



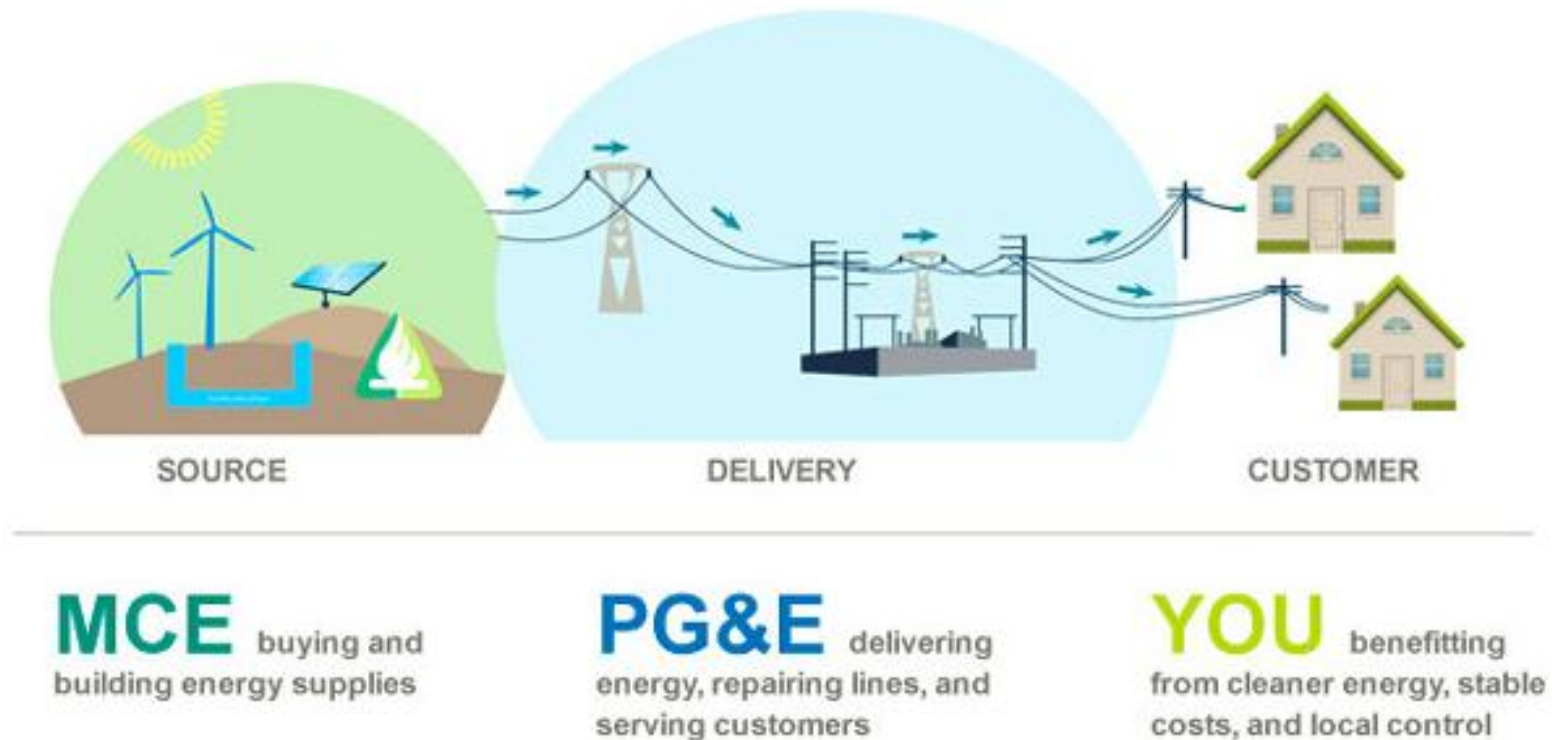
# **Community Choice Aggregation: Energy Localization and Green Jobs**

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**Clean Power, Healthy Communities  
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# Old Utility Model + Distant Green

- Generator-focused, centralized, hierarchical top-down:



Original Illustration by Kiki La Porta, [www.descomstudios.com](http://www.descomstudios.com)

# “Green”, from Virtual ...

- Buying green energy in the wholesale market
  - REC tagged power is physically fossil-fuel
  - Even green wholesale electricity only offers protection from the market during term of sale, so price fluctuates to account for fossil-fuel based electricity that supplies you directly
  - Dependent on transmission
  - Export of community wealth
  - No jobs

