



Clean Coalition

Making Clean Local Energy Accessible Now

Craig Lewis

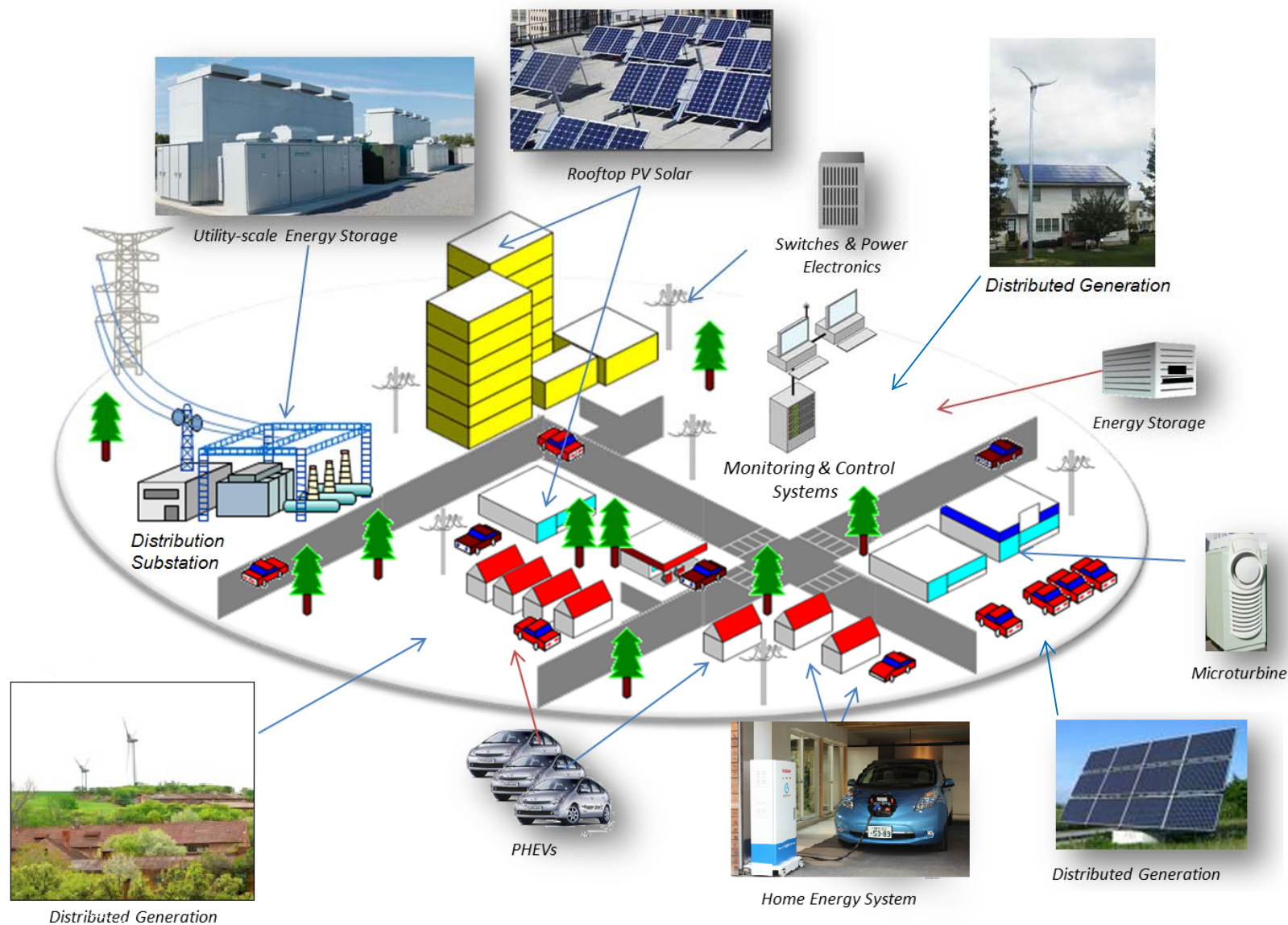
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Clean Coalition Vision = DG+DR+ES+EV+MC2



