Berkeley Climate Action Coalition

Community Choice Energy Economic Development for Our Communities

By Local Clean Energy Alliance



What is Community Choice Energy?

It's about electricity:

- Where our electricity comes from
- Who controls it
- What it costs



Community Choice Energy Is Also About:

- How we deal with climate change and its impacts
- Where economic revitalization of our communities and jobs will come from
- Who benefits from the natural resource wealth of our communities

Today's Presentation

- The Challenge
- Renewable Energy: Two Basic Models
- Benefits of Local Renewable Energy
- Local Renewable Energy through Community Choice
- Making Community Choice Happen
- Why It Matters



THE CHALLENGE: CONFRONTING A DUAL CRISIS

Crisis #1: Failing Economy and Lost Jobs



Crisis #2:

Fossil Fuel Use is Threatening Life

- Greenhouse gasses destabilizing the biosphere
 - Global warming
 - Ocean acidification
- 40% of greenhouse gas emissions in U.S. (32% in California) comes from electricity generation



Natural Gas

Coal

The Climate Crisis Worsens Our Economic Crisis



What We Need to Do

We need to eliminate fossil-fuel energy:

- Reduce energy demand (and consumption)
- Switch to 100% renewable energy sources



Geothermal

Current California Approach

 California target: 33% of electricity sold by utilities should be renewable by 2020

AB 32
 Scoping
 Plan



Current Approach Won't Cut It

State targets and actions not aggressive enough



We Need An Alternative Approach

We need:

- Solutions that match the urgency and character of the challenge before us
- Solutions that do not reproduce the current social and economic relationships
- Solutions that create healthy, sustainable communities
- Solutions that are democratic and equitable



RENEWABLE ENERGY: TWO BASIC MODELS

Two Models for Renewable Electric Generation

Remote Central-Station Energy

Local Decentralized Energy





Remote Central-Station Energy

Model is extension of current Centralized Energy System to renewable electrical power



Remote Central-Station Renewables Take Many Forms









The Remote Central-Station Model

- Large--Hundreds of Megawatts or more
- Heavily capitalized--Complicated planning, financing, licensing, long development time
- Destructive of sensitive ecosystems
- Unstable
- Provides no local economic benefits
- Inefficient--Large transmission losses



Local Decentralized Energy Model

Reduction

System Balancing Demand

Decentralized Generation

What is Decentralized Generation?

- 20 MW capacity or less
- Located close to use
- No transmission lines required





Decentralized Energy Renewables Take Many Forms

- Solar photovoltaic (PV)
- Wind
- Biomass/biogass
- Combined heat & power
- Geothermal
- Small hydro







Huge Potential for Decentralized Generation in Bay Area

Many studies have been conducted of renewable energy potential

- Solar PV rooftop
- Carports, parking lots, etc.
- Wind
- Geothermal



Decentralized Energy: Demand Reduction



- Conservation
- Efficiency
- Substitution
- Demand response
- Eliminate stuff

Decentralized Energy System

Decentralized Generation

- Solar photovoltaic (PV)
- Wind
- Biomass/biogass
- Combined heat & power
- Geothermal
- Small Hydro

System Balancing

- Storage
- Regulation
- Communication (Smart Grid)

<u>Demand</u> <u>Reduction</u>

- Conservation
- Efficiency
- Substitution
- Demand response
- Eliminate stuff

Decentralized Energy Model

Local Renewable Energy Resources

Net Zero

Sustainable





BENEFITS OF LOCAL RENEWABLE ENERGY

Local Decentralized Energy vs Remote Central-Station Energy

- Becoming more cost effective
- Minimizes environmental impacts
- Can be brought on line quickly
- Can provide increased energy security
- Can provide local economic and social benefits

Local Renewable Energy: Economic and Social Benefits

- Can help communities mitigate and adapt to impacts of climate change, build resiliency
- Can be engine for economic revitalization of communities and job growth
- Can be source of community wealth: equitable development, healthy community
- Basis for energy democracy, ecological sustainability

Local Renewable Energy: Job Growth

San Diego Study: Local decentralized energy vs remote central-station energy



Local Renewable Energy: Job Growth (continued)

U.C. Berkeley Study*:

- 3 times number of jobs than "business as usual" renewable projects.
- 280,000 job years to 2020
- Increase State Revenue by \$1.7 billion
- Stimulate \$50 billion in total new investment in California



* Max Wei and Dan Kammen, UC Berkeley, at http://www.fitcoalition.com/economicbenefits-of-a-fit/ for details

Local Renewable Energy: Driver of Economic Development

- Revenues from electrical sales are fed back into the local community
- Local energy resources benefit community, used for investment, economic development



Local Renewable Energy: Source of Community Wealth

- Businesses, residences, and communities can become power producers
- New ownership models for power generation



Recap: Two Socio-Economic Models

Remote Central-Station Energy:

Corporate ownership and control, not sustainable



Local Decentralized Energy:

Community ownership and control, more sustainable





LOCAL RENEWABLE ENERGY THROUGH COMMUNITY CHOICE

What Is Community Choice Energy?

