MARIN ENERGY AUTHORITY

781 Lincoln Avenue
Suite 320
San Rafael, CA 94901

1 (888) 632-3674
mceCleanEnergy.com

Marin Energy Authority
SPECIAL MEETING
Wednesday, September 25, 2013
9:30AM – 4:00PM

The Marin Art & Garden Center, Livermore Pavilion
30 Sir Francis Drake Blvd. Ross, CA 94957

1. **Board Announcements (Discussion)**

2. **Public Open Time (Discussion)**

3. **Report from Executive Officer (Discussion)**

4. **Historical Review and Annual Update (Discussion) (9:45-10:40)**
   - **Historical Timeline**
   - **Richmond Enrollment Complete**
   - **Energy Efficiency Programs Launched**
   - **New Renewable Energy: Built and Delivering**

5. **MCE Jurisdiction and Customer Expansion (Discussion/Action) (10:40-11:40)**

6. **MCE Support for Local Renewable Projects (Discussion/Action) (11:40 – 12:15)**

Lunch: 1 hour

7. **Presentation from Tesla on Battery Storage and Self Generation Incentive Program (Discussion) (1:15 – 1:50)**

Agenda material can be inspected in the Marin County Sheriff's lobby, located at 3501 Civic Center Drive, San Rafael, CA 94903. The meeting facilities are in accessible locations. If you are a person with a disability and require this document in an alternate format (example: Braille, Large Print, Audiotape, CD-ROM), you may request it by using the contact information below. If you require accommodation (example: ASL Interpreter, reader, note taker) to participate in any MEA program, service or activity, you may request an accommodation by calling (415) 464-6032 (voice) or 711 for the California Relay Service or by e-mail at djackson@mceCleanEnergy.com not less than **four work days** in advance of the event.

MARIN ENERGY AUTHORITY

Marin Energy Authority
SPECIAL MEETING
Wednesday, September 25, 2013
9:30AM – 4:00PM

The Marin Art & Garden Center, Livermore Pavilion
30 Sir Francis Drake Blvd. Ross, CA 94957

8. **Presentation from SMUD on Peak-time Pricing Pilot (Discussion) (1:50 – 2:30)**

9. **Completion of any Unfinished Items (2:30 - 3:30)**

10. **Board Member & Staff Matters (Discussion)**

11. **Adjourn**

781 Lincoln Avenue
Suite 320
San Rafael, CA 94901

1 (888) 632-3674
mceCleanEnergy.com

Agenda material can be inspected in the Marin County Sheriff's lobby, located at 3501 Civic Center Drive, San Rafael, CA 94903. The meeting facilities are in accessible locations. If you are a person with a disability and require this document in an alternate format (example: Braille, Large Print, Audiotape, CD-ROM), you may request it by using the contact information below. If you require accommodation (example: ASL Interpreter, reader, note taker) to participate in any MEA program, service or activity, you may request an accommodation by calling (415) 464-6032 (voice) or 711 for the California Relay Service or by e-mail at djackson@mceCleanEnergy.com not less than **four work days** in advance of the event.

MCE Clean Energy
My community. My choice.

Historic Timeline

2002 - 2010

September 25, 2013

Interest in CCA is Born 1999 - 2004

- 1999: Advocates in the Bay Area promote idea of Community Choice Aggregation (CCA) to spur use of renewable energy.
- 2001-2002: County of Marin conducts greenhouse gas inventory, approves reduction target, and supports AB117.
- 2002: CCA enabling legislation, AB117 (Migden) approved by State of California.
- 2003: Demonstration Project for CCA by Navigant Consulting funded by California Energy Commission and administered by the Local Government Commission.
- 2004: Berkeley, Emeryville, Marin, Oakland and Pleasanton are approved to participate in Demonstration Project.

CCA Studies Completed (2004 – 2006)

- February, 2004: County of Marin joins, MMWD, NMWD, Berkeley, Emeryville, Oakland and Pleasanton in contributing matching funds to CCA Demonstration project.

- July, 2004: Initial Feasibility Study released by Navigant.

- Follow up Studies:
  - ✓ March 7, 2005: Updated Feasibility Study
  - ✓ April 6, 2005 : Bond Council Review
  - ✓ August 17, 2005: Peer Review of Feasibility Study
  - ✓ May 16, 2006: Risk Analysis regarding rate outcomes

MCE Business Plan & Agency Formation (2007 – 2008)

- Funds awarded from by Bay Area Air Quality Management District to develop MCE Business Plan and JPA Agreement.
- May, 2007: Local Government Task Force (LGTF) begins meeting with representatives from each city and town.
- November, 2007: CCA, local renewables and GHG reductions included in award winning Marin County General Plan Update.
- March, 2008: Business Plan for Marin Clean Energy approved by LGTF.
- December, 2008: JPA "Marin Energy Authority" formed.

Procurement and Delivery (2009-2010)

- February, 2009- February, 2010: Solicitation and selection of initial primary power supplier.
- May, 2010: Service to customers begins.
- December, 2010: MCE enters into first direct power supply contract for CA renewable energy supply.
- December, 2010: Bank loan guarantee requirement from County of Marin and Town of Fairfax released.
- December, 2010: County of Marin loan of $500,000 and individual loans of $750,000 repaid.

MCE Clean Energy
My community. My choice.

