

# LOW INCOME SOLUTIONS IN A HIGH DER FUTURE

A POTENTIAL eLAB INITIATIVE

RMI. Creating a clean, prosperous,  
and secure energy future.™







# OVERVIEW

- Thesis:
  - Low income and fixed income (LI/FI) customers are critical segments that are at risk in a transition towards a more distributed and renewable electricity system.
  - To enable a successful transition to this future, the concerns of these customers must be addressed.
- Guiding Questions
  - What are the characteristics and concerns of LI/FI customers?
  - In what ways are these concerns at odds with a highly renewable and distributed electricity system?
  - What solutions already exist that could be the focus of scaling or replication?
  - What are the unmet needs and how can they be addressed?
  - What role can eLab play?



# LOW AND FIXED INCOME CUSTOMER SEGMENTS

## Low Income (LI)

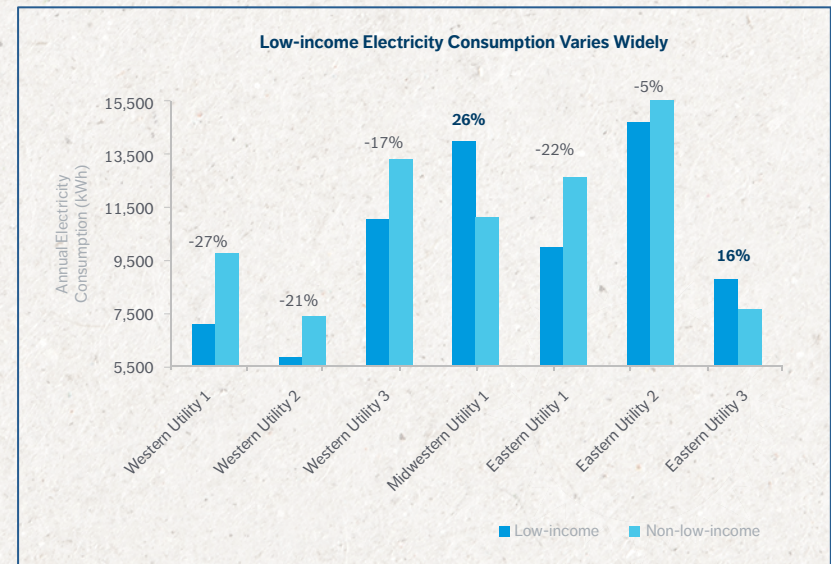
- Often fall below 150-200% of poverty level as defined by US Census (ex. \$36,000 for a family of four)
- 10 million low income families in the US
- LI communities have a history of being politically and economically marginalized

## Fixed Income (FI)

- Live on income that does not increase annually (such as pensions)
- 40 million individuals 65 or older live in the US
  - 50% of seniors live at or below 250% of poverty level
- 1 million social security disability awards in 2013

## Both groups

- Geographically diverse and live in both single- and multi-family homes
- Spend as high as 20% of income on energy
- Have diverse energy use profiles and may have difficulty shifting usage



# CONSUMER ADVOCATE CONCERNS

## Financial

- **Rate Affordability:** LI/FI consumers must not be overly burdened by bills due to rates & rate structures
- **Technological Affordability:** must not be prevented from participation or excluded from benefits by high cost capital equipment
- **Consumer protections:** protections like arrears repayment schedules and others should not be dissolved or weakened
- **Split Incentives:** especially in multi-family housing, building owners' and occupants' interests do not align and so occupants should be protected
- **Energy efficiency:** weatherization and similar energy efficiency programs that mitigate bill impacts should continue to be promoted