- Provided for by AB 117, passed in 2002
- Community pools its ratepayer base to procure electric power (Community Choice Aggregation-CCA)
- PG&E delivers power, does billing, maintains service



Community Choice Structure



Two Power Procurement Options



Procurement Options Compared

Market purchase

- Unstable electricity market, price volatility, risky
- Difficult to compete with PG&E prices
- No guarantee of GHG reductions (buying redemption)

Build local renewable assets

- Price stability
- Optimize system to compete with PG&E
- Economic development
- Clean energy jobs
- Local GHG reductions (earning redemption)



Think of Community Choice as a Clean Economic Development Plan

Energy efficiency assets

- Demand reduction is top state priority, least expensive way to meet electricity needs
- Stop wasting the millions per year in energy efficiency funds paid by ratepayers.

New local renewable electricity generation

- Large potential for solar PV and other technologies
- Example Goal: 50% renewable energy by 2020, 50% of which is produced locally

Example: San Francisco

Program set by 2007 CleanPowerSF Ordinance:

- Build in-city energy resources
 - Minimum of 210 MW of in-city energy efficiency and new generation resources within the first three years
 - 107 MW energy efficiency, 103 MW new generation
- Target of 51% in-city renewables within the first five years
- Use municipal revenue bond (H bond) authority to help finance energy development

Jobs Potential of San Francisco Plan Estimated Jobs per year to build 210 MW in-city

resources within first three years*

	Direct Jobs (range: midpoint)	Direct + Indirect + Induced Jobs (range: midpoint)
New Local Generation (103 MW)	446 – 893: 670	755 – 1682: 1219
Energy Efficiency (107 MW)	235 – 392: 313	2354 – 3923: 3138
Program Total	681– 1285: 983	3109 – 5605: 4357

* Estimates made by Local Clean Energy Alliance: http://www.localcleanenergy.org/files/CleanPowerSFJobsEstimate.pdf

Local Assets and Optimization Key to Being Competitive

- Leverage low cost of energy efficiency ¼ to ½ the cost of renewables generation
- Shape demand to lower needed generating capacity
- Match generating resources to demand using storage and smar



using storage and smart grid balancing

Other Benefits of Community Choice

- Meet Energy and Climate Action goals
- Price Stability: hedge against PG&E rate hikes

 10 planned PG&E rate increases totaling 30% in the next 3 years
- Community self sufficiency and independence from PG&E
- Community can control use of ratepayer electricity revenues





EAST BAY: MAKING COMMUNITY CHOICE HAPPEN

Not a Novel Idea

Other California communities are developing or considering Community Choice programs:

- Marin County (Marin Clean Energy)
- San Francisco (CleanPowerSF)
- Sonoma County (Sonoma Clean Energy)
- San Luis Obispo
- San Diego
- Monterrey/Santa Cruz Counties
- Yolo County

Not a New Idea in the East Bay

- 2005: Feasibility Study
- 2008: East Bay Community Choice Business Plan by Navigant Consulting
- 2009: Hearings by Oakland City Council Public Works Committee
- 2010: Presentation to Oakland City Council
- 2011: Berkeley Energy Commission Report
- 2011: Included in Oakland's Energy and Climate Action Plan

What's New in 2012

- PG&E is on the defensive
 - Lost Prop 16 effort to squash Community Choice
 - San Bruno showed criminal nature
 - Constantly rising electrical rate rip-off
- Marin Community Choice up and running for two years, Richmond just joined
- SB 790 (signed in January) allows East Bay MUD to be aggregator and administrator of Community Choice

East Bay MUD as Administrator



Many Open Issues

- Will East Bay MUD agree to serve as a Community Choice Authority?
- What is the relationship of cities to an East Bay MUD Community Choice Program?
- What is the relationship of the stakeholder community to an East Bay MUD Community Choice Program?
- Who creates the energy development plan, and what is the process for involving community stakeholders?

What We Need to Do

- Educate and rally our communities to the significance of Community Choice energy
- Pass City Council resolutions to support and join East Bay MUD Community Choice
- Commission the creation of energy resource development plan, with involvement of community stakeholders



WHY IT MATTERS: ELECTRICAL ENERGY IS ABOUT SOCIAL AND ECONOMIC DEVELOPMENT

Local Renewable Energy: Clean Power, Healthy Communities

- Can help communities mitigate and adapt to impacts of climate change, build resiliency
- Can be engine for economic revitalization of communities and job growth
- Can be source of community wealth: equitable development, healthy community
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Thank You



FOR MORE INFORMATION

COMMUNITY POWER:



Decentralized Renewable Energy in California



http: www.localcleanenergy.org