



Making Clean Local Energy Accessible Now

Wholesale Distributed Generation and Why you should care:

The Opportunity for Clean Energy Advancement
in CA and beyond

Mircalla Wozniak

Marketing and Communications Director

Clean Coalition

Mircalla@Clean-Coalition.org

Background Policy Info



- ▶ National patchwork of policies
 - ▶ Different RPS / RES standards in different states
 - ▶ No clear federal leadership and likelihood of movement slim in 2011-2012
- ▶ Action on clean energy is moving from DC to the states, and California will set the tone nationwide
 - ▶ Defeat of Prop 23 = Californians want clean economy jobs and investment
 - ▶ Strong, newly-elected clean energy Governor
 - ▶ Lt. Governor one of the most advanced clean energy mayors in the US
- ▶ Upcoming CA likely policy changes
 - ▶ Governor Brown called for 12 GW of clean local energy in campaign plan
 - ▶ 33% Renewable Portfolio Standard (RPS) by 2020
 - ▶ New programs coming online, good but not enough (SB 32, RAM)

The Electrical Grid

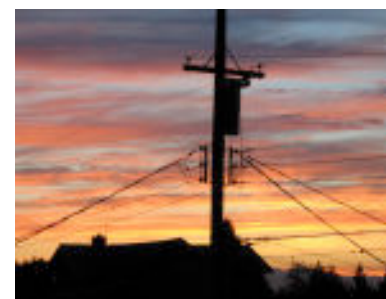
Transmission Grid

- Ability to move large amounts of electricity from remote generation stations closer to demand centers
- Rural and remote areas
- Putting in new transmission lines takes 7+ years, and likely more than 10



Distribution Grid

- Transports energy at reduced voltage than transmission grid
- Can handle production at or below 20 MW
- Easier to make minor upgrades to system