Who We Are and Where We're going

September 25, 2013

Mission

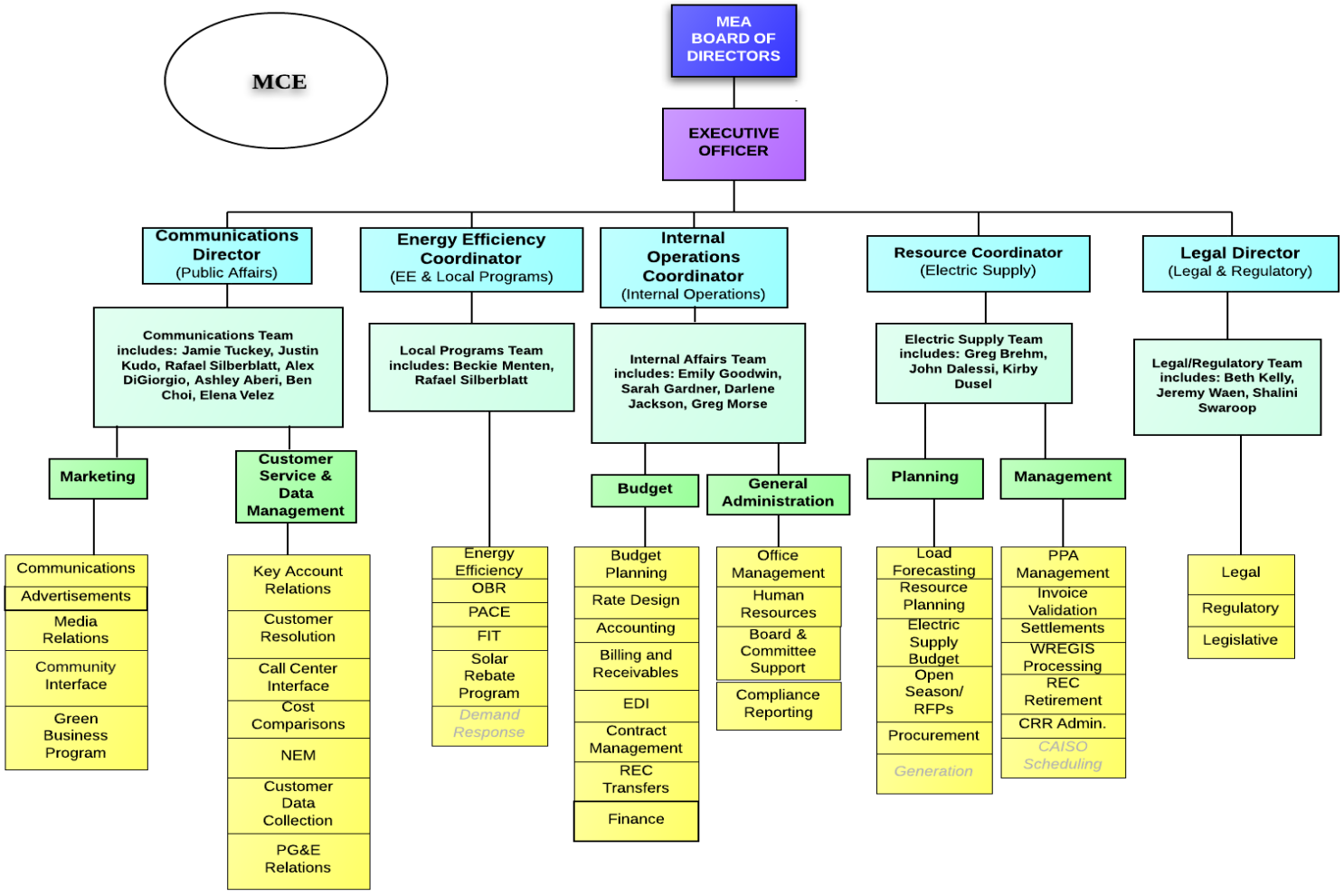
MCE's mission:

"Promote the development and use of renewable energy and energy efficiency programs to reduce greenhouse gas emissions, support stable energy prices and yield local economic benefits."

MCE Primary Functions

- Resource Procurement
- Energy Efficiency
- Customer and Community Relations
- Regulatory and Compliance
- Internal (Finance, Administration)

MCE Organization Chart



Revised 3.25.13

Objectives Met

MCE has achieved objectives by:

- ✓ Offering customers a choice between two energy supply options: 50% renewable content and 100% renewable content
- ✓ Stimulating new renewable energy production
- ✓ Reducing greenhouse gas emissions from customers in MCE jurisdiction
- ✓ Launching an Energy Efficiency Program for all customers in MCE jurisdiction

Value-Add Benefits:

- ✓ Providing stable and competitive electric rates along with public visibility to energy supply activities and modest increase in local economic activity

MCE Tasks for the Coming Year

- Increase Deep Green enrollment
- Reach out to un-enrolled municipal and commercial customers
- Further develop energy efficiency activities
- Respond to communities interested in CCA service with appropriate information
- Explore use of interval data, battery storage and rate design to spur new efficiencies in energy use

MCE Clean Energy
My community. My choice.

