

Public Works Department Distributed Energy Resources (DER) Plan July 10, 2018

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Department

Distributed Energy Resources (DER) Plan

- ❖ What is DER?
- ❖ Why DER Now?
- ❖ Distributed Energy Resources (DER) Plan
 - ❖ Solar PV
 - ❖ Energy Efficiency (EE)
 - ❖ Electric Vehicle Charging Equipment (EV)
 - ❖ Energy Storage (ES)
 - ❖ Automated Demand Response
- ❖ Board Recommendations

What is DER

❖ Distributed Energy Resources

The California Energy Commission (CEC) defines DER as grid-connected distributed renewable energy systems, energy efficiency (EE), energy storage (ES), electric vehicles (EV), and demand response (DR) supported by a wide-ranging suite of policies adopted by the California Public Utilities Commission (CPUC).

Why DER Now

Cost Effective – Great Incentives

- Solar PV is so affordable that “do-nothing” results in lost opportunity. Why pay PG&E when we can produce renewable energy on-site for significantly less?
- PG&E Zero interest on-bill financing for EE - \$4,000,000
- PG&E/MCE support for EV infrastructure – pays for lion’s share of the cost

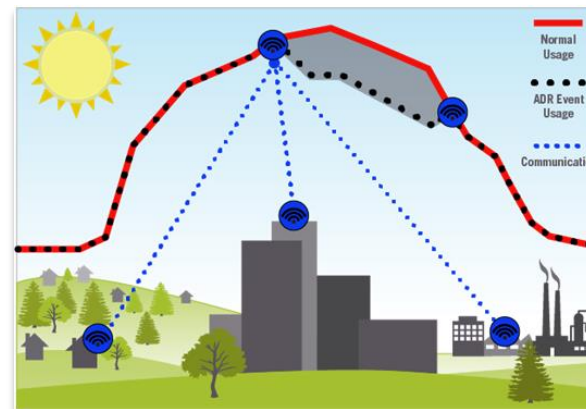
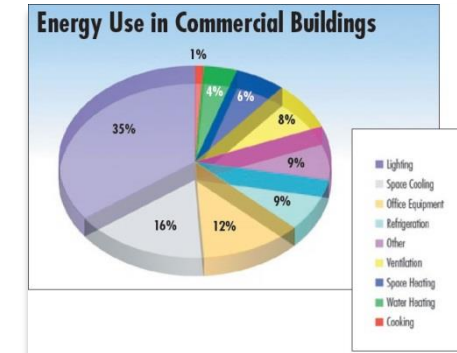
Benefits

- Electrification of transportation is going to require GW of new renewable energy
- On-site renewable energy production eliminates line losses associated with utility transmission and distribution
- Our DER program supports the development of the Smart Grid
- CCC becomes a leader and model for local government

Distributed Energy Resource Plan

❖ The DER Five Easy Pieces

1. Solar PV
2. Energy Efficiency
3. Electric Vehicle Infrastructure
4. Energy Storage
5. Automated Demand Response



Solar PV

- ❖ Public Works submitted 11 solar Photovoltaic interconnection applications to PG&E with grandfathered advantageous rate time periods
- ❖ RFQ for Statement of Qualifications ready for circulation upon Board of Supervisors direction
- ❖ Seeking financial arrangement with positive cash flow
- ❖ Solar developer will evaluate EV Chargers and Energy Storage

Energy Efficiency

- ❖ PG&E On-Bill Financing (\$4,000,000)
 - ❖ Zero interest
 - ❖ Monthly payment amount equal or less than monthly savings
 - ❖ Payback period cannot exceed 10 years
- ❖ Allows for high value energy efficiency improvements/reduced maintenance
- ❖ Installed by Energy Service Companies (ESCOs)
 - ❖ ESCO provides performance guarantee
- ❖ RFQ for Statement of Qualifications ready for circulation upon Board of Supervisors direction