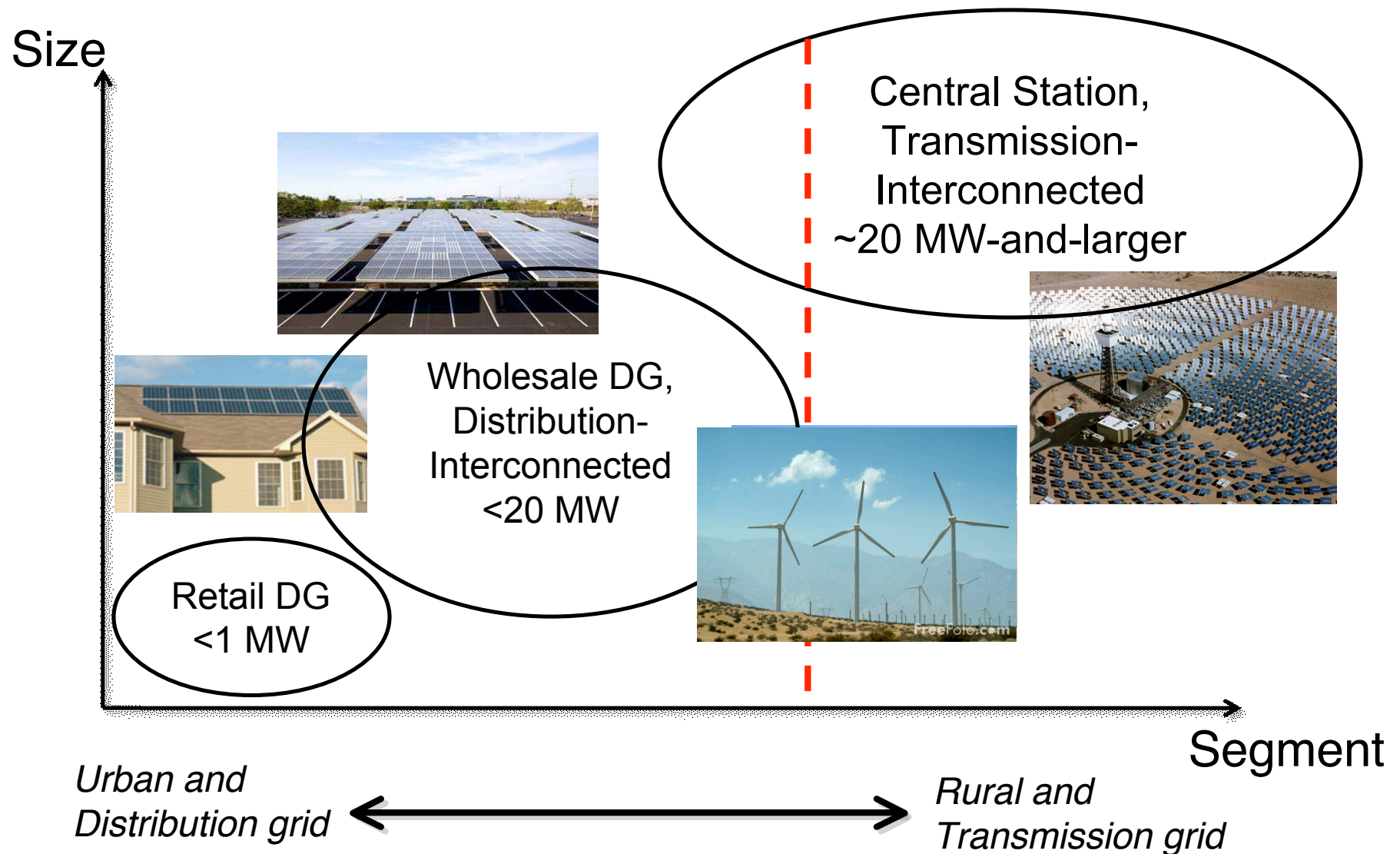


Types of Generation

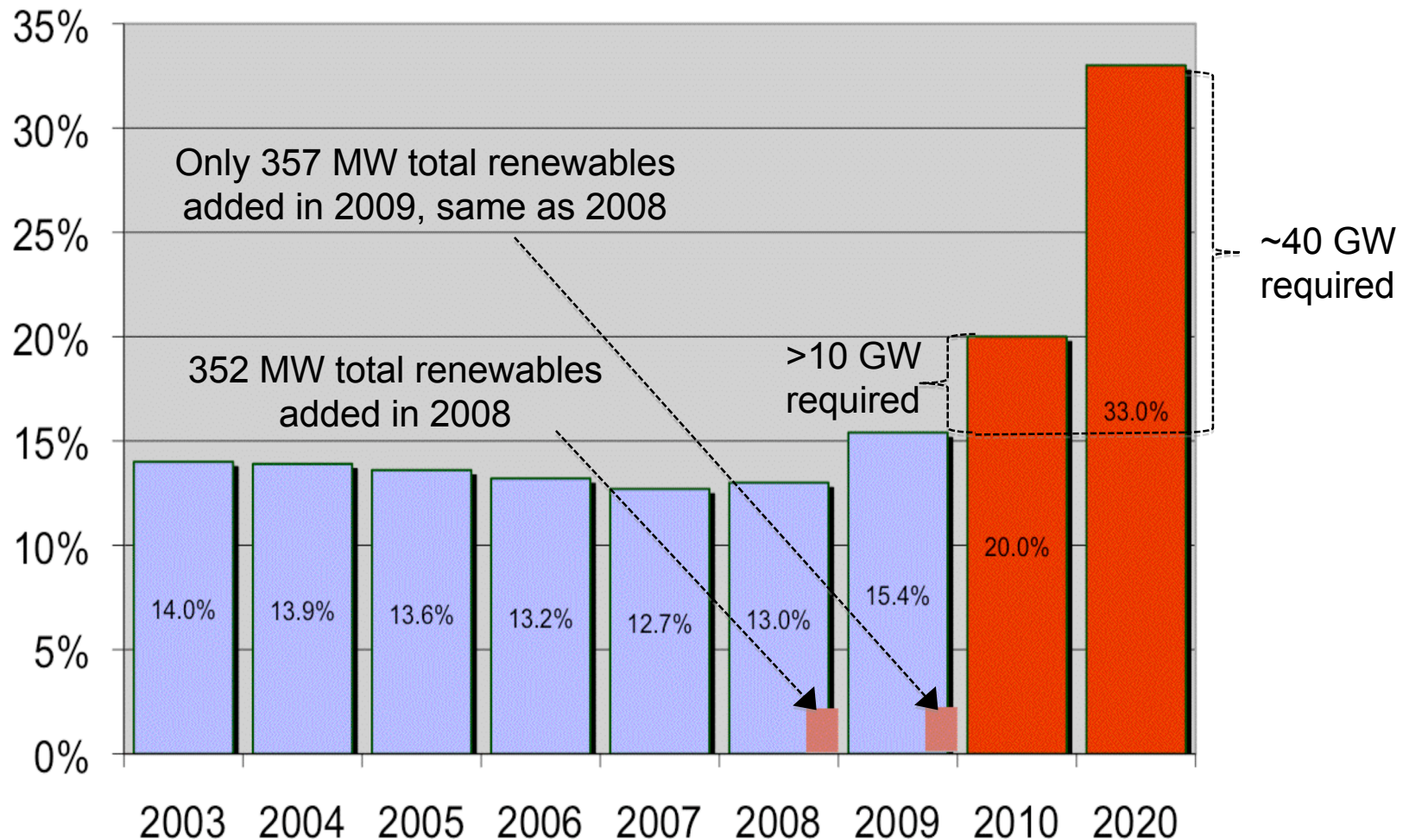


- Retail Distributed Generation or Net-Metering
 - Behind-the-meter = all energy used on site
 - Net metered = reduce electric bills by producing clean energy
 - A consumer can't sell more energy than it uses over the course of a year
- Wholesale Distributed Generation
 - Wholesale = all energy sold to the utility, not used on site
 - 20 MW and smaller projects
 - Connected to the distribution grid (close to consumers), not transmission grid
 - Located throughout our communities
- Central Station / Large-Scale / Utility Scale
 - Wholesale = all energy sold to the utility, not used on site
 - Larger than 20 MW in size

Types of Clean Energy Projects



California's Challenge: 33% RPS by 2020



Sources: CPUC, CEC and UC Berkeley, July 2010.

2009 explained: California still needs 10x improvement to ~4 GW/year

Why Wholesale Distributed Generation?



Cost Savings

- Avoid transmission siting and build-out (7+ years)
- Avoid line losses (energy lost while traveling through transmission lines)
- Avoid congestion losses (energy lost when not enough transmission capacity)
- Avoid Transmission Access Charges (TACs)

Potential to meet Demand

- California peak electricity demand is 60 GW - takes advantage of existing capacity
- California Wholesale DG potential is well over 100 GW

Community Benefits

- Projects deploy quickly
- Local job creation
- Diversified ownership

Easier to build

- Not dependent on decades-long transmission build-outs
- Built on large rooftops, infertile farmland, brownfields, capped landfills