MCE Public Affairs

Jamie Tuckey
Communications Director | Marin Energy Authority

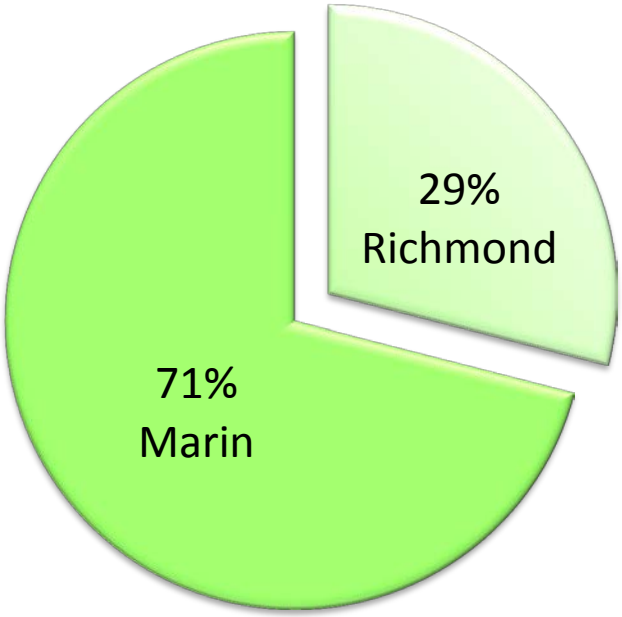
September 25, 2013

Highlights & Accomplishments

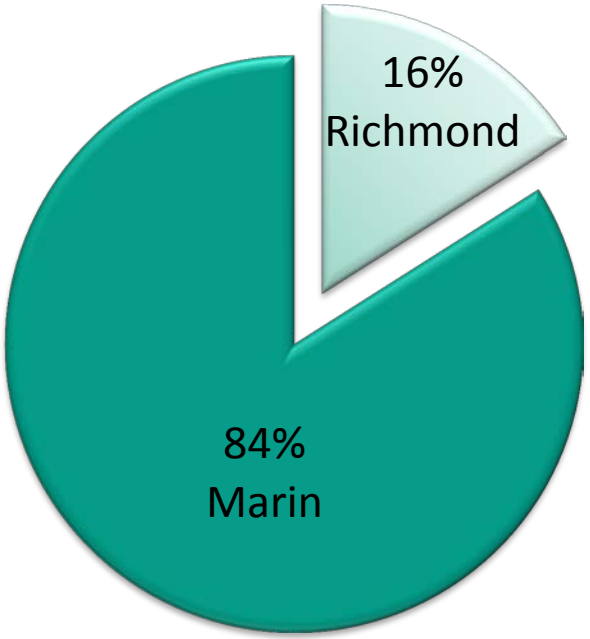
- 120+ community meetings since January 2013
- 50+ news stories published
- Redesigned MCE website & marketing materials
- MCE service launched to 35,000 Richmond customers
- Accredited by Better Business Bureau
- Climate Change Business Journal Solar Power Achievement Award

Serving 124,000+ MCE Customers

122,000~ Light Green Customers



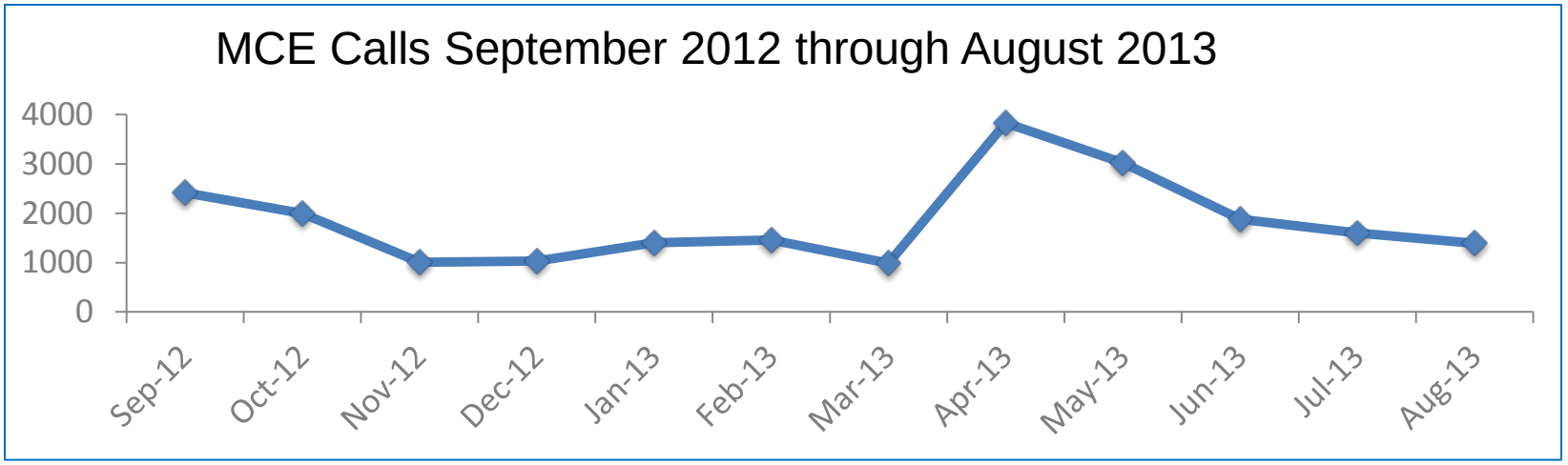
1,800~ Deep Green Customers



Since October 2012, MCE's Deep Green customer base has increased by 42%

MCE Call Center

- 22,000+ customer service calls (9/2012 – 8/2013)
- 15% retention rate for opt out requests
- 8% of calls are foreign language
  - Spanish (8%)
  - Tagalog (.2%)
  - Mandarin (.2%)
  - Vietnamese (.16%)
  - Lao (.05%)
  - Cantonese (0)