Clean Coalition – Mission and Advisors



Mission

To implement policies and programs that transition the world to cost-effective clean energy now while delivering unparalleled economic benefits

Board of Advisors

Jeff Anderson

Co-founder and Former ED, Clean Economy Network

Josh Becker

General Partner and Co-founder, New Cycle Capital

Jeff Brothers

CEO, Sol Orchard

Jeffrey Byron

*Vice President Integrated Solutions, NRG Energy;
Former Commissioner, California Energy Commission*

Rick DeGolia

Senior Business Advisor, InVisM, Inc.

Mark Fulton

Managing Director, Global Head of Climate Change Investment Research, DB Climate Change Advisors, a member of the Deutsche Bank Group

John Geesman

Former Commissioner, California Energy Commission

Patricia Glaza

Principal, Arsenal Venture Partners; Former Executive Director, Clean Technology and Sustainable Industries Organization

Amory B. Lovins

Chairman and Chief Scientist, Rocky Mountain Institute

L. Hunter Lovins

President, Natural Capitalism Solutions

Dan Kammen

Director of the Renewable and Appropriate Energy Laboratory at UC Berkeley; Former Chief Technical Specialist for Renewable Energy and Energy Efficiency, World Bank

Fred Keeley

Treasurer, Santa Cruz County, and Former Speaker pro Tempore of the California State Assembly

Felix Kramer

Founder, California Cars Initiative

Governor Bill Ritter

Director, Colorado State University's Center for the New Energy Economy, and Former Colorado Governor

Terry Tamminen

Former Secretary of the California EPA and Special Advisor to CA Governor Arnold Schwarzenegger