## Social

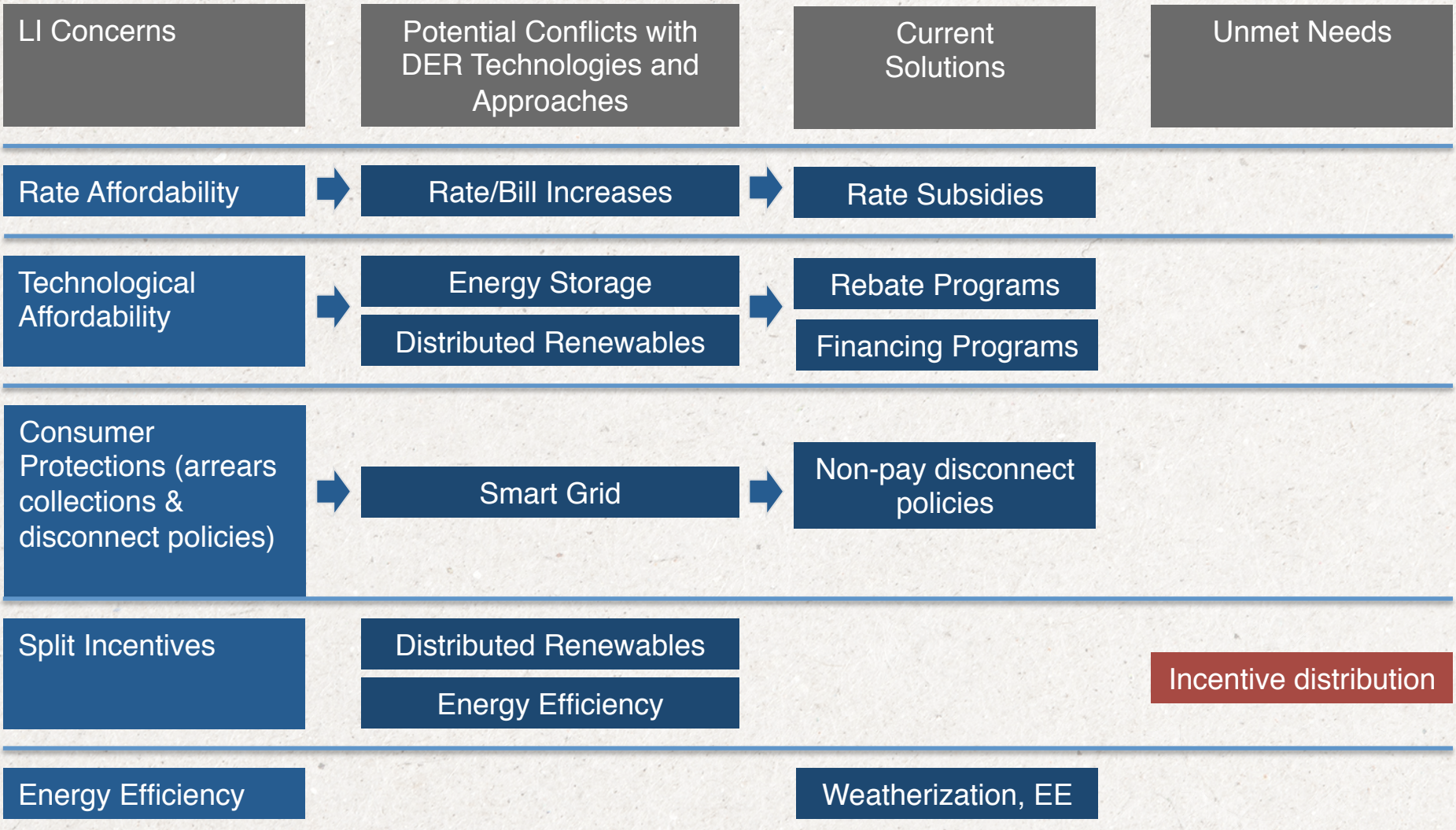
- **Equal representation:** LI/FI concerns must be fairly accounted for and cross subsidies that harm LI/FI customers must be avoided
- **Customer experience:** rate structures and technologies must be accessible and understandable
- **Health and Safety:** continue to provide access to basic needs; continue to improve air quality and other benefits