Latino Outreach

Connected with 2,000+ Richmond Latino community members

The Pendroza's, RichmondBUILD

Latino Meetings and Events

Date	Event	Location
03/15/13	Concilio Latino Networking Meeting	West Contra Costa
03/25/13	Ford Elementary School ESL Adult Education Class	Richmond
03/29/13	Peres Elementary School	Richmond
03/30/13	Dare to DREAM Conference	San Pablo
03/21/13	Wilson Elementary School	Richmond
04/07/13	Grace Elementary School ESL Adult Education Class	Richmond
05/13/13	MCE Richmond Community Meeting	Richmond
04/08/13	La Santisima Trinidad ESL Adult Education Class	Richmond
04/10/13	ESL Adult Education Class	Richmond
04/12/13	ESL Adult Education Class	Richmond
04/28/13	ESL Adult Education Class	Richmond
04/28/13	Saint Mark's Church (7:30 A.M. mass)	Richmond
04/28/13	Saint Mark's Church (9:30 A.M. mass)	Richmond
04/28/13	Saint Mark's Church (noon mass)	Richmond
05/05/13	Cinco De Mayo	Richmond

Latino Meetings and Events

Date	Event	Location
05/13/13	MCE Spanish Community Meeting	Richmond
05/23/13	Chavez ESL Adult Education Presentation	Richmond
05/28/13	Highland ESL Adult Education Presentation	Richmond
05/28/13	Grant ESL Adult Education Presentation	Richmond
05/30/13	Serra ESL Adult Education Presentation	Richmond
06/03/13	Riverside ESL Adult Education Presentation	Richmond
06/04/13	Washington ESL Adult Education Presentation	Richmond
06/07/13	Richmond Police Athletic League Youth Development & Education	Richmond
06/22/13	The Family Health Fair	Richmond
07/13/13	Sisters in Solidarity	Richmond
07/28/13	West Contra Costa County Unified School District	Richmond

Business Outreach

Date	Event	Location
01/10/13	West County Chambers Super Mixer	Richmond
01/23/13	Richmond Chamber of Commerce Breakfast for Business	Richmond
03/07/13	North Bay Leadership Council Meeting	Petaluma
04/17/13	Council of Industries	Richmond
04/24/13	Marin Bar Association	San Rafael
05/09/13	Richmond Chamber Economic Summit	Richmond
06/25/13	San Rafael Chamber Business for Breakfast	Richmond
06/26/13	Richmond Chamber Business for Breakfast	Richmond
09/11/13	San Rafael Chamber Business Showcase	San Rafael
9/17/13	Novato Chamber of Commerce Event	Novato

Media Briefings

Date	Event	Location
01/04/13	Redeemed World Publisher	Richmond
01/25/13	Redeemed World Publisher	Richmond
01/30/13	Green Screen Youth Media	Richmond
02/26/13	Contra Costa Times	Richmond
03/04/13	Richmond Confidential	Richmond
03/06/13	Richmond Pulse	Richmond
03/15/13	Contra Costa Times	Richmond
03/20/13	KGO Radio 810 Interview	Richmond

School Meetings & Events

Date	Event	Location
01/27/13	Mindful Life Project	Richmond
01/30/13	Green Screen Youth Media	Richmond
03/20/13	San Jose Middle School Tree Planting	Novato
03/20/13	Cool The Earth	Marin
03/25/13	St. Marks School Presentation	Richmond
04/19/13	West Contra Costa Unified School District	Richmond
04/24/13	Drake Earth Day Celebration	San Anselmo
05/28/13	Richmond High School Bilingual Presentation	Richmond

Places of Worship

Date	Event	Location
04/21/13	Easter Hill United Methodist Church	Richmond
05/08/13	Bethlehem Missionary Baptist Church	Richmond

Miscellaneous Meetings & Events

Date	Event	Location
01/15/13	Urban Tilth	Richmond
01/17/13	Asian Pacific Environmental Network (APEN)	Richmond
01/24/13	MEA Advocate Meeting	San Rafael
01/24/13	Sustainable San Rafael Climate Change Action Plan Meeting	San Rafael
02/04/13	Mill Valley City Council Meeting	Mill Valley
02/12/13	February 2013 Finance & Fiscal Oversight Committee Meeting	Tiburon
02/14/13	Sonoma Commercial Financial Panel	Sonoma
03/18/13	Solar Equinox	San Francisco
04/02/13	City of Richmond Green Committee	Richmond
04/05/13	Sonoma Clean Power and the Wine Industry	Sonoma
04/08/13	Richmond Housing Advisory Commission	Richmond
04/14/13	Richmond Community Mobilization Leadership Coalition	Richmond
04/16/13	Novato City Council Meeting	Novato
04/18/13	Richmond Community Leader Advisory Group Meeting	Richmond
04/23/13	Marin Income Property Association Meeting	San Rafael

