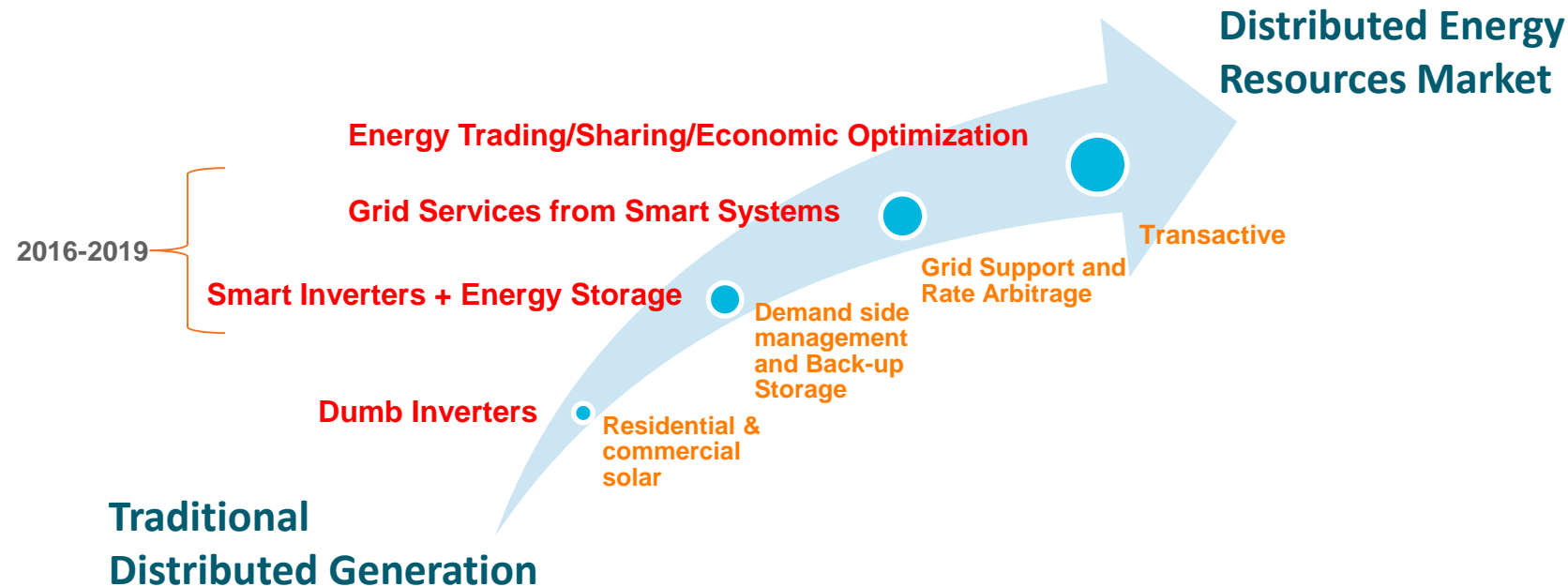


# Getting Paid For Grid Reliability Services

Jason Simon  
Director of Policy Strategy

March 4, 2016

# Grid Of The “Not Too Distant” Future



# Friends With Benefits

## Benefits to the Utility Grid

## Benefits to CCA Customers

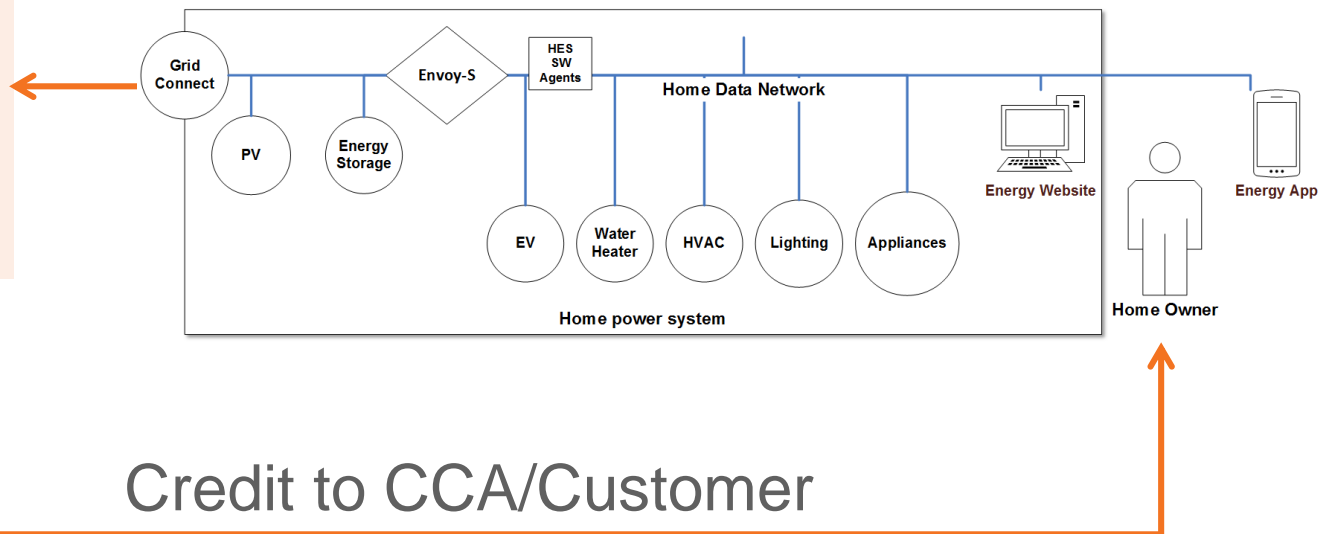
	Value Component	Definition
Wholesale	WECC Bulk Power System Benefits	Regional BPS benefits not reflected in System Energy Price or LMP
	System Energy Price	Estimate of CA marginal wholesale system-wide value of energy
	Wholesale Energy	Reduced quantity of energy produced based on net load
	Resource Adequacy	Reduction in capacity required to meet Local RA and/or System RA
	Flexible Capacity	Reduced need for resources for system balancing
	Wholesale Ancillary Services	Reduced system operational requirements for electricity grid reliability
	RPS Generation & Interconnection Costs	Reduced RPS energy prices, integration costs, quantities of energy & capacity
	Transmission Capacity	Reduced need for system & local area transmission capacity
	Transmission Congestion + Losses	Avoided locational transmission losses and congestion
	Wholesale Market Charges	LSE specific reduced wholesale market & transmission access charges
Distribution	Subtransmission, Substation & Feeder Capacity	Reduced need for local distribution upgrades
	Distribution Losses	Value of energy due to losses bet. BPS and distribution points of delivery
	Distribution Power Quality + Reactive Power	Improved transient & steady-state voltage, harmonics & reactive power
