thank You

Alana Mathews
Alana.Mathews@energy.ca.gov
916-654-4489
Kerry O’Neill
Connecticut Green Bank
Expanding Access to Clean Energy for LMI Communities through Financing

CELICA Sunset Workshop
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](http://www1.ctdol.state.ct.us/lmi/privatessectoremployment.asp)
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

This presents an opportunity for financing for some segments of the low-to-moderate income market
Residential 1-4 Owner Occupied Low-to-Moderate Income Portfolio

- Anchor offering using a 2nd loss reserve to attract local lenders
  - $3MM LLR
  - $6MM in interest rate buydown campaigns
- Low interest, flexible terms
- 40+ measures (EE and RE) through managed contractor network
- Traditional underwrite with generous criteria

- 2015 LMI Solar 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

Thoughtful program guidelines help achieve strong consumer protections
Smart-E Loan for Homeowners with Network of Local Lenders & Contractors

Quick, Easy, Affordable

- Unsecured personal loan, no application fee, no prepayment penalty
- **Low-interest** with **flexible terms** and fixed monthly payments
  - 2nd loss reserve used to achieve below market rates and longer terms
- **40+** energy improvements can be financed
  - Boilers, Furnaces, Heat Pumps, Central Air, Insulation, Solar, EV Chargers and more!
- Loan amounts from $500-$40,000
- 25% of Loan can be used to address **health & safety**, appliances, “other”
- **Working capital** built in for contractors

<table>
<thead>
<tr>
<th>Loan Terms</th>
<th>5-yr</th>
<th>7-yr</th>
<th>10-yr</th>
<th>12-20-yr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.49%</td>
<td>4.99%</td>
<td>5.99%</td>
<td>6.99%</td>
</tr>
</tbody>
</table>

- **Standard**: 640+ FICO, 40-45% DTI
- **Credit-Challenged**: 580+ FICO, 50% DTI
Smart-E Results in Connecticut

- 2,900 closed loans totaling $51 million of investment
  - 1,500 financed with .99% special offer ($28M)
  - 425 financed with 2.99% special offer ($10M)
- 40,000 MMBTUs saved, 7.7MW of solar PV
- $17,500 average amount financed
- Average FICO is 735, trending down, DTI 30%
- Approaching market penetration parity across income-banded census tracts
- Superior portfolio performance

<table>
<thead>
<tr>
<th>TOP SMART-E MEASURES</th>
<th>Measure Category</th>
<th>Percent of Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar PV</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Boiler</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Insulation</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Other*</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Ductless Heat Pump</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Furnace</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Central AC</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Hot Water Heater</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Air Source Heat Pump</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Electric Heat Pump Water Heater</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Geothermal Heat Pump</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

*Other may include doors, appliances, or health and safety remediations
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

Home
(New Haven – Oil Heat)
$59,250 HHI
High Energy Costs
High Energy Burden

Solar PV
(Lease)
$60 to $110/month Lease
Solar $ Savings
Moderate Energy Burden

Energy Efficiency
(ESA)
$10/month ESA Energy Savings
<<Additional Savings>>
Solar + EE $ savings
Reasonable Energy Burden

Target $500 a year in savings after financing.
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
Moving the Needle on Inclusive Prosperity – Residential Rooftop PV

Solar Penetration by Census Tract Median Income 2012-2017

Median Income of Census Tract
- >120%
- 100%-120%
- 80%-100%
- 60%-80%
- <60%

Year Project Approved

Percent (%) of Projects in Given Year

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

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

“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
**Affordable Multifamily Housing**  
Unlocking Cash Flows with Unsecured LIME Loan

---

**East Meadow Condo Association, Manchester, CT**

<table>
<thead>
<tr>
<th>Description:</th>
<th>Lighting, boilers, roof replacement, insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project Costs:</td>
<td>$654,000</td>
</tr>
<tr>
<td>Utility Incentives:</td>
<td>$34,000</td>
</tr>
<tr>
<td>Financed:</td>
<td>$620,000</td>
</tr>
<tr>
<td>Estimated Annual Savings:</td>
<td>$79,000</td>
</tr>
<tr>
<td>Annual Debt Service:</td>
<td>$53,000, 1.48 DSCR</td>
</tr>
<tr>
<td>Financing Terms:</td>
<td>20 years, 6.00%</td>
</tr>
<tr>
<td>Payback Period:</td>
<td>7.8 years</td>
</tr>
</tbody>
</table>

---

Energy improvements yield significant savings, unlocking cashflows that cover debt service – often for additional improvements such as needed structural, health or safety work.