Miscellaneous Meetings & Events

Date	Event	Location
03/21/13	Richmond Community Leader Advisory Group Meeting	Richmond
03/27/13	Santa Rosa Democratic Club	Santa Rosa
05/15/13	Marin Affordable Housing Meeting	Novato
06/04/13	Joint Session of the Marin, Sonoma and Napa Board of Supervisors	Santa Rosa
06/07/13	Beyond 2020 Renewable Portfolio Standard	Sacramento
06/21/13	Western Power Trading Forum	Sonoma
07/23/13	SEED Informational Workshop	San Rafael
10/18/13	Environmental Leadership of Marin Awards	Mill Valley

Neighborhood Councils & HOA's

Date	Event	Location
01/14/13	Richmond Neighborhood Coordinating Council Meeting	Richmond
01/21/13	Richmore Village-Metropolitan Square Neighborhood Council	Richmond
01/28/13	Laurel Park Neighborhood Council	Richmond
02/19/13	Richmond Heights Neighborhood Council	Richmond
02/20/13	Coronado Neighborhood Council Meeting	Richmond
03/27/13	North & East Neighborhood Council Meeting	Richmond
03/28/13	Richmond Annex Neighborhood Council	Richmond
04/08/13	Richmond Neighborhood Coordinating Council	Richmond
04/10/13	Marina Bay Neighborhood Council	Richmond
04/15/13	Richmond Heights Neighborhood Council	Richmond
04/20/13	Panhandle Annex Neighborhood Association	Richmond
04/25/13	Fairmede-Hilltop Neighborhood Council	Richmond
05/06/13	Richmore Village-Metropolitan Square	Richmond
05/06/13	Richmond Neighborhood Council	Richmond
05/11/13	Hilltop Village Homeowner's Association	Richmond

Neighborhood Councils & HOA's

Date	Event	Location
05/11/13	Parchester Village Neighborhood Council	Richmond
05/23/13	Santa Fe Neighborhood Council	Richmond
05/28/13	Marina Bay Homeowner's Association	Richmond
07/31/13	Hiltop Village Homeowner's Association	Richmond

Community Events & Festivals

Date	Event	Location
01/21/13	MLK Day National Service	Richmond
03/30/13	Marin County Half Marathon	San Rafael
04/21/13	Earth Day Marin	Larkspur
04/22/13	MCE Richmond Community Meeting	Richmond
05/13/13	MCE Richmond Community Meeting (Spanish)	Richmond
05/17-19/13	Sausalito Film Festival	Sausalito
05/26/13	Caledonia Street Festival	Sausalito
06/01/13	Major Taylor Bike Fiesta	Richmond
06/04/13	San Anselmo Zero Waste Event	San Anselmo
06/08/13	Fairfax EcoFest	Fairfax
06/09/13	Fairfax EcoFest	Fairfax
06/22/13	Tam Jam Festival	Mill Valley
06/22/13	Richmond Juneteenth	Richmond
06/29/13	Asian Pacific Environmental Network CLEAN Fest	Richmond
06/29/13	Shields Reid Community Event	Richmond
07/3-07/13	Marin County Fair	San Rafael

Community Events & Festivals

Date	Event	Location
07/25/13	San Rafael Chamber Pacifics Event	San Rafael
08/15/13	MCE Richmond Community Meeting	Richmond
09/04/13	Mill Valley EV Charging Station Ribbon Cutting	Mill Valley
09/05/13	Novato Chamber of Commerce new member meeting	Novato
09/07/13	Solarthon	Richmond
09/29/13	National Plug-In Day Civic Center Ribbon Cutting Ceremony	San Rafael
09/29/13	San Anselmo Country Day Fair	San Anselmo
10/05/13	APEN's Generating Power Event	Richmond
10/12/13	Savor Marin 2013	Corte Madera
10/23/13	Central Coast Sustainability Summit	Santa Barbara

Senior Outreach

Date	Event	Location
01/17/13	Sons in Retirement of Richmond & East Bay	Richmond
02/13/13	Sons in Retirement of Richmond & East Bay	Richmond
06/25/13	San Rafael Chamber Business for Breakfast	Richmond
05/10/13	Richmond Commission on Aging	Richmond
05/15/13	31st Annual Senior Health & Information Faire	Richmond

Service Groups

Date	Event	Location
03/26/13	El Sobrante Rotary	Richmond
04/03/13	San Pablo Rotary	San Pablo
05/02/13	Kiwanis Club	Richmond

Print Advertisements

- Richmond Pulse
- Richmond Post
- La Voz
- SF Business Times Richmond Special
- Marin Independent Journal
- Pacific Sun
- Marin Magazine
- Marin Center Magazine