## Lack of trust

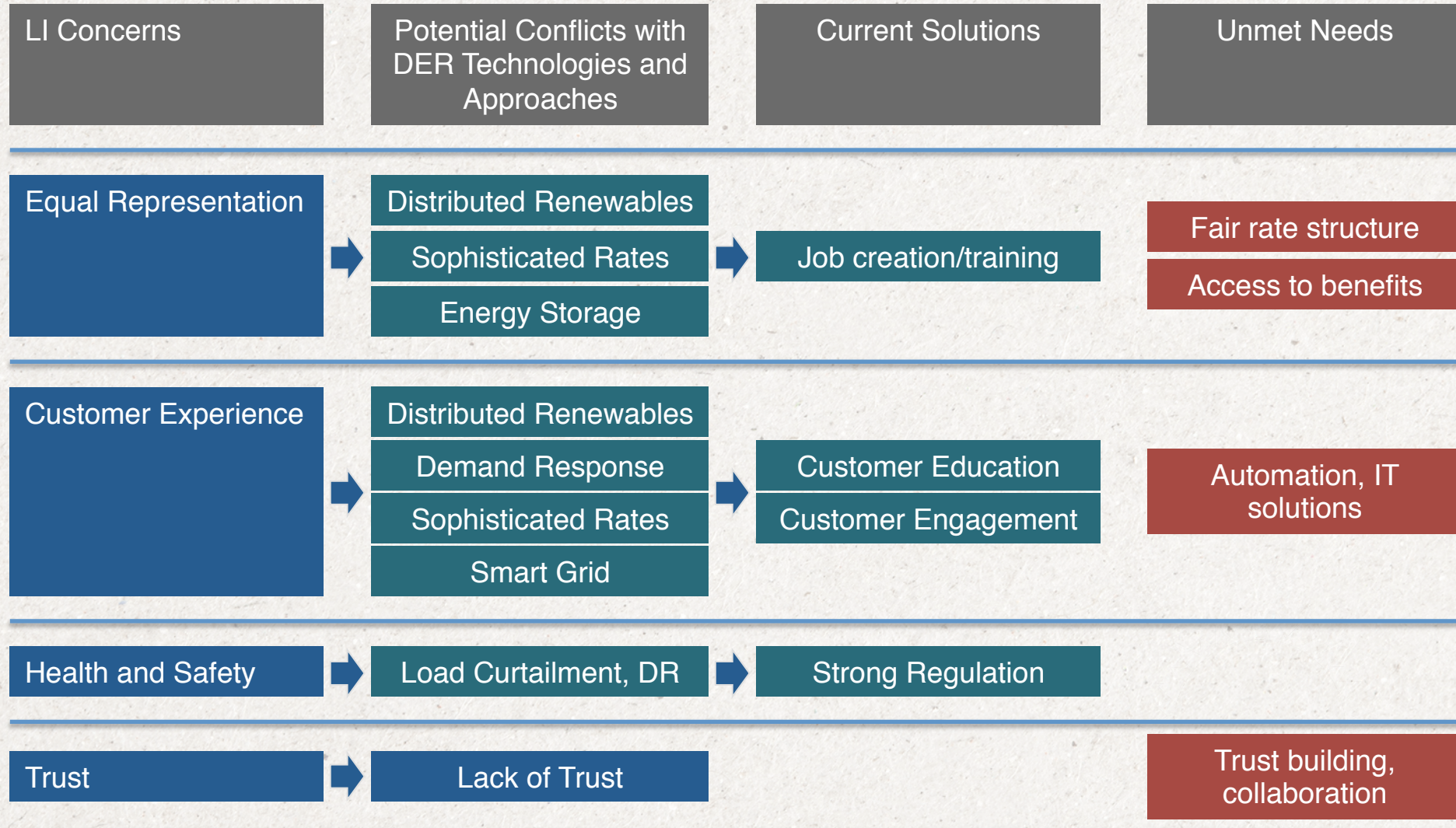
- LI/FI consumer advocates have resisted aligning with environmental and other DER supporting groups



# FINANCIAL NEEDS SOLUTION MAPPING



# SOCIAL AND TRUST NEEDS SOLUTION MAPPING





# IDENTIFYING OPPORTUNITIES FOR ELAB TO MAKE DISTINCTIVE CONTRIBUTIONS

## Current Solutions

Rate Subsidies

Rebate Programs

Financing Programs

Non-pay disconnect policies

Weatherization, EE

Job creation/training

Customer Engagement

Customer Education

Strong Regulation



Which solutions is eLab most capable of scaling or improving?