Current Policies for Clean Energy



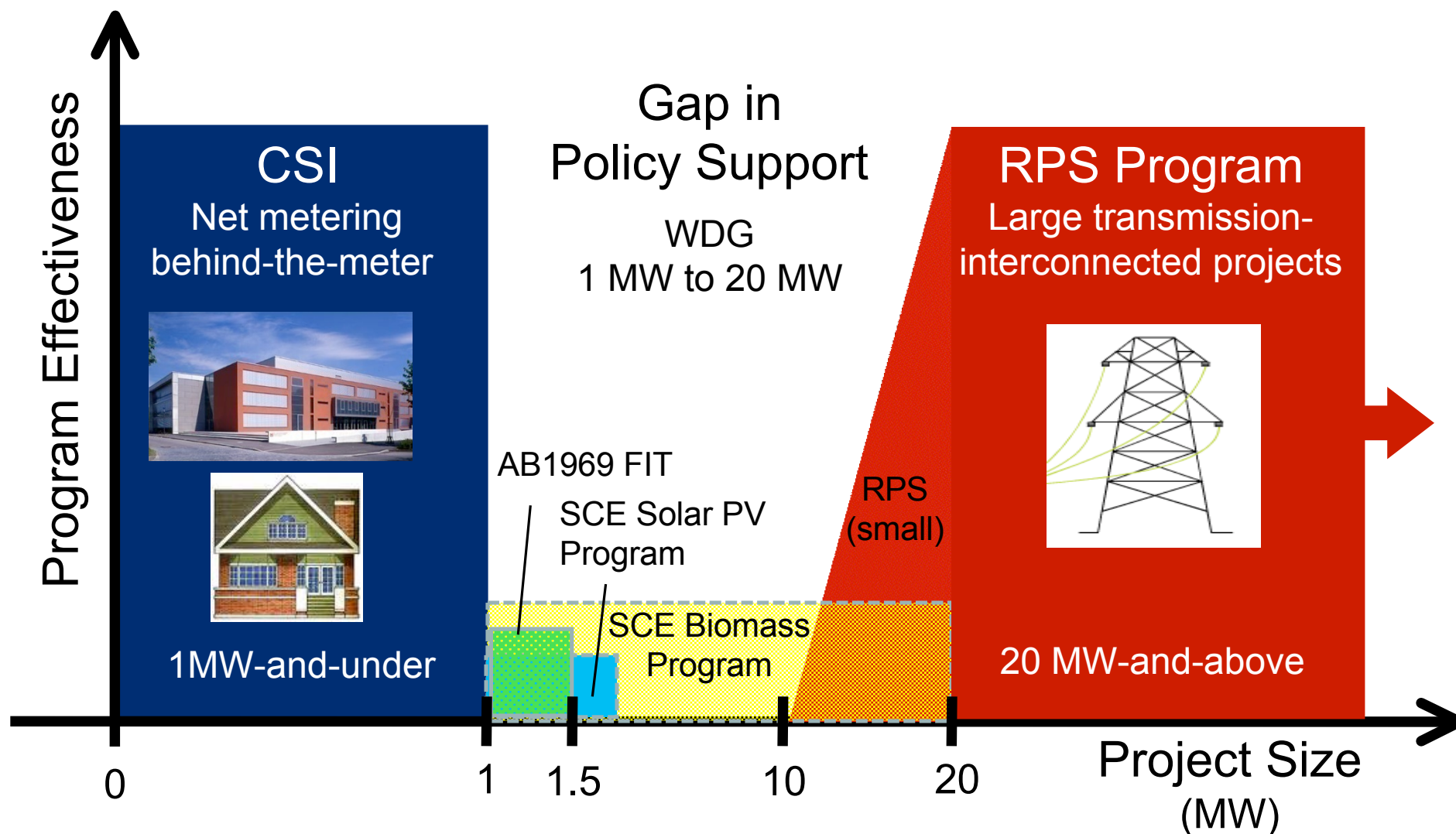
- California Solar Initiative
 - Net-metering
 - Great program, limited reach
 - 3 GW program Goal

- SB 32 - Expansion of existing Feed-In Tariff
 - Reforms pricing of FIT
 - Expands project size from 1.5 MW to 3 MW

- Renewable Auction Mechanism (RAM)
 - An experimental 1 GW program
 - Auctions are a type of solicitation process with a high bid failure rate