Electronic Advertisements

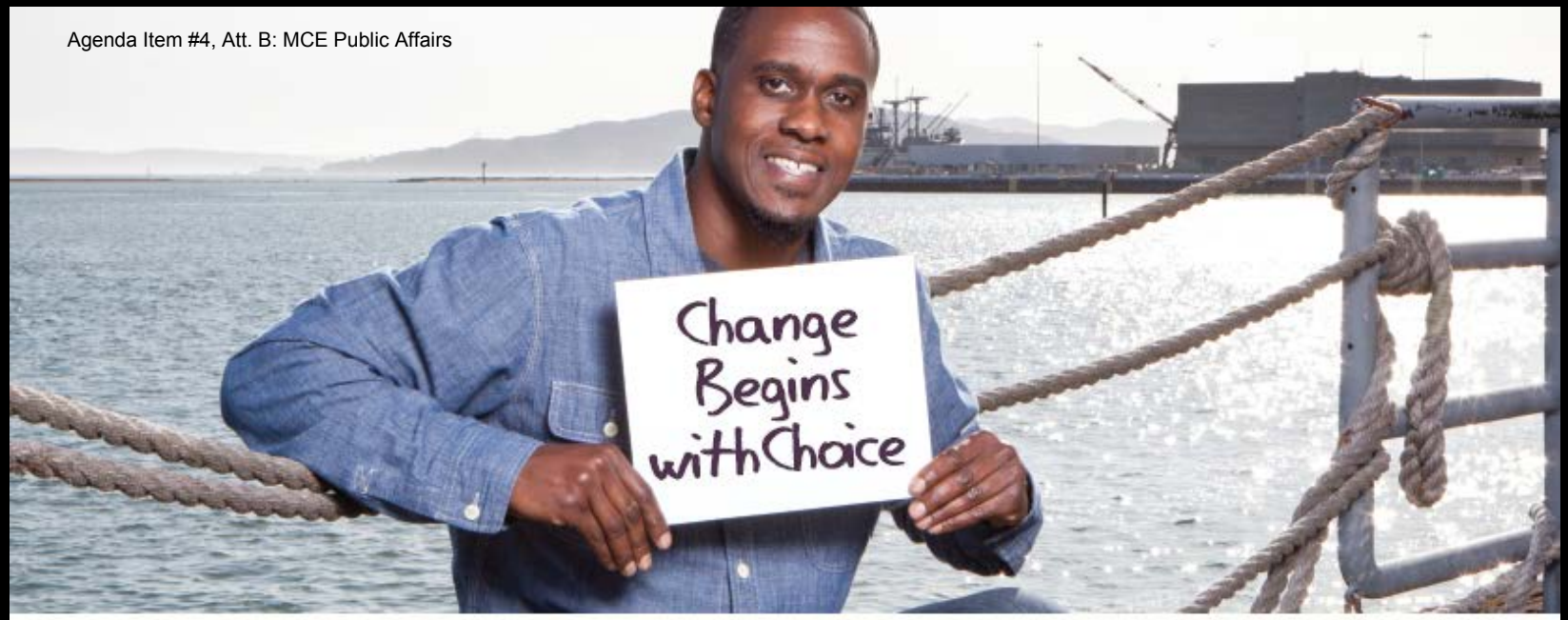
- Richmond Confidential
- Richmond Redeemed World Magazine
- AdTaxi (4 million+ websites)
  - Targeting Richmond users (3 months)
    - April 710 clicks
    - May 1,365 clicks
    - June 2,134 clicks
  - Targeting Marin and Richmond users for energy efficiency program (2 weeks)
    - 92 clicks

Google Adword Campaign

1,012 clicks between 6/1/13 and 8/31/13

Top 5 keyword searches:

1. marin clean energy
2. mce clean energy
3. solar wind energy
4. how to save energy
5. mce



Dameion D. King, Publisher
Redeemed World Magazine

MCE Clean Energy
My community. My choice.

It's Richmond's time for a clean energy choice.

Richmond is the City of Pride and Purpose—a place of innovation.

MCE is helping our forward momentum by investing in our future, and providing new choices for cleaner energy. Now is the time to invest in Richmond's growth.

Look for MCE mailers to learn about your clean energy options.

What's *your* choice?

mceCleanEnergy.com | 1 (888) 632-3674

Ruben Pedroza with his youngest son Nicolas
Richmond resident and 2013 RichondBUILD graduate

MCE Clean Energy
My community. My choice.

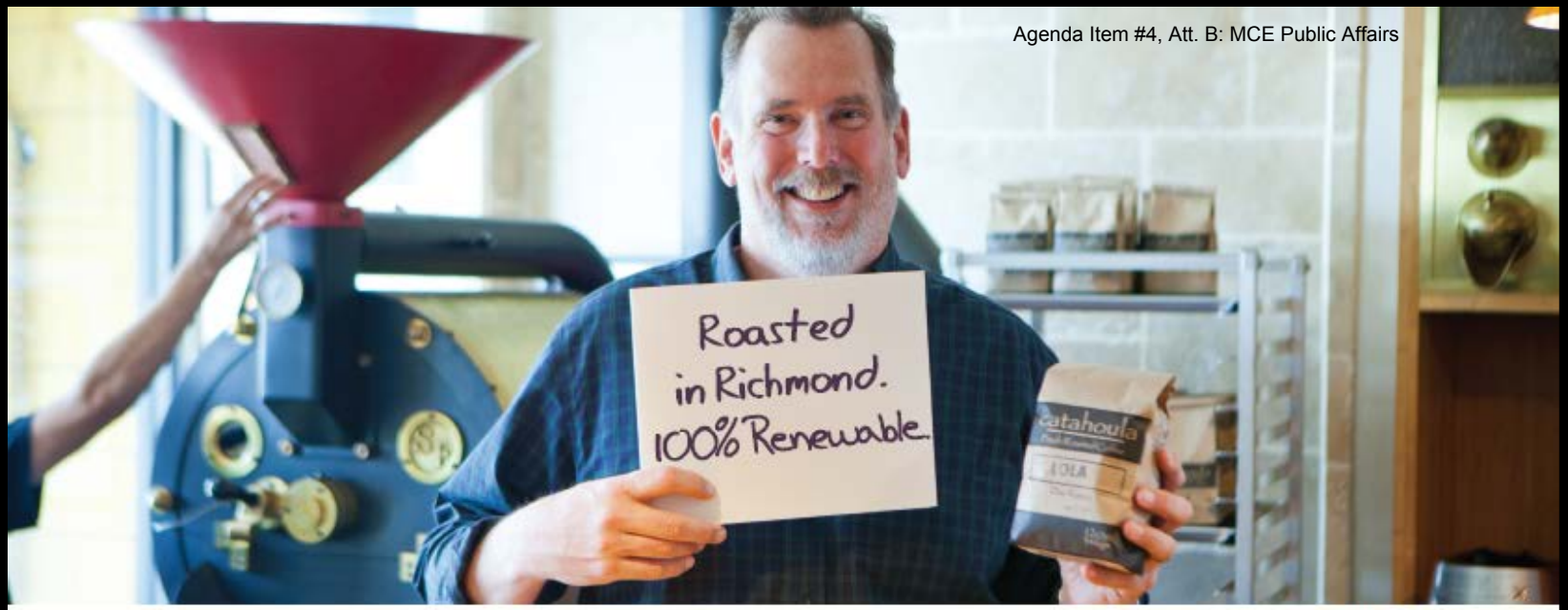
MCE supports job training in Richmond.