# ... to Real

## ➤ Regional renewables

- Physically removes cause of increases in fuel costs for decades
- Physically eliminates regional economic exposure to power cost volatility for decades
- Still exposed to risk of shifting PG&E transmission charges

## ➤ Customer-sited renewables

- Behind-the-meter renewables and efficiency physically eliminates customers' exposure to power price volatility and regulatory risk
- Saves money on the whole bill, not just generation % of bill
- Removes strain/costs from transmission and distribution

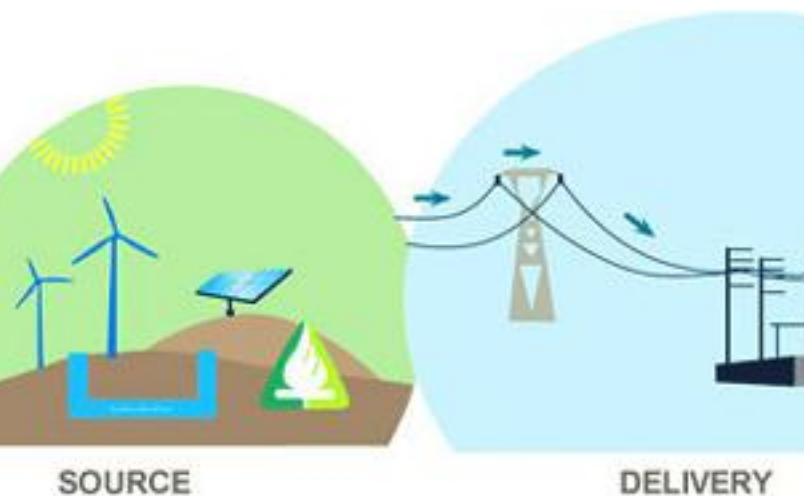
# What is Real?

- **‘Energy Localization’** is customer-centric, not generator-centric
- Structurally different – and superior – approach:
  - Focused on ‘energy as a service’, not as a commodity
  - Bills, not rates, are what matters to customers
  - Behind-the-meter assets (DG/RE/DSM) lower bills (\$/month) but may increase rates (\$/kWh)
  - Challenge: create mix of assets w/ range of costs more/less expensive than grid power, combine so customer sees bill parity/discount with new assets and eventual ownership



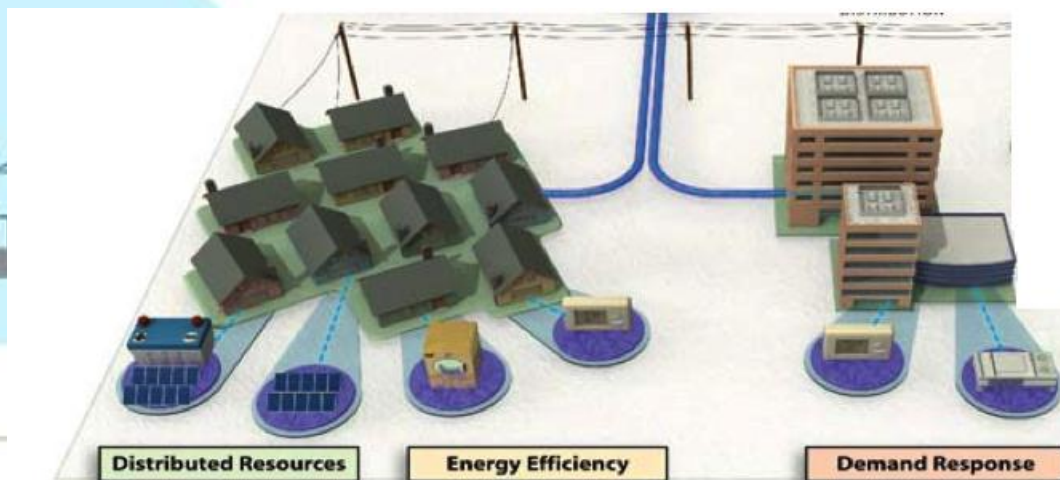
# Energy Localization Model

- Customer-focused, decentralized, networked bottom-up:



