



**Marin Clean Energy
Technical Committee Meeting
Monday, February 9, 2015
5:00 P.M.**

Kathrin Sears
Chair
County of Marin

Tom Butt
Vice Chair
City of Richmond

Bob McCaskill
City of Belvedere

Alan Schwartzman
City of Benicia

Sloan C. Bailey
Town of Corte Madera

Barbara Coler
Town of Fairfax

Kevin Haroff
City of Larkspur

Garry Lion
City of Mill Valley

Brad Wagenknecht
County of Napa

Denise Athas
City of Novato

Carla Small
Town of Ross

Ford Greene
Town of San Anselmo

Genoveva Calloway
City of San Pablo

Andrew McCullough
City of San Rafael

Ray Withy
City of Sausalito

Emmett O'Donnell
Town of Tiburon

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781 Lincoln Ave., #320
San Rafael, CA 94901

**San Rafael Corporate Center, Boro Room
750 Lindaro Street, San Rafael, CA 94901**

Agenda Page 1 of 1

1. Board Announcements (Discussion)
2. Public Open Time (Discussion)
3. Report from Chief Executive Officer (Discussion)
4. Approval of 1.12.15 Meeting Minutes (Discussion/Action)
5. Introduction to Demand Response (Discussion)
6. Residential Demand Response Pilot (Discussion)
7. Members & Staff Matters (Discussion)
8. Adjourn



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**MARIN CLEAN ENERGY
TECHNICAL COMMITTEE MEETING
January 12, 2015
5:00 P.M.
SAN RAFAEL CORPORATE CENTER, BORO ROOM
750 LINDARO STREET, SAN RAFAEL, CA 94901**

Roll Call

Present:

Kate Sears, County of Marin, Chair
Kevin Haroff, Town of Larkspur
Ray Withy, City of Sausalito
Carla Small, Town of Ross
Emmett O'Donnell, Town of Tiburon
Ford Greene, Town of San Anselmo

Absent:

Staff:

Dawn Weisz, Executive Officer
Greg Brehm, Director of Power Resources
Emily Goodwin, Director of Internal Operations
Beckie Menten, Energy Efficiency Director
Kirby Dusel, Technical Consultant

Action taken:

Agenda Item #4 – Approval of Minutes from 12.08.14 Meeting (Discussion/Action)

M/s Withy/Greene (passed 5-0) approval of minutes from 12.08.14 meeting. Director Haroff abstained.

Kate Sears, Chair

ATTEST:

Dawn Weisz, Executive Officer



Introduction to Demand Response

Jeremy Waen

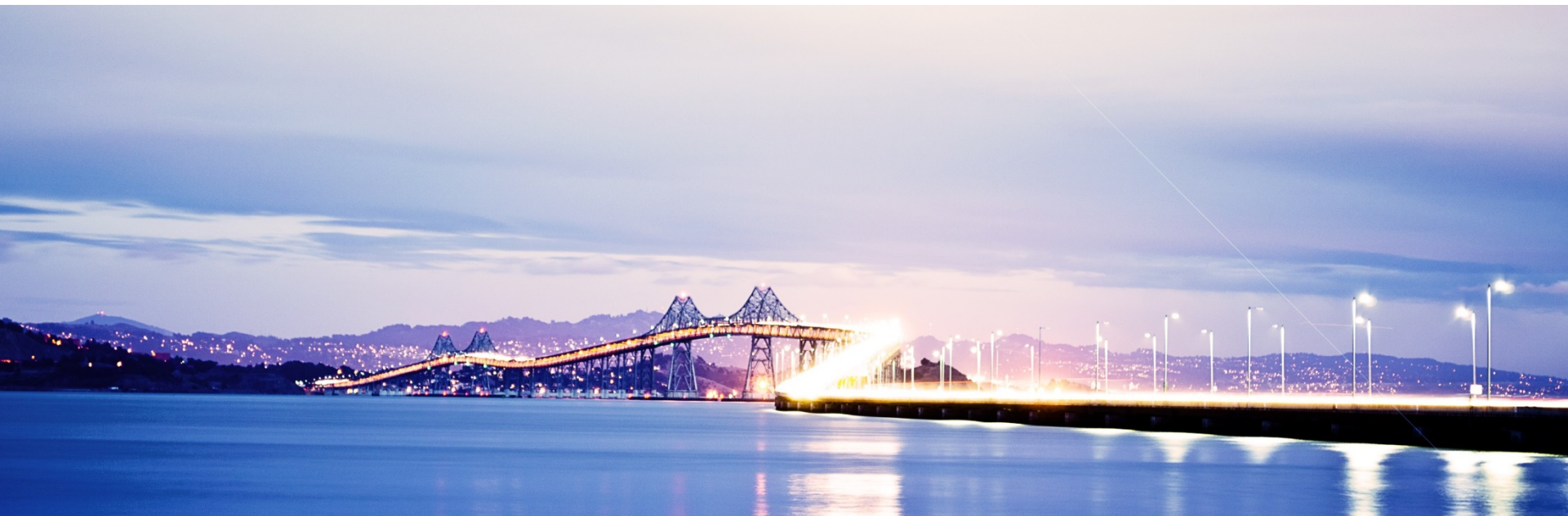
Regulatory Analyst | Marin Clean Energy

February 2015



Presentation Overview

- What is Demand Response (DR)?
- Why is DR needed?
- What are the different types of DR?
- Who needs to be involved in a DR program?
- How is DR monetized?



What Is Demand Response (DR)?

- DR is the ability to change customers' electricity demand to respond to the needs of the electricity grid.
- Customer demand can either be increased or decreased.
- Overall electricity demand is not reduced, only shifted over some period of time.
 - Overall demand reduction is considered Energy Efficiency (EE).