As a public, not-for-profit electricity provider offering clean energy service in Richmond, MCE invests in local jobs, projects and programs.

MCE has partnered with RichmondBUILD to fund job training and workforce development programs that strengthen our community.

What's *your* choice?

mceCleanEnergy.com | 1 (888) 632-3674



Timber Manhart, Owner
Catahoula Coffee Co., Richmond

MCE Clean Energy
My community. My choice.

100% clean energy? It's your choice.

Catahoula Coffee Company chose to "opt up" to MCE's Deep Green 100% clean energy, because we care about quality—our beans, our brew, and the air we all breathe.

Anyone in Richmond can choose from MCE's two clean energy options. Look for MCE mailers to learn more.

What's *your* choice?

mceCleanEnergy.com | 1 (888) 632-3674

3 generations of Richmond residents:
Doria Robinson (center), Executive Director of Urban Tilth
with mother Kathy and daughter Innua

MCE Clean Energy
My community. My choice.

Renewable energy means rate stability for Richmond.

MCE's renewable energy means cleaner air for our family. Their reliable rates mean easier budgeting.

As a public agency, MCE's Board represents every city it serves, including Richmond.

Look for MCE mailers to learn more.

What's *your* choice?

mceCleanEnergy.com | 1 (888) 632-3674

Ben Choi, MCE Account Manager
and Richmond resident

MCE Clean Energy
My community. My choice.

New clean power options are available in Richmond.

Richmond is building a cleaner, healthier future and MCE is helping to make it possible. MCE's 50–100% renewable electricity comes from sources like solar, wind, and bioenergy.

Look for MCE mailers to learn more.

What's *your* choice?

mceCleanEnergy.com | 1 (888) 632-3674

El dueño, Timber Manhart
Catahoula Coffee Co., Richmond

MCE Clean Energy
My community. My choice.

Energía 100% limpia? Usted elige.

Café mas fresco que este no existe. Ninguna electricidad puede ser mas limpia que esta.

Catahoula eligió algo mejor, "opt up" a Verde Fuerte, energía 100% renovable, porque nos importa la calidad—nuestros granos, nuestra preparación, y el aire que todos respiramos.

¿Y usted, qué elige?

es.mceCleanEnergy.com | 1 (888) 632-3674

Ben Choi, Gerente de cuenta de MCE y
residente de Richmond

MCE Clean Energy
My community. My choice.

Ahora hay opciones nuevas de energía limpia en Richmond.

Richmond está construyendo un futuro más limpio y más saludable y MCE está ayudando a hacerlo posible. La electricidad 50–100% renovable de MCE proviene de recursos naturales como solar, el viento y la bioenergía. En el correo encontrará más información acerca de MCE.

¿Y usted, qué elige?

es.mceCleanEnergy.com | 1 (888) 632-3674

The smartest energy is energy you don't use.

Wish your utility bills were lower?
We can help.

Visit MCE's booth at the **Marin County Fair** to try our online **Energy Efficiency Tool.**
July 3-7, Marin Civic Center Fairgrounds

MCE Clean Energy
My community. My choice.

MyEnergyTool.mceCleanEnergy.com

The smartest energy is energy you don't use.

Wish your utility bills were lower?
We can help.