## Unmet Needs

Incentive distribution

Fair rate structure

Access to benefits

Automation, IT solutions

Trust building, collaboration



How can eLab address these unmet needs?





# APPENDIX



# EXAMPLE CASES

Case	Description	Scenario	DER Technologies and Approaches
<b>Reforming the Energy Vision (Con Edison)</b>	Non-traditional customer side and utility-side demand reduction in Brooklyn/Queens to defer new substation	<ul style="list-style-type: none"><li>• Urban</li><li>• Low Income</li><li>• High unemployment – unique load profile</li></ul>	<ul style="list-style-type: none"><li>• Energy efficiency</li><li>• Demand management</li><li>• Distributed generation</li><li>• Micro grids</li></ul>
<b>Salt River Project</b>	Time-based pricing since 1980 along with smart metering	<ul style="list-style-type: none"><li>• Rural and urban</li><li>• Mixed Income</li></ul>	<ul style="list-style-type: none"><li>• Time of Use pricing</li><li>• Prepayment</li><li>• Smart metering</li></ul>
<b>Low-Income Programs of the California Solar Initiative</b>	Higher up-front incentives for both single-family and multi-family low income customers to meet California's 2017 goal of 2000 MW solar capacity	<ul style="list-style-type: none"><li>• Statewide</li><li>• Single-family</li><li>• Multi-family</li></ul>	<ul style="list-style-type: none"><li>• Solar PV</li></ul>



# EXAMPLES OF CONCERNS IDENTIFIED BY CONSUMER ADVOCACY GROUPS

Case	Concerns of Consumer Advocacy Groups	Consumer Advocacy Groups Involved
<b>Reforming the Energy Vision (Con Edison)</b>	<ul style="list-style-type: none"> <li>• <b>Affordability</b> – decoupling and other means may come at an additional cost not offset by potential savings</li> <li>• <b>Misrepresentation</b> – benefits in return for higher costs may not be delivered to all customers</li> </ul>	AARP
<b>Salt River Project</b>	<ul style="list-style-type: none"> <li>• <b>Consumer protections</b> – loss of incentive to negotiate reasonable payment agreements prior to disconnection</li> <li>• <b>Health and safety</b> – continual threat of service disruption</li> <li>• <b>Misrepresentation</b> – prepayment targeted at low-income households</li> </ul>	NCLC
<b>General concerns with Smart Meters and TOU rates (related to SRP)</b>	<ul style="list-style-type: none"> <li>• <b>Rate structures</b> – time of use rates must not be mandatory, opt-in not opt-out</li> <li>• <b>Consumer protections</b> – levels must not be reduced, especially relating to remote disconnection, traditional billing, and dispute rights</li> <li>• <b>Privacy and cyber-security</b></li> </ul>	AARP NCLC NASUCAU Consumers United Public Citizen
<b>General Solar Concerns (related to California Solar Initiative)</b>	<ul style="list-style-type: none"> <li>• <b>Capital Investment</b> – lack creditworthiness to obtain low-cost, long-term financing</li> <li>• <b>Landlord/Tenant Issues</b> – renters unable to benefit directly from tax benefits</li> </ul>	GRID Alternative

1. AARP Comment - Cases 14-M-0101. AARP. 2014.

2. BEA Comment – Docket No. NOI-2011-0001 . NCLC. 2011.

3. “The Need for Essential Consumer Protections: Smart Metering...” AARP, et. al. 2010.

4. “Ensuring New York Solar Programs Reach Low-Income Residents.” Jospe, J, et. al. 2014.



# SOLUTIONS TO CASES

Case	Solutions
<b>Reforming the Energy Vision (Con Edison)</b>	<ul style="list-style-type: none"><li>• Still in RFI process</li></ul>
<b>Salt River Project</b>	<ul style="list-style-type: none"><li>• Customer education</li><li>• Customer engagement and interaction</li><li>• Program opt-out</li><li>• Untargeted, equitable prepayment plans</li></ul>
<b>Low-Income Programs of the California Solar Initiative</b>	<ul style="list-style-type: none"><li>• \$160 million in incentives</li><li>• Green-jobs training program</li></ul>