Jim Weldon

CEO, Solar Junction

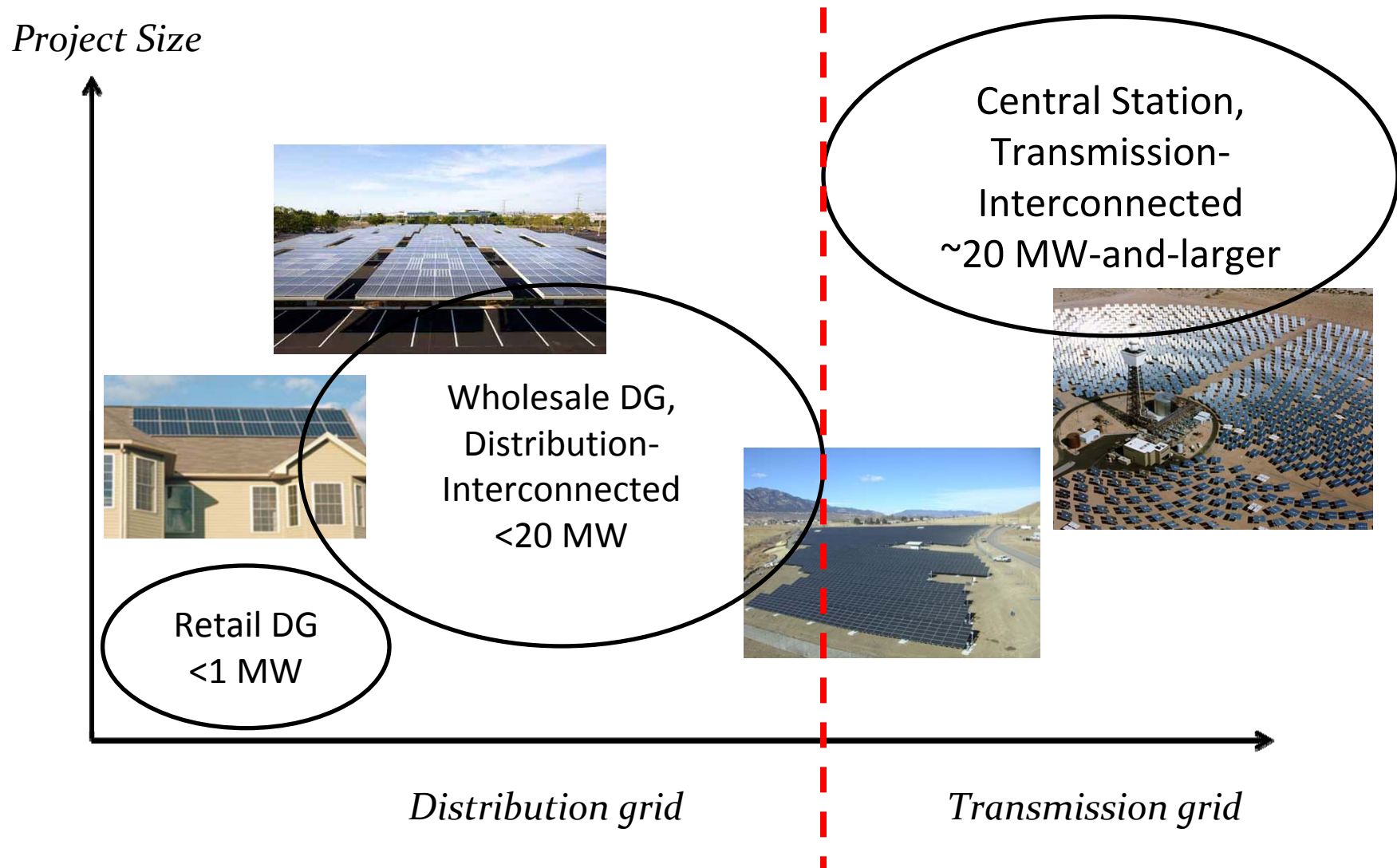
R. James Woolsey

*Chairman, Woolsey Partners, and Venture Partner, Lux Capital;
Former Director of Central Intelligence*