**ICE** buying and  
holding energy supplies

**PG&E** delivers  
energy, repairing lines, and  
serving customers



# Difference in Value Proposition

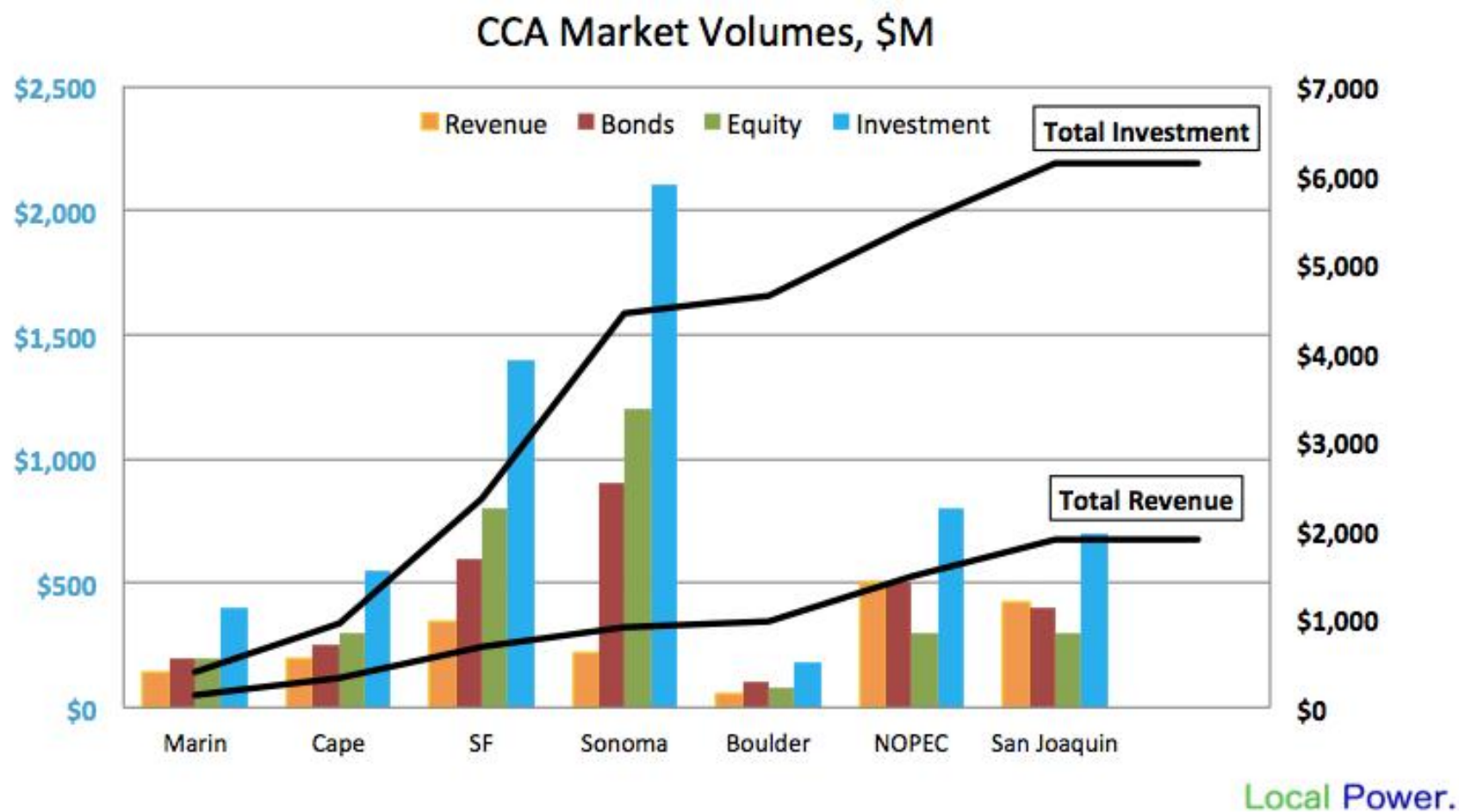
## ➤ Customer-Centric:

- Investment in local RE/DSM for power & *heat*
- Economic Stimulus:
  - Local green jobs
  - Little people equity
  - Replace one company with a dozen
  - Local wealth retention
- Customer Value Proposition:
  - Energy independence
  - Customer ownership
  - Carbon reduction
  - Long term bill stability

## ➤ Generator-Centric:

- Distant green power, little emphasis on DSM
- Economic Drain
  - No new local investment
  - \$\$\$ continues to leave County
- Customer Value Proposition:
  - Gov't vs. PG&E?
  - Psychological benefits of 'virtual' green
  - Pay more now, future unclear