Visit MCE's booth at the **Marin County Fair** to try our online **Energy Efficiency Tool.**

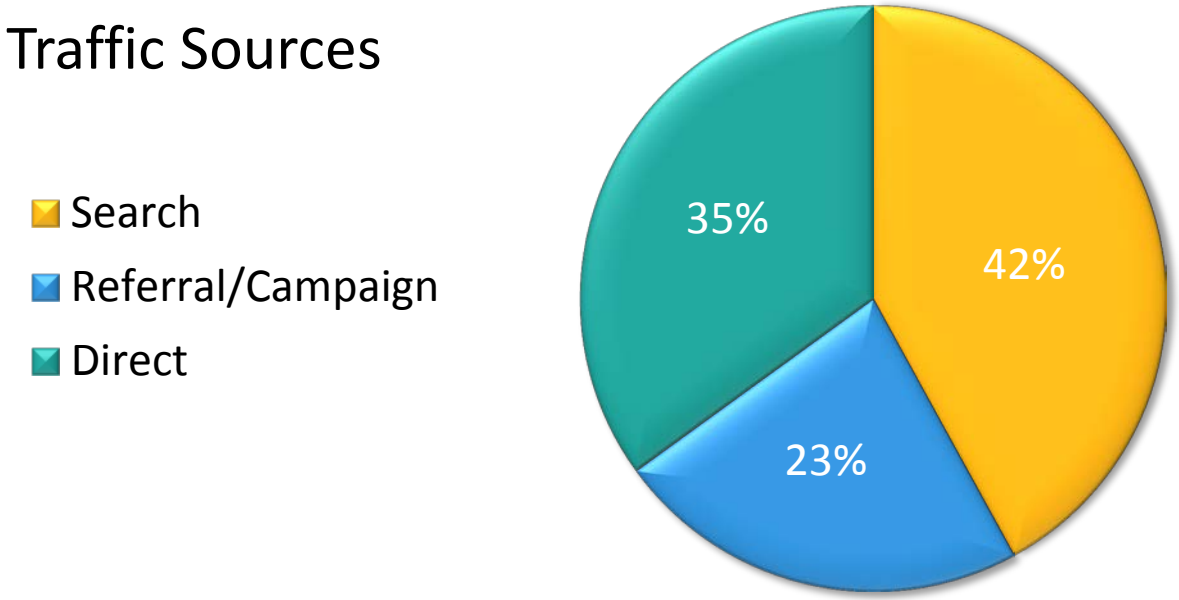
July 3-7, Make Your World Pavilion
Marin Civic Center Fairgrounds

MyEnergyTool.mceCleanEnergy.com

MCE Clean Energy
My community. My choice.

Past Year: Website Traffic

- ~50,000 site visits between 10/2012 and 09/2013
- 43% new visitors
- 12% mobile/tablet users



Year Ahead: Focus Areas

- Retain Light Green customers
- Return Light Green customer opt outs
- Increase Deep Green customer enrollments
- Increase energy efficiency program participation
- Expand Latino outreach
- Improve PG&E billing & customer service

Year Ahead: Planned Activities

- Create Deep Green business marketing package
- Launch Deep Green & energy efficiency advertising campaigns
- Direct outreach to business customers
- Deepen engagement in business communities
- Build & enhance advocacy relationships
- Simplify and build interactive web tools
- Improve Net Energy Metering billing process
- Create and disseminate video ads

Questions or Comments?

MARIN ENERGY AUTHORITY

Energy Efficiency Update

Beckie Menten

Energy Efficiency Coordinator | Marin Energy Authority

Overview

- MEA and Energy Efficiency
- Accomplishments To Date
- Looking Forward

MEA and Energy Efficiency

Mission Statement

SB 790

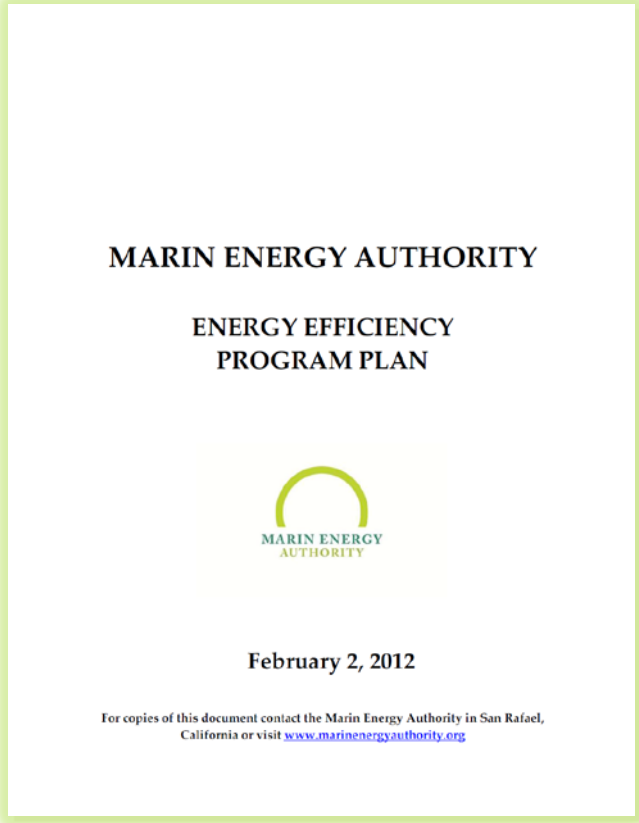
Integrated Resources Plan

MEA Energy Efficiency Plan Development

- *Marin Energy Authority: Energy Efficiency Program Plan* (February 2012)
  - Adopted by MEA Board: Resolution 2012-08
  - Presented to Energy Division February of 2012

2012 Program Funding

2013 – 2014 Program Funding


MARIN ENERGY AUTHORITY

ENERGY EFFICIENCY PROGRAM PLAN

MARIN ENERGY AUTHORITY

February 2, 2012

For copies of this document contact the Marin Energy Authority in San Rafael, California or visit www.marinenergyauthority.org

Accomplishments: Ramp Up

- Ramped Up the