	Distribution Reliability + Resiliency	Reduced frequency and duration of outages & ability to withstand and recover from external threats
	Distribution Safety	Improved public safety and reduced potential for property damage
Customer & Societal	Customer Choice	Customer & societal value from robust market for customer alternatives
	Emissions (CO <sub>2</sub> , Criteria Pollutants & Health Impacts)	Reduction in state and local emissions and public and private health costs
	Energy Security	Reduced risks derived from greater supply diversity
	Water & Land Use	Synergies with water management, environmental benefits & property value
	Economic Impact	State or local net economic impact (e.g., jobs, investment, GDP, tax income)

Source: More than Smart Working Group, 2016

# How It Works

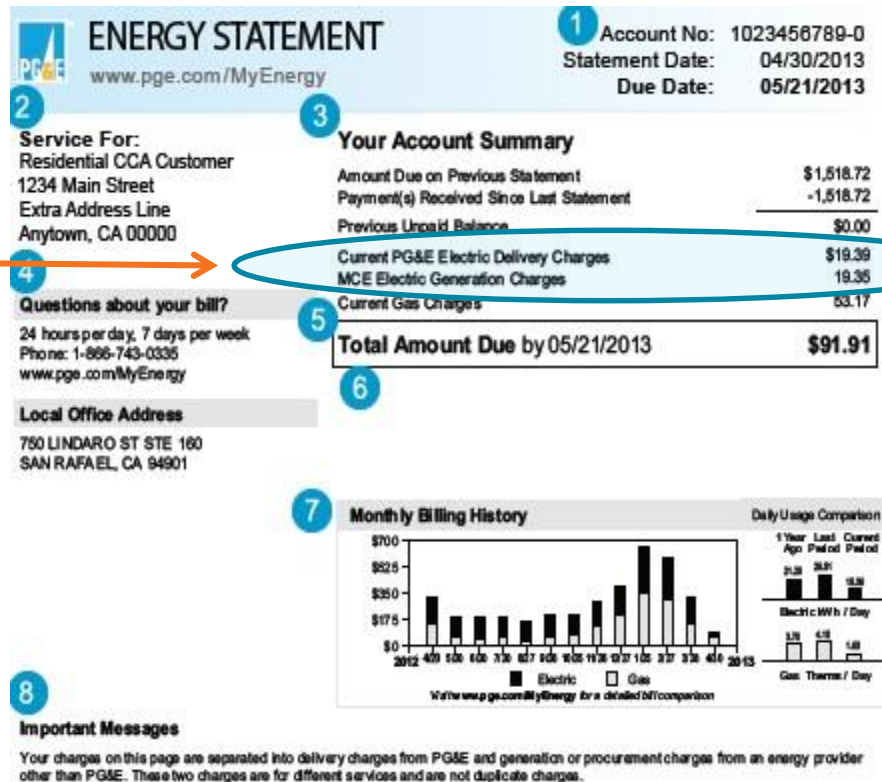
- Power Quality Mgmt
- Grid Upgrade Deferral
- Capacity Deferral

## Lower Energy Footprint



# Direct Customer Financial Savings

50% of Electricity Cost  
= Delivery Charges



Source: <http://www.pge.com/en/myhome/myaccount/explanationofbill/dacs/index.page>

# CCA Benefits

- **Local Economic Development**
- **Customer Choice**
- **Lower Energy and Distribution Costs**
- **Lower GHG Footprint**
- **Customer Acquisition**

# Regulatory/Competitive Hurdles

- **CPUC approval for credit associated with grid benefits from CCA customers**
- **Use cases and pilots still need to define value of services**
  - IOUs currently conducting pilots
- **IOUs interested in developing similar business model**
  - IOUs currently seeking input from potential partners



# Thank You

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