# Energy Localization Investment Potential





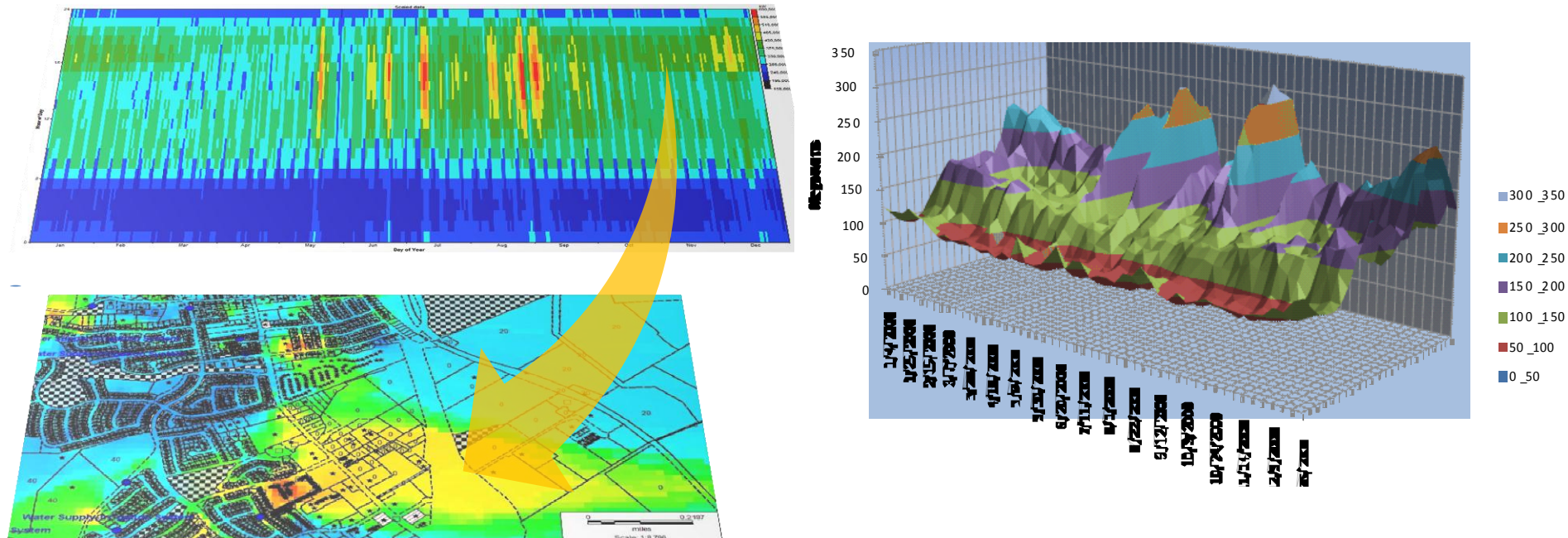
# Central Role of Muni Finance

- Revenue 'H bonds'
- Lower the cost of capital
- Increase the scale of investment
- 'Put skin in the game'

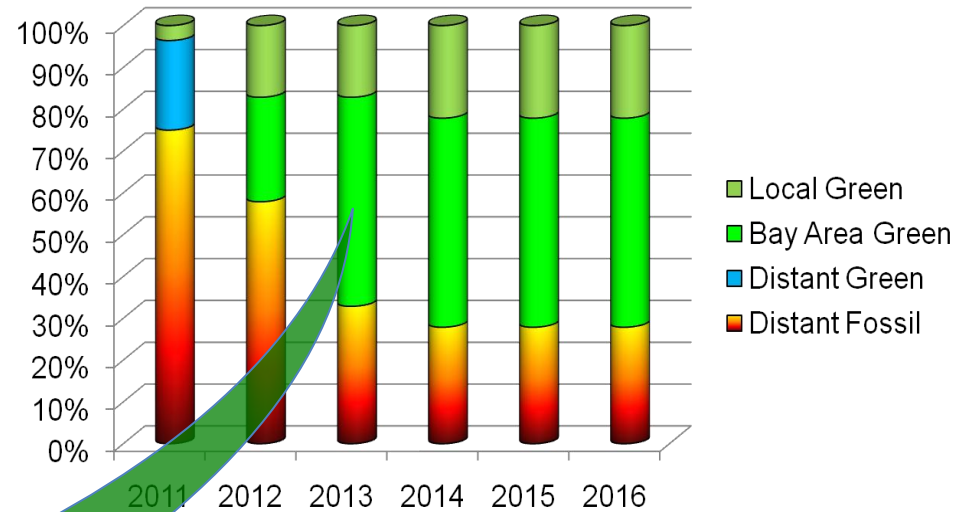
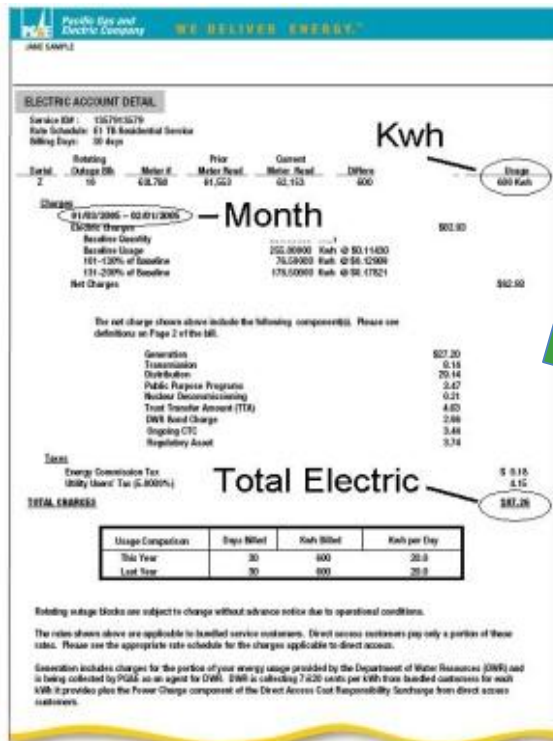