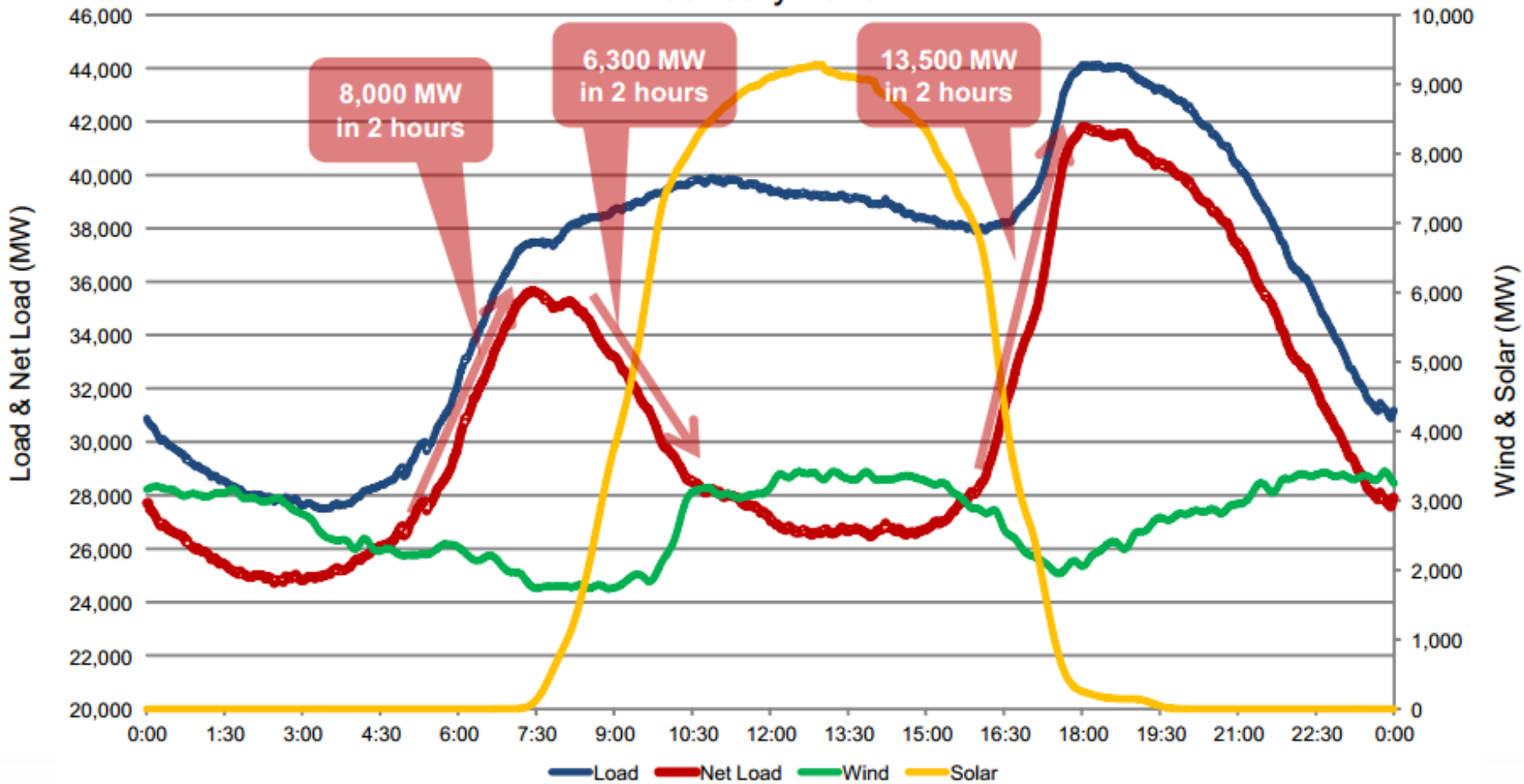


Why Is Demand Response Needed?

- DR avoids the need to build additional power plants to meet peak demand.
- DR avoids the need to build additional 'flexible' power plants to meet sudden changes in demand.
- By optimizing grid operations through DR, the electricity grid as a whole will be less wasteful and produce fewer Greenhouse Gas (GHG) emissions.

Why Is Demand Response Needed?

CAISO Load, Wind & Solar Profiles – High Load Case
January 2020



What are the Different Types of DR?

- Rate Based vs. Non-Rate Based
 - e.g. Peak-Day Pricing (PDP)
- Event Based vs. Non-Event Based
 - e.g. Scheduled Load Reduction Program (SLRP)
 - e.g. Optional Binding Mandatory Curtailment (OBMC)
- Manual vs. Automated
- Supply Side vs. Load-Modifying
 - CAISO controlled or Utility controlled

Who Needs to Be Involved in DR?

Necessary Involvement:

- Willing Customers with Flexible Demand
- Load-Serving Entity (such as MCE)
- Distribution Utility (such as PG&E)

Optional Involvement:

- Demand Response Provider (DRP)
- The California Independent Systems Operator (CAISO)
- DR Technology Providers (e.g. Schneider Electric)

How is DR Monetized?

Load-Modifying DR:

- Reduces Load-Serving Entities' contributions to grid strain
 - Measured after-the-fact
- Results in lower, future Resource Adequacy (RA) obligations

Supply-Side DR:

- Reduces Load-Serving Entities' contributions to grid strain
 - Measured in real-time and subject to CAISO Must Offer Obligations (MOO) and penalties
- Counts as a capacity resource to meet RA

How is DR Monetized?

Load-Modifying DR:

- e.g. A 1 MW reduction of MCE customer demand due to DR during system peak would result in MCE being required to procure less capacity in the *following year* due to RA obligations.

Supply-Side DR:

- e.g. A 1 MW reduction of MCE customer demand due to DR during system peak (*that can be called upon by the CAISO*) would count towards MCE's *current* RA obligations and offset MCE's need to buy capacity resources for the current year.

Thank You

Questions?