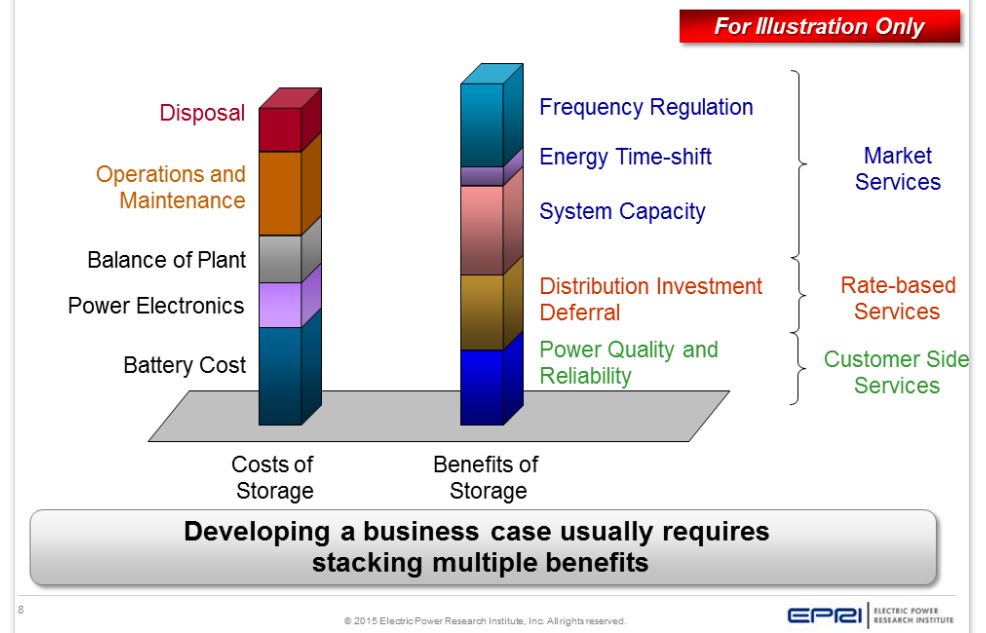
Electric Vehicle Charging

- ❖ County-wide employee EV survey issued on 2/14/18
 - ❖ Amazing results! Tremendous demand for EV Chargers throughout County
 - ❖ 76% (823 employees) would like chargers installed at their employee parking lot
 - ❖ 64% (711 employees) indicated that having a charger at work would increase the probability of purchasing an electric or plug-in hybrid electric vehicle
 - ❖ Currently have sixteen (16) Level-2 chargers
- ❖ PG&E EV Charge Network Program
 - ❖ PG&E pays for “make ready infrastructure”
 - ❖ PG&E provides 25% rebate on charger
 - ❖ MCE contributes 50% rebate on charger (MCE has allocated \$55k specifically for CCC)
 - ❖ County pays 25% of charger plus install, plus ongoing vendor fees
- ❖ CARB LCFS program – 10 cents/kWh or more for every kWh sent to EV chargers!

Energy Storage

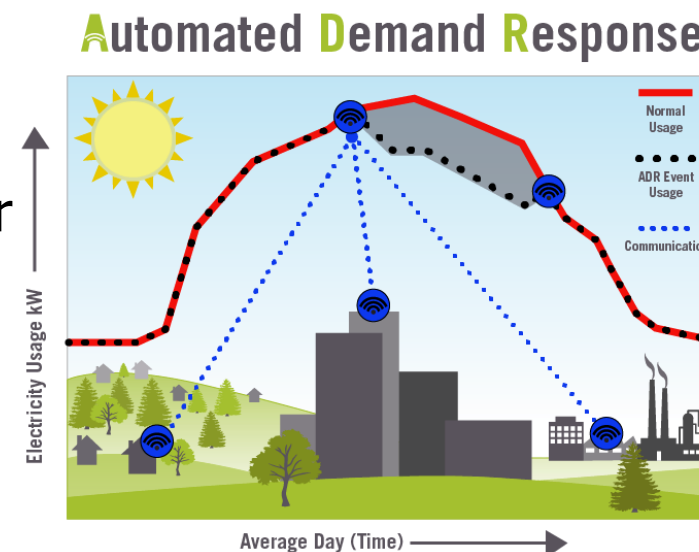
- ❖ Significant incentives through SGIP program
- ❖ Strong legislative backing, cost declining
- ❖ Stacking Benefits
 - ❖ Demand reduction – peak shaving
 - ❖ TOU load shifting
 - ❖ Potential for grid edge benefits when aggregated
- ❖ Eventual replacement for back-up generators?

Analyzing the Value of Storage



Automated Demand Response

- ❖ PG&E has incentives for ADR
 - ❖ We are currently working with PG&E 3rd party contractor
- ❖ Significant potential for demand reduction and savings
- ❖ Good experience pertaining to utility interactive programs



Requested Action by the Board of Supervisors

- Approval of DER Plan
- DIRECT the Public Work to proceed with solicitation of RFQs for the implementation of components of the DER Plan.
 - Solicitation to select solar PV developer
 - Solicitation to select Energy Service Company (ESCo)

THANK YOU