Transformative Naturally Occurring Affordable Housing Project

Success Village Co-Op, Bridgeport

<table>
<thead>
<tr>
<th>Description:</th>
<th>964 units, WWII workers housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Heating Costs:</td>
<td>$1.8M (2015)</td>
</tr>
<tr>
<td>Potential Energy Upgrades:</td>
<td>Central steam boiler system, steam pipe network, unit insulation</td>
</tr>
<tr>
<td>Health &amp; Safety Issue:</td>
<td>Asbestos contamination</td>
</tr>
</tbody>
</table>

Energy improvements yield significant savings, unlocking cashflows that cover debt service – often for additional improvements such as needed structural, health or safety work.
High Performing New Construction

**West Gate Apartments, 515 West Ave., Bridgeport**

<table>
<thead>
<tr>
<th>Description:</th>
<th>48 total units with two commercial spaces (58,994 sqft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Efficiency Measures:</td>
<td>Increased insulation in wall, floor, roof; increased window, water heat and heating efficiency;</td>
</tr>
<tr>
<td>Energy Upgrades:</td>
<td>Adding solar through PPA</td>
</tr>
<tr>
<td>Total funds:</td>
<td>$391,300</td>
</tr>
<tr>
<td></td>
<td>Green Bank Debt Capital - $250,000, Green Bank Forgivable Loan - $37,500</td>
</tr>
</tbody>
</table>

Pre-development and term capital enables a strong nonprofit developer to include high performing green features for project supporting very low income families and homeless veterans.
Aligning services and funding, braiding relevant resources, coordinating service delivery to produce results

Vision for Health + Energy + Housing Collaboration in CT

- Solve the funding gaps for health and safety remediation
- Break down silos – on the funding side and the delivery side

And do this **sustainably** – so we can solve the problem **at scale** all across the state
CT Green and Healthy Homes Project
Strong Agency & Partner Buy-In for Statewide Systems
Change Model to Unlock Sustainable Funding
More Info:
www.ctgreenbank.com

Contact us:

Kerry O’Neill
Vice President, Residential Programs
Kerry.Oneill@ctgreenbank.com
(860) 257-2884
Appendix:
Supplemental Information
CT Low-to-Moderate Income Market: By the Numbers

<table>
<thead>
<tr>
<th>Income Level by AMI Band</th>
<th># of Census Tracts</th>
<th>Tract Households</th>
<th>% of Households</th>
<th>Tract Owner Occupied Households</th>
<th>% OO HHs in AMI Band</th>
<th>Tract Renter Occupied Households</th>
<th>% Rental HHs in AMI Band</th>
<th>Average Median Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;60%</td>
<td>167</td>
<td>232,021</td>
<td>17%</td>
<td>67,273</td>
<td>29%</td>
<td>164,748</td>
<td>71%</td>
<td>$35,054</td>
</tr>
<tr>
<td>60%-80%</td>
<td>110</td>
<td>194,858</td>
<td>14%</td>
<td>103,963</td>
<td>53%</td>
<td>90,895</td>
<td>47%</td>
<td>$55,135</td>
</tr>
<tr>
<td>80%-100%</td>
<td>128</td>
<td>225,955</td>
<td>17%</td>
<td>149,072</td>
<td>66%</td>
<td>76,883</td>
<td>34%</td>
<td>$69,958</td>
</tr>
<tr>
<td>100%-120%</td>
<td>144</td>
<td>253,815</td>
<td>19%</td>
<td>193,581</td>
<td>76%</td>
<td>60,234</td>
<td>24%</td>
<td>$81,930</td>
</tr>
<tr>
<td>&gt;120%</td>
<td>274</td>
<td>448,028</td>
<td>33%</td>
<td>386,334</td>
<td>86%</td>
<td>61,694</td>
<td>14%</td>
<td>$118,744</td>
</tr>
<tr>
<td>Grand Total</td>
<td>823</td>
<td>1,354,677</td>
<td>100%</td>
<td>900,223</td>
<td>66%</td>
<td>454,454</td>
<td>34%</td>
<td>$78,658</td>
</tr>
</tbody>
</table>

CT Green Bank Definitions

Low Income = 80% AMI or lower, 40% are homeowners

Moderate income – 81%-100% AMI, 66% homeowners

REFERENCES
2016 ACS Census data
Residential Low Income Market
By the Numbers

Low-Income Households by Housing Type

- Owner Occupied 1’s: 31%
- Rental 1-4’s / Owner Occupied 2-4’s: 29%
- Rental 5+: 40%