# Method: LPI's CCA Rollout Design

- Match data, financing and customer interest
- Data analysis targets local opportunities that pencil
- Community renewable shares, community equity
- Find local partners for local jobs and investment
- Focus on reducing and reforming demand



# For Localization at Bill Parity...

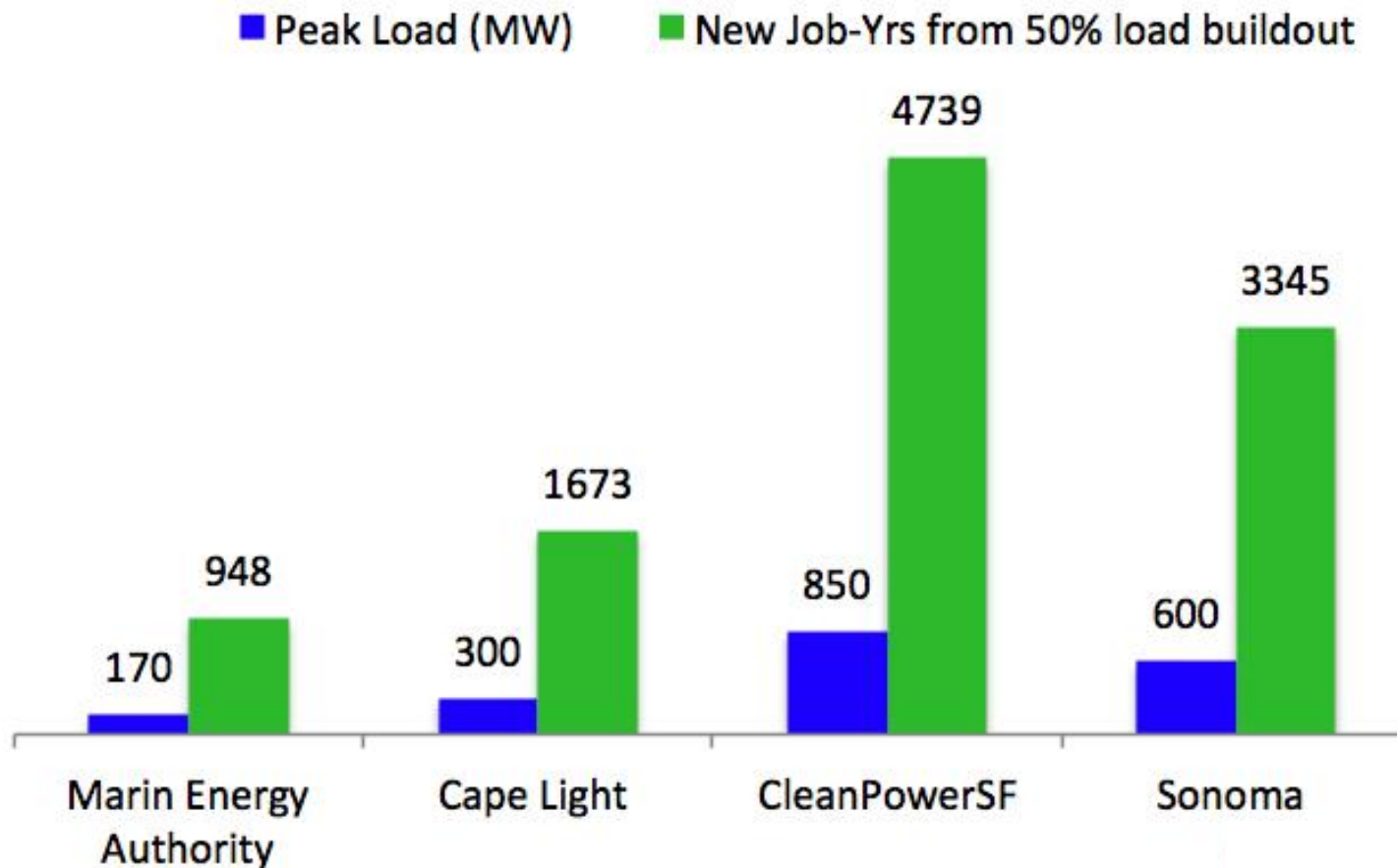


# ...& Public Works-Scale Local Jobs

- Municipal solicitations to local installers with local labor pool
- Long-Term, Place-Based Enterprises: contractors work for the new power service for ten+ years
- Local contractors focus on installation and O&M rather than customer acquisition;
  - City provides financing, acquires customer, signs up development sites, oversees permits, submits interconnection requests.

# Energy Localization Direct Job Potential

## ➤ Existing CCAs:



Assumptions from: "Putting renewables and energy efficiency to work: How many jobs can the clean energy industry generate in the US?" by Max Wei, Shana Patadia, Daniel M. Kammen/U.C. Berkeley, *Energy Policy* 38 (2010) pp. 919–931, Table 2.



# Example: LPI Scope in San Francisco

- One year timeframe, numerous tasks:
  - Advising on Wholesale Power Procurement Negotiations and Program Design
  - Data Collection and Analysis
    - GIS & statistical analysis of PG&E meter data & other datasets
    - Customer poll
  - Program Financial Analysis
  - Risk Review
  - Regulatory and Policy Review
  - Contract Term Sheets
  - Development of Requests for Proposals (RFPs)
  - Advising on RFP Issuance and Negotiations
- Goal: RFPs for successful in-City deployment

# San Francisco – Core Strategies

- Customer equity
  - Customer owners, customer ‘anchors’
  - Community Renewable Shares
- Focus on behind-the-meter deployments to capture full retail cost savings:
  - Better ‘baseline’ economics for projects
  - Emphasis on demand-side opportunities
  - Avoids risk of continued PG&E cost-shifting from generation to T&D charges
- Match capacity to coincident & aggregate peaking loads to:
  - Provide distribution system benefits
  - Minimize or avoid grid integration issues, delays, & upgrade expenses
  - Accelerate supply chain for RE EE project finance

# Potential EBMUD CCA

- Possible Members
  - Oakland
  - Richmond (?)
  - Berkeley
  - Emeryville
  - Albany
  - El Cerrito
- Large, Diverse Energy Load
- Large, Diverse Labor Pool
  - High and low skilled
  - Strong RE EE industry and training program options



# CCA Approach for Government

- Feasibility Study is not necessary
  - Speculative economics
  - Added cost and delay
- Put Actual Projects Out to Bid
  - Prepare Business Case and Financing
  - Prepare and Issue RFPs within a year

# Recommended Implementation Process

## ➤ Business Plan

- Focus on localization for optimal aggregate economics and the “Own Your Power” value proposition for participating customers
  - Community RE Shares
  - EE retrofits
  - Define program as both power *and heat*

## ➤ Financing

- Revenue Bonds (municipalities)
- Commercial PACE Bonds
- Private Equity



# CCA for Labor

- Ensure local jobs are created
  - RFPs
  - Bonds
  - Roll out
- Identify the labor force
  - Population
  - Skills
- Fill the gaps through training
  - Design the courses
  - From course work to project work



# CCA for Local RE/EE Businesses

- Delivering local jobs and an economically competitive service are both required for success
  - Small- / medium-sized business-friendly contracting structure and performance contracting to encourage cost-effective participation by local governments.
- If Project Labor Agreements are involved:
  - Need bureaucratic support for local small- /medium-sized businesses unaccustomed to public contracting requirements

# CCA for Activists

- Define policy goals
  - What do we want to build?
  - How fast and how far with our GHG/jobs goals?
- Ensure success by staying focused
  - Local jobs and local RE/EE
  - RFPs, bonds, roll out schedule
  - Customer ownership for all

# Thank You

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