- Various utility procurement programs

Gap in CA Clean Energy Support



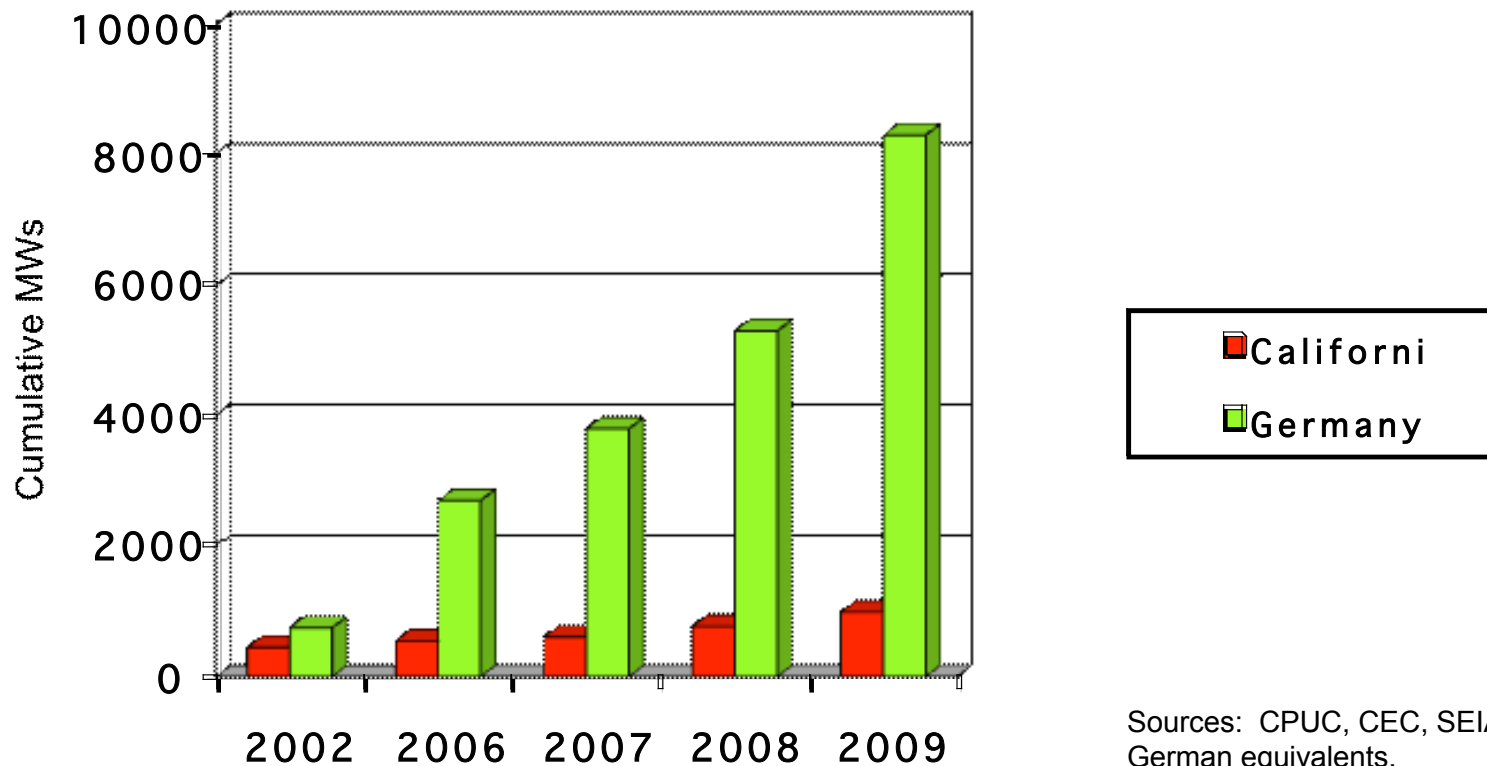
Clean Local Energy Accessible Now (CLEAN) Program

- Easier to site, contract, approve and finance clean local energy projects
- Pre-approved contracts that guarantee that utility companies will pay renewable energy generators
- 20 MW and smaller projects on distribution grid
- A fixed rate for a set period of production time (typically 20 years)
- Guaranteed interconnection to the grid
- Program is capped and rates depreciated based off market response (when certain capacity is reached, rates drop - similar to CSI program)

Freeing the Grid legislation

- Requires annual independent audit of Investor Owned Utilities (IOUs) interconnection procedures
- Requires IOUs to regularly deliver distribution grid upgrade plans to CPUC
- Requires IOUs to make grid access and application queue info available.