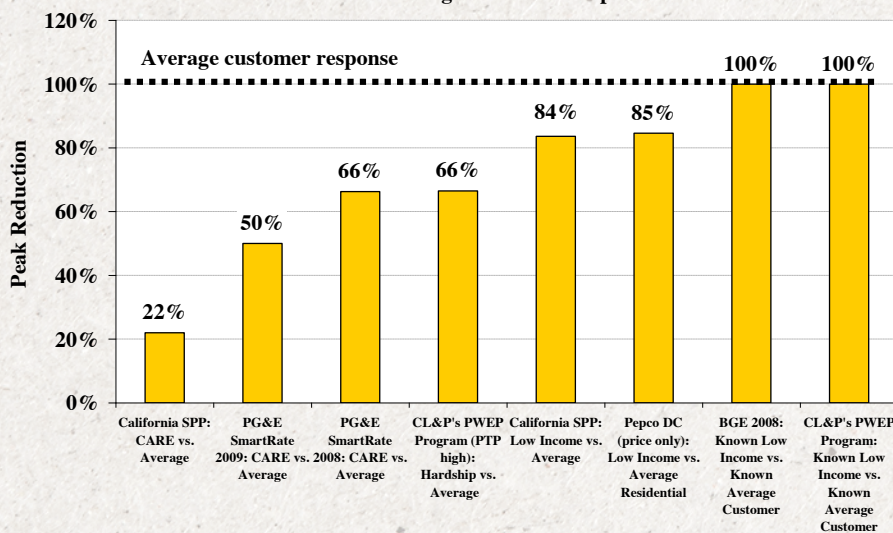


# EXAMPLES OF FINANCIAL BENEFITS

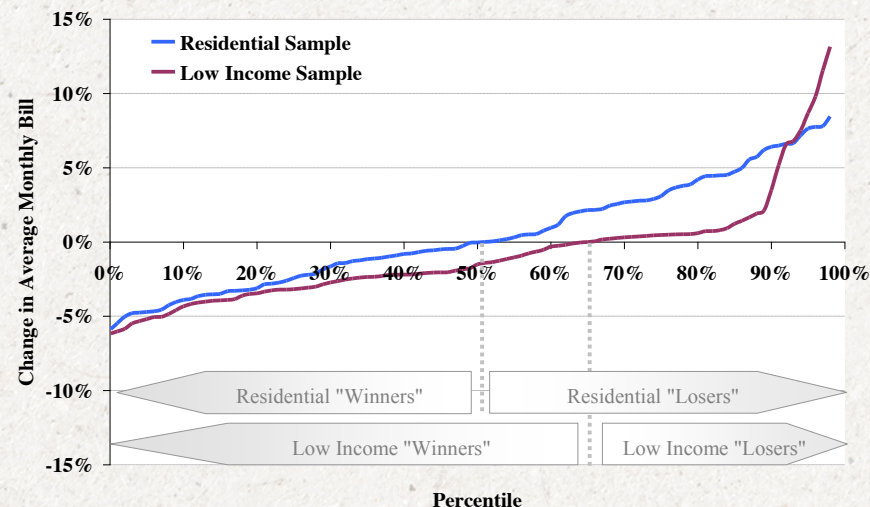
## Financial

- Rate design solutions can have positive financial impacts on LI/FI households, such as reduced energy consumption and lower bills from sophisticated rates

Low Income Customer Responsiveness  
Relative to Average Customer Response



Distribution of Dynamic Pricing Bill Impacts  
Residential and Low Income Customers on CPP Rate (Design #1)





# NON-INDUSTRY EXAMPLES

- Telecom
  - Rapidly expanding and technology dependent sector
  - Consumer advocacy groups are heavily involved in ensuring low income groups can continue to participate as **technologies change** (mobile phones, broadband) and **rates rise**
  - Federal programs, such as Lifeline – discounts for prepaid mobile, landline, and broadband services – are heavily influenced by CAGs
    - NCLC and others support Lifeline modernization efforts that allow customers to **choose** between wireline phone, wireless plan or broadband service
- Transportation
  - California effort to ensure one million zero-emissions vehicles by 2023 with the Charge Ahead California Initiative
    - Recent legislation has been passed in an effort to expand rebates for low-income customers