

UNLOCKING THE PROMISES OF DISTRIBUTED ENERGY RESOURCES

Strategic Alliance Partner



Smart business. Smart schools.™



Panelists

- **Obadiah Bartholomy, SMUD: SMUD's motivation and desired outcomes for their DER strategy**
- **Lorenzo Kristov, CAISO: The existing and possible opportunities for DER to participate in markets, and addressing the “duck curve” at the local level where it can be done more effectively and save more GHGs**
- **Beth Reid, Olivine: Demonstration projects and opportunities in the wholesale market and about “non-distributed resources.”**
- **Laura Manz, Navigant: CCA advantages in harmonizing local resources and customer acquisition**

Why Should CCAs Care about DER?

Why CCAs might move slowly toward expanding DER:

Other operational priorities, financing, project management capacity, policy uncertainty.

On the other hand...

- **Customer Engagement/Brand Recognition: Bulk Procurement**
- **Revenue Generation: Grid Services**
- **Cost Avoidance: Load Shaping**
- **Local Economic Development: Promote Jobs**
- **Reducing Market Risk: Portfolio Diversification**

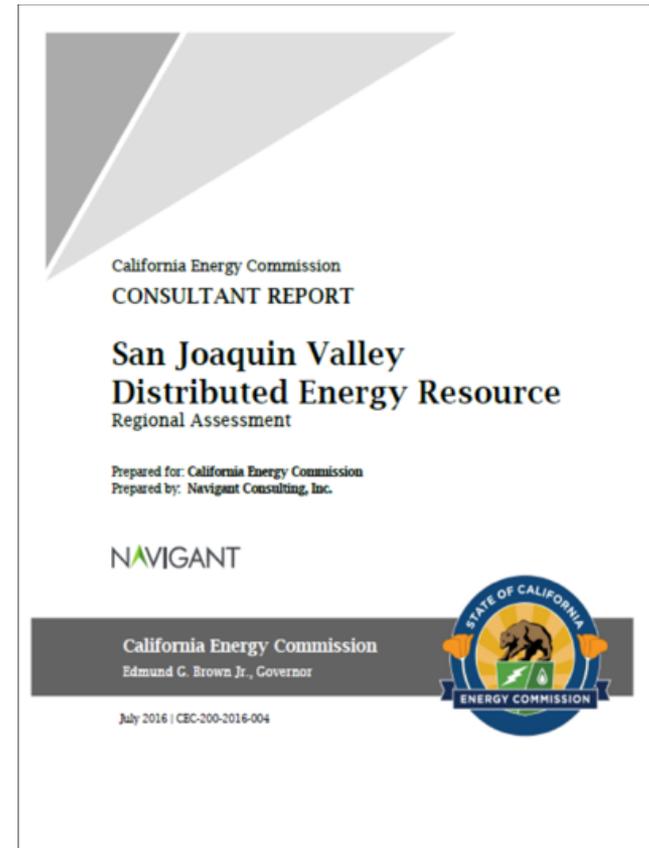
The (Not So) Hidden Cost of 50% RPS

- **The California Energy Commission has estimated that to reach the State's 50% renewable goal by 2030, will require at least \$5 Billion in transmission grid infrastructure upgrades.**
- **This may be a conservative figure; SoCal Edison expects to spend \$2-4 Billion/year for the "foreseeable future" to support California's RPS goals**
- **And these numbers only represent the cost of transmission upgrades; the distribution network will also require additional investment**
- **One much lower cost alternative to this \$5+ Billion price tag, is the implementation of local battery storage and solar with advanced inverters, and demand response measures, to provide DER/"non-wire" grid services.**
 - **PG&E Gates Greggs Transmission Project \$143 Million deferral**

Avoiding T&D Costs

California Energy Commission Report, July 2016:

- **Sufficient amounts of firm DER in the right locations can serve as viable alternatives for meeting forecasted load growth and reliability needs in the San Joaquin Valley region.**
- **DER can potentially provide ratepayer benefits in comparison to traditional system infrastructure investments. In the San Joaquin Valley region, the primary benefit is transmission infrastructure deferrals with an estimated long-term ratepayer benefit over \$300 million.**



More Cost-Effective Wholesale Procurement

- **In the process of helping interested customers procure “behind the meter” solar, storage and energy conservation measures...**
- **And then aggregating these DER to generate grid support revenues...**
- **A CCA can make the strategic choice to incentivize the implementation of DER in locations that modify their overall load shape in ways that reduce whole procurement costs, benefitting all CCA ratepayers.**

MCE Clean Energy DER Pilot Program

- **California Energy Commission: Local Government Challenge Grant Awarded to MCE in partnership with TerraVerde/Pathion/Center for Climate Protection**
 - *Goal #1: Prove that CCAs are uniquely positioned as the ideal independent energy sector actors poised to remove the barriers currently preventing local Distributed Energy Resources (DER) from unlocking substantial unrealized GHG-reduction potential.*
 - *Goal #2: Design and validate an innovative and replicable program solution such that CCAs can accelerate achievement of state and local climate action goals through broad deployment of optimized DER portfolios at targeted building locations within a service territory using market mechanisms to fund project deployment.*
- **“MCE Clean Energy (MCE) proposes to develop, deploy, and disseminate a solution that leverages distributed energy resources (DER) as a targeted procurement resource, thus optimizing building efficiency and the deployment of DERs on a community-wide scale.”**

Contact Information

Rick Brown, PhD, President

(707) 953-2885

Rick.Brown@tvrpllc.com

TerraVerde Renewable Partners, LLC

1100 Larkspur Landing, Suite 155

Larkspur, CA 94939

www.TerraVerdeEnergy.com