QUICK FACTS: LMI HOUSING IN CT

Connecticut Population - 3,589,000
Total Housing Units – 1,355,000
Total Low Income Units – 427,000 (32%)
% Low Income in 1-4 Units – 70% (297,000)
% of Low Income in 5+ Units – 30% (130,000)

% Homes that are Low Income
  - Single Family – 17%
  - 2-4 units – 64%
  - Multifamily 5+ units – 56 %
% of Homes Built Before 1979 – 72%
% of Homes Built Before 1939 – 25%

Low income households are concentrated in older properties in poor condition, in need of significant capital improvements, and include many smaller rental properties.

REFERENCES
2016 ACS Census data
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

Reducing Energy Burdens
For Those That Need It Most

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).

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)

Knob & Tube Wiring  Mold/ Water Leaks  Asbestos

Lead Paint  CO Off-Gassing  Radon

Carbon Monoxide

Older housing stock is NOT just about energy:
Health and safety issues estimated in 25-40% of units
## State Energy Efficiency Financing Landscape

<table>
<thead>
<tr>
<th>Product</th>
<th>Term</th>
<th>Rate</th>
<th>How much can customers borrow?</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Energy Solutions Micro Loan</td>
<td>3 years</td>
<td>0%</td>
<td>Up to $3,000</td>
<td>On bill or direct bill; for pre-approved measures</td>
</tr>
<tr>
<td>Energy Conservation Loan</td>
<td>10 years</td>
<td>0%-2.99%</td>
<td>$400-$25,000</td>
<td>Direct bill; Income requirements; No minimum credit score;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Emergency situations only; Customers must not qualify for Smart-E or Heating Loan</td>
</tr>
<tr>
<td>Smart-E Loan</td>
<td>5-12 years</td>
<td>4.49%-6.99%</td>
<td>$500-$40,000</td>
<td>Direct bill; 100% financing; 40% eligible measures; health and safety; FICO 580+</td>
</tr>
<tr>
<td>Heating Loan</td>
<td>3-10 years</td>
<td>0.99%</td>
<td>Up to $15,000; Up to 90% of project cost</td>
<td>On-bill; looks at energy savings to determine eligibility and down payment</td>
</tr>
</tbody>
</table>
Observations

- Need to have a long horizon, analyze your market, sequence strategies, and invest for long term
- Don’t assume low-to-moderate income residents don’t want solar!
- Don’t assume just because uptake in LMI markets is low that the product is wrong (though it might be…)
  - Need targeted outreach/marketing and contractors serving these markets
- LMI residents are not always correlated with bad credit!
  - But… they are much more likely to assume their credit is bad, and therefore not even apply for financing
  - Alternative underwriting strategies can be a big help
- Consumer protections and education are a must
  - Especially with LMI, and even more especially with LMI seniors
On-Bill vs. Unsecured Lending

- On-bill doesn’t appear to give a product an advantage over direct bill/unsecured
  - Contractor channel and targeted outreach are **much, much** more important to success

- Get to know your utilities
  - Do they want to be involved in an on-bill program
  - Are their billing, customer service, other systems set up to handle all the intricacies of on-bill?
  - What’s their IT queue like? (e.g., is it 1+ years before your project can get programmed?
  - How much will it cost, and who is paying?
    - e.g., in Smart-E product, participating lenders pay for origination/underwriting/servicing, not the program
Terri Novak
Michigan Energy Office
MI CELICA: Cherryland Community Solar Pilot

Terri Novak
Michigan Energy Office

2018 Energy Exchange & Better Buildings Summit
August 22, 2018
Agenda

• Michigan Agency for Energy/Energy Office
• US DOE CELICA Accelerator
• MI CELICA - Cherryland Pilot Project
• Successes/Challenges
• Lessons Learned
• Next Steps
• Resources
Michigan Agency for Energy

- Michigan Energy Office
  - State Energy Program
  - Technical Assistance
  - Financial Assistance

- Energy Security
- Outreach and Education
Promote healthy communities, economic growth and environmental sustainability through EWR and RE.