Solar Markets: Germany vs California (RPS + CSI + other)



Germany added 17 times more solar than California in 2009 even though California's solar resource is about 70% better

Ratepayers SAVE Money



Over 10 years, CLEAN-CA will deliver 5% in ratepayer savings while fulfilling the entire 33% RPS on schedule

		FIT Rate (\$/kWh)		Annual cap limit (%)		Avoided Cost (\$/kWh)		Annual FIT rate degression (%)	Annual escalator for avoided cost (%)		
		\$	0.16		2	\$	0.125		5	3	
Year	Total CA Electric Energy (GWh)	FIT Rate (\$/kWh)	Cumulative Limit	Quantity (GWh)	FIT Fulfillment of RPS	FIT Cost (\$mil)	Avoided Cost (\$/kWh)	Avoided Cost (\$mil)	Rates without FIT	Rates with FIT	Rate Differential baseline premium w/ FIT
2011	267,665	0.160	2.00%	5,353	2%	857	0.125	669	0.138	0.139	0.51%
2012	268,349	0.152	4.00%	10,734	4%	1,674	0.129	1,382	0.139	0.140	0.78%
2013	268,960	0.144	6.00%	16,138	6%	2,455	0.133	2,140	0.141	0.142	0.83%
2014	269,500	0.137	8.00%	21,560	8%	3,199	0.137	2,945	0.142	0.143	0.66%
2015	269,969	0.130	10.00%	26,997	10%	3,907	0.141	3,798	0.143	0.143	0.28%
2016	270,365	0.124	12.00%	32,444	12%	4,581	0.145	4,701	0.144	0.144	-0.31%
2017	270,690	0.118	14.00%	37,897	14%	5,223	0.149	5,656	0.145	0.144	-1.10%
2018	270,943	0.112	16.00%	43,351	16%	5,832	0.154	6,665	0.147	0.144	-2.09%
2019	271,124	0.106	18.00%	48,802	18%	6,411	0.158	7,728	0.148	0.143	-3.29%
2020	271,234	0.101	20.00%	54,247	20%	6,960	0.163	8,847	0.149	0.142	-4.66%

Source: CPUC, Clean Coalition 2010

CLEAN Programs in the US



▀ Municipalities

- ▀ Gainesville launched a CLEAN Solar program in early-2009
- ▀ Sacramento launched a massive CLEAN program in early-2010
- ▀ San Antonio launched a CLEAN Solar program in June 2010
- ▀ Los Angeles expected to enact a major CLEAN Solar in coming months
- ▀ Many additional municipalities are in process

▀ States

- ▀ Vermont enacted the first statewide CLEAN program in mid-2009
- ▀ Ontario Canada launched a massive CLEAN program in November 2009
- ▀ Hawaii and Oregon recently enacted CLEAN; many more states in process
- ▀ CLEAN California Act potentially in 2011 or 2012

- ▶ Senator Bernie Sanders' "Let States Innovate on Sustainable Energy Act"
 - ▶ Simple 2-page bill
 - ▶ Removes federal barriers to implementing CLEAN programs
 - ▶ Amends the Public Utility Regulatory Policies Act (PURPA)

Increasing WDG. Why it matters?



- Reach RPS goals
- Grow Clean Energy Economy
- Environmental Concerns / Clean Air
- Increased geographic diversity improves grid reliability
- Electric car growth

Join Us!



Join our mailing list:
www.Clean-Coalition.org

Mircalla Wozniak
Communications and Marketing Director
Mircalla@Clean-Coalition.org