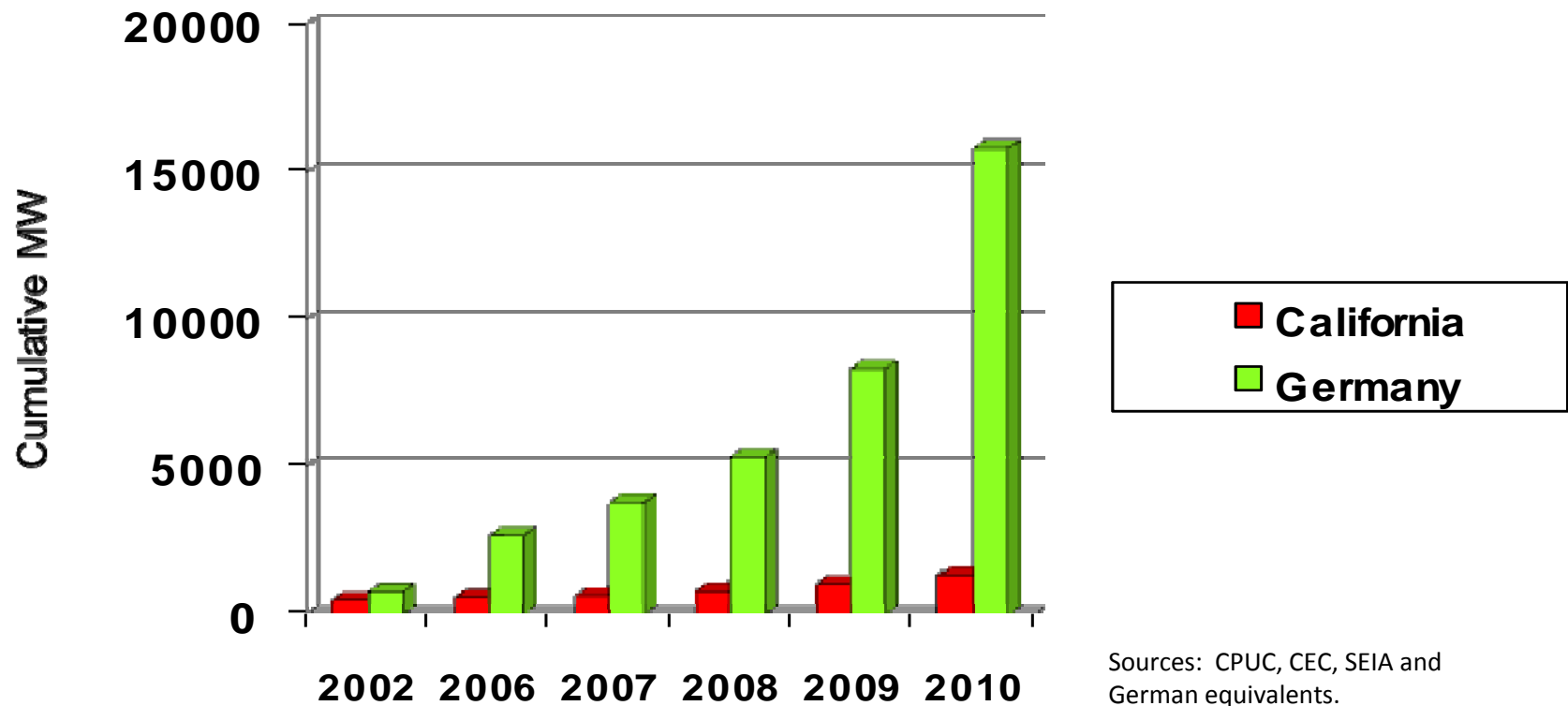
Kurt Yeager

Vice Chairman, Galvin Electricity Initiative; Former CEO, Electric Power Research Institute

Wholesale DG is the Critical & Missing Segment



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

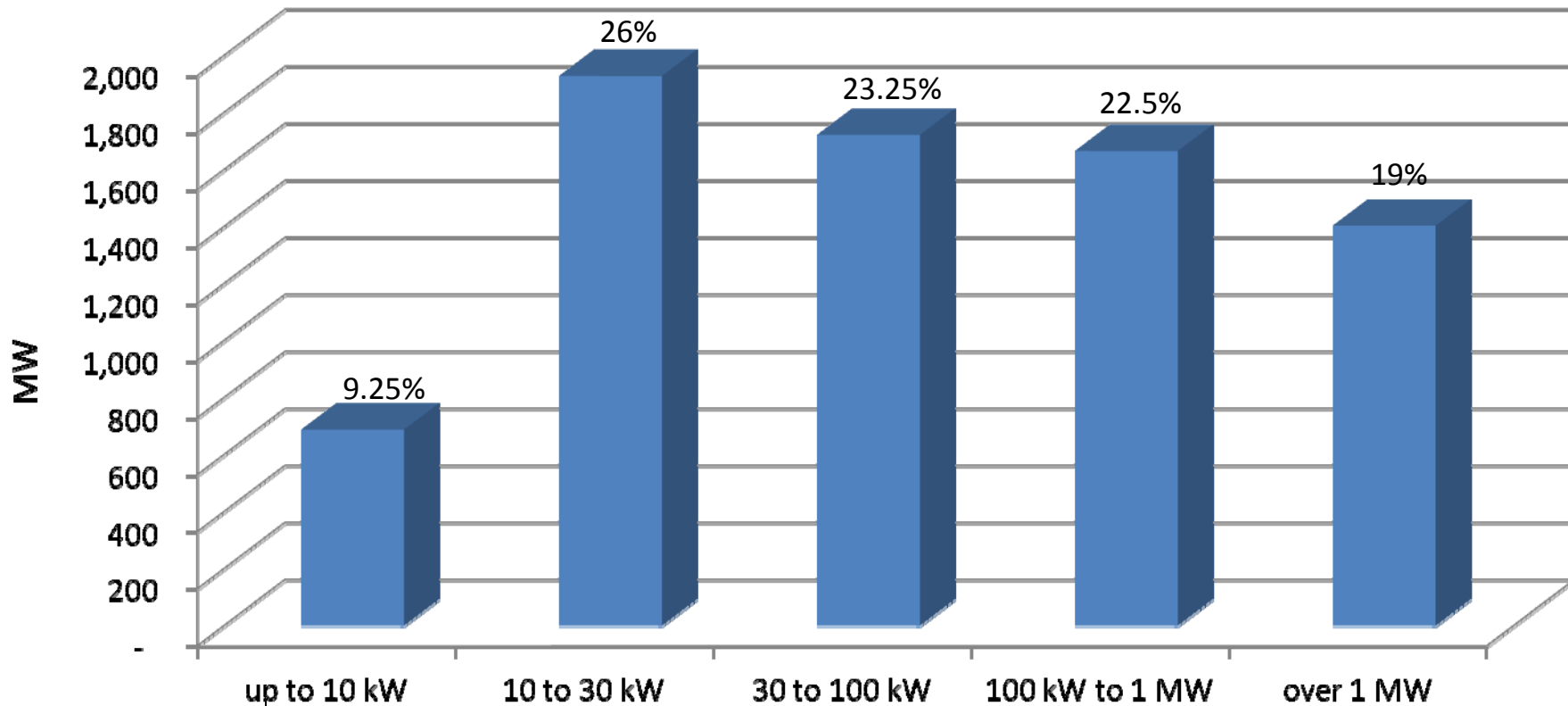


Germany added 28 times more solar than California in 2010.
Even though California's solar resource is 70% better!!!

German Solar Capacity is Small WDG (Rooftops)



German Solar PV Capacity Installed in 2010



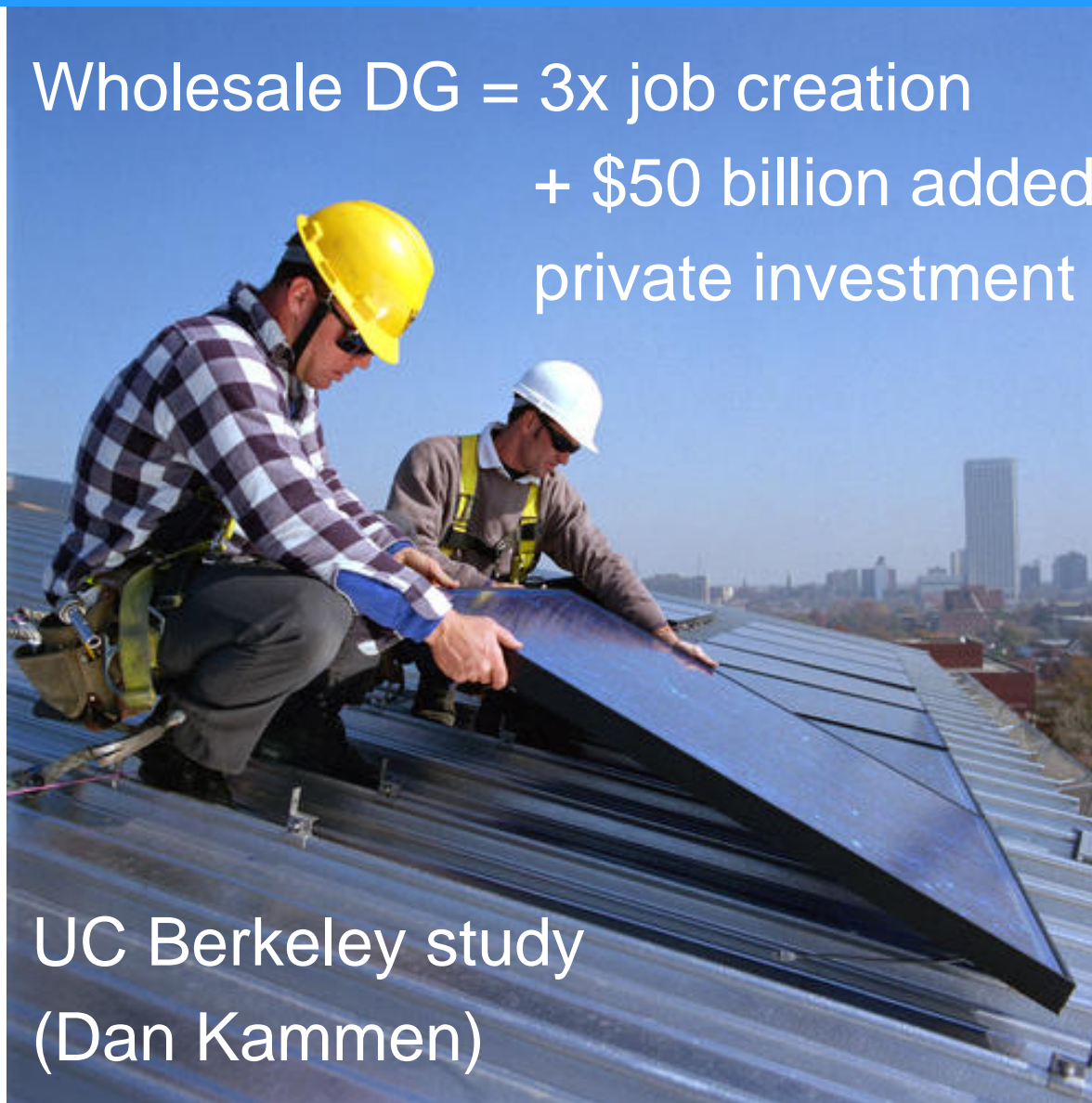
Source: Paul Gipe, March 2011

Germany's solar deployments are almost entirely <2 MW rooftop projects interconnected to the distribution grid (not behind-the-meter)

WDG is about Maximizing Economics for California



Wholesale DG = 3x job creation
+ \$50 billion added
private investment



UC Berkeley study
(Dan Kammen)

Wholesale DG has Superior Value



Total Ratepayer Cost of Solar

	Distribution Grid					T-Grid
PV Project size and type	100kW roof	500kW roof	1 MW roof	1 MW ground	5 MW ground	50 MW ground
Required PPA Rate	15¢	14¢	13¢	12¢	11¢	10¢
T&D costs	0¢	0-1¢	1¢	1¢	1-2¢	2-4¢
Ratepayer cost per kWh	15¢	14-15¢	14¢	13¢	12-13¢	12-14¢

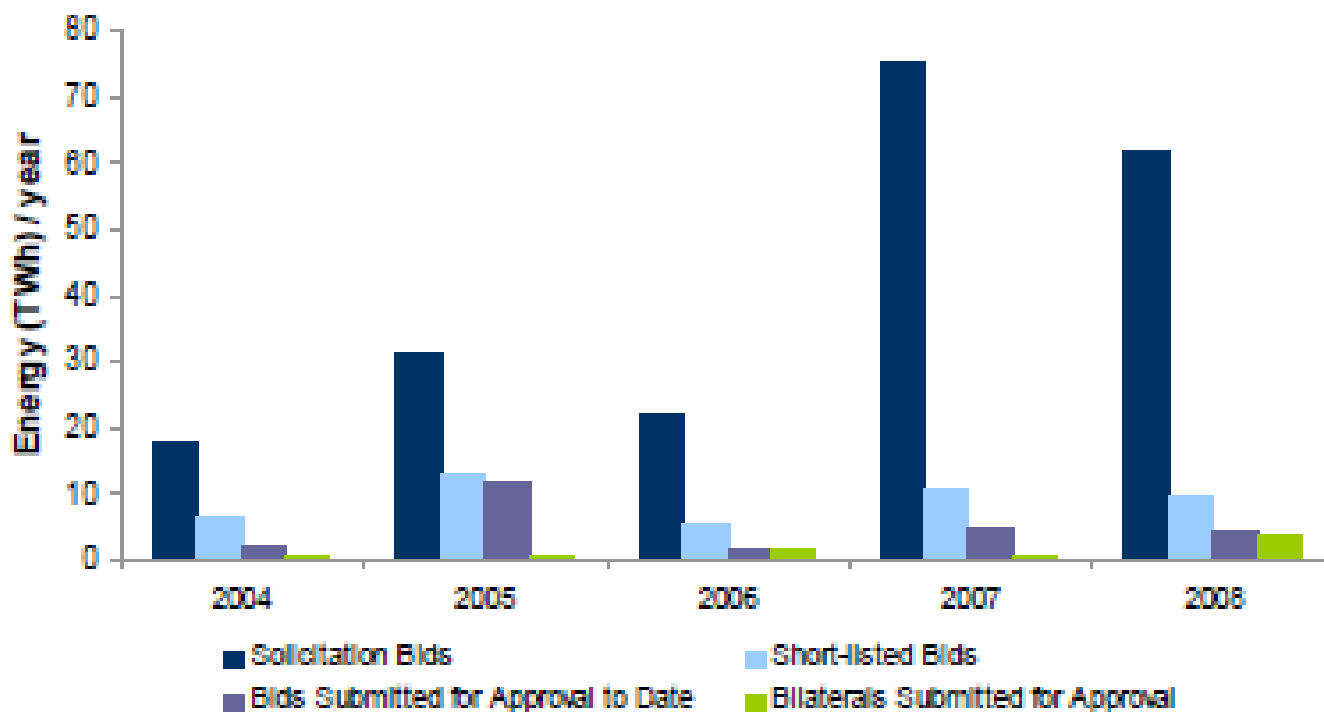
Sources: CAISO, CEC, and Clean Coalition, July 2011; see full analysis at www.clean-coalition.org/studies

The most cost-effective solar is ground-based WDG, not central station as commonly thought; due to immense transmission costs

Policies Need to Reduce Costs and Risks



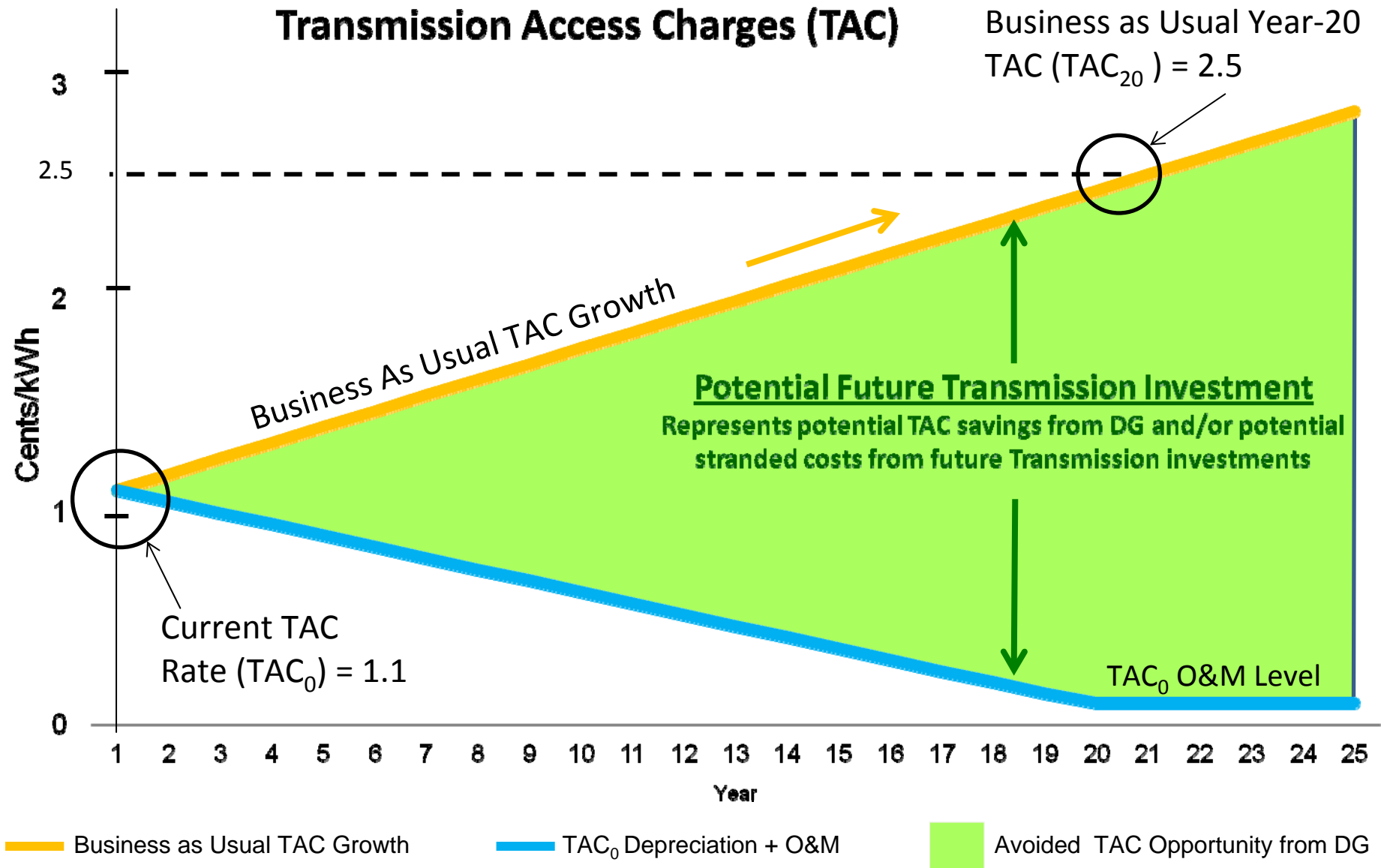
Current California Policies Result in ~97% Failure Rates



Source: California Public Utilities Commission, 2nd Quarter 2009

Current solicitation/auction and interconnection processes result in massive failure rates: roughly 97% of the bid capacity fails to reach contract.

Potential TAC Savings From DG are Massive



Connecting-the-Dots to Reform



- ✦ 75% of California IOU capital expenditures are made on the distribution grid (D-grid) and California ratepayers deserve maximized returns on their MASSIVE investments (2007 IEPR)
 - ✦ Investment needs to be future-proofed to allow significant penetrations of clean local energy
 - ✦ Confidentiality rules need to change to allow proper regulatory oversight of these massive ratepayer investments
- ✦ Germany and Spain are excellent proxies for assuring that California's existing D-grid can accommodate significant penetrations of clean local energy (May 2011 CEC/KEMA report)
- ✦ MPR is determined at point-of-interconnect and Wholesale Distributed Generation (WDG) and a Locational Benefits (LBs) adder is needed to compensate for extra value of WDG
 - ✦ Average extra LBs value of DG is in the neighborhood of 25% (Transmission Access Charges of 1.5 cents/kWh plus 10% for transmission line/congestion losses)
 - ✦ The LBs adder should be handled just like the Time-of-Delivery (TOD) adder
 - ✦ Ratepayers currently get massive free value from WDG in the form of uncompensated LBs

Connecting-the-Dots to Reform (continued)



- ✦ Currently, developers are responsible for 100% of D-grid upgrade costs without any opportunity for reimbursement, EVER
 - ✦ This is different than transmission upgrade costs that are ALWAYS borne by the ratepayer
 - ✦ Recommendation for the 50% of the D-grid where LBs value is above average, utilities pay for D-grid upgrades and recover through the rate-base.
 - ✦ Ratepayers currently get massive free value from WDG in the form of uncompensated D-grid upgrade costs
- ✦ Wholesale Distributed Generation (WDG) interconnections need to be far more timely and transparent
 - ✦ WDG interconnection processes in IOU D-grids are expected to require an average of 2 years
 - ✦ WDG interconnection processes in the SMUD D-grid requires 6 months
 - ✦ Interconnection studies for 100 MW of WDG projects in its Feed-In Tariff program were completed in 2 months (performed by 2 guys)
 - ✦ 100 MW of WDG in SMUD territory is equivalent to 2,500 MW of WDG statewide
 - ✦ TWO GUYS for TWO MONTHS should be an achievable benchmark for all utilities

Map of CLEAN Programs in the U.S. and Canada