- Engage stakeholders to achieve combined 35% EWR/RE by 2025
- Accelerate economic growth thru advanced mobility, manufacturing and healthy communities
- Lead-by-example initiatives
- Provide and support energy education
- Encourage the use and transparency of energy data
MI CELICA

Pairing:
- Weatherization
- Income Eligibility
- EWR and Solar

Demonstrations:
- Cooperative
- Municipal
- Investor Owned
MI CELICA - Cherryland Pilot Project Partners

• **Federal Partners:**
  • Department of Energy, Better Buildings Initiative
  • National Renewable Energy Laboratory (NREL)

• **State Agencies:**
  • Michigan Agency for Energy (MAE) - MI Energy Office
  • Michigan Public Service Commission (MPSC) – Customer Service
  • Department of Health and Human Services (DHHS) – Weatherization Assistance Program

• **Local Utility:** Cherryland Electric Cooperative

• **Local Community Action Agency:** Northwest Community Action (NWCAA)
MI CELICA - Cherryland Pilot Project Roles

**Cherryland Electric Cooperative**
- Marketing, recruitment, and education
- Develop billing structure
- Collect routine energy data on electricity usage
- Lead on Power Purchase Agreement with Wolverine Power/Spartan Solar
- Support shares for 250 panel subscriptions from Spartan Solar Community Array

**North West Community Action Agency**
- Identify and select 50 eligible households
- Marketing and educate customers
- Weatherization Assistance

**State of Michigan**
- Coordinate partner relations and Fed TA, implementation, reporting and initial work plan
- Establish eligibility criteria
- Support shares for 200 solar panel subscriptions
- Conduct data analysis, evaluate metrics, and case study
MI CELICA - Cherryland Electric Cooperative

• Member owned, electricity distribution cooperative
• Purchase power through Wolverine Power Cooperative
  • Wolverine owns Spartan Solar, a community solar array near Cadillac, MI
    https://www.spartansolar.com/
• Covers six counties in N. Michigan
  (Benzie, Grand Traverse, Kalkaska, Leelanau, Manistee, Wexford)
  • Rural, low-moderate income populations
  • Most receive heat through propane and wood
MI CELICA - Cherryland Pilot Project Overview

• Cherryland Pilot Project launched in Fall, 2017
• Serving 50 low income households
• Eligibility criteria includes
  • Income at/below Federal poverty line
  • Previously received weatherization services
  • Own or rent their house, and designated as single-family
  • Willingness to share energy data
• Households enrolled on an annual basis
• Solar generated through existing community solar array
MI CELICA - Cherryland Pilot Successes

• Partnerships (Ready, Willing and Able)
• Leveraging Resources
• Enrolled 50 households
• Bill credits began March 1, 2018 (est. to save 30-40%)
• Testimonial:

Roblero-Gomez and Ogemagegedo are both looking forward to seeing what those shares do for their power bill. It's been higher than usual lately, and their struggle to make ends meet has only gotten worse as costs rise and Ogemagegedo deals with health issues. “We've just got to get over this hump, and we're really fortunate to have programs that can help us.”

MI CELICA - Cherryland Pilot Challenges

- Funding/Mgt of Solar Subscriptions
- Size and Scope
- Ownership Model
- Selection and Eligibility
- Timing and Partnerships
- Investor Owned Utility issues
- State Policy
- Model Replication
- Subscription Management
MI CELICA - Cherryland Pilot Lessons Learned

• Messaging matters
  • Local Leads on program education and enrollment

• Strong partnerships essential
  • Community Action Agency (weatherization provider), and Utility
  • 3rd party facilitator to help facilitate and educate

• Start small scale
  • Can always expand
  • Don’t assume energy literacy
  • Educate, educate, educate

• Spread the word
MI CELICA – Cherryland Pilot Additional Background

• Podcast Interview
  • https://www.cherrylandelectric.coop/2018/02/cherryland-pilots-low-income-solar-program/

• News Articles
  • https://www.cherrylandelectric.coop/2018/05/caring-for-the-forgotten/
  • https://www.cherrylandelectric.coop/2018/02/cherryland-pilots-low-income-solar-program/
  • https://www.solarpowerworldonline.com/2018/03/michigans-first-renewable-energy-program-low-income-customers/
  • http://www.9and10news.com/2018/03/10/cherryland-electric-cooperative-helping-lower-bills-solar-energy/
MI CELICA – What’s Next

• Continue monitoring the Cherryland pilot project

• Data analysis and project evaluation

• Find additional pilot sites to replicate

• Promote pilots
Thank you

Terri Novak
novakT4@Michigan.gov
517.930.3170
Table Top Discussion

1. What are you facing right now on this topic and what questions on this topic are most burning for you?
2. What in your mind needs to shift for your local area to make progress in this area?
3. What results have you had?
CELICA Feedback

1. What would you like to see in the future for low income energy?
2. What initiatives are pressing for you that the federal government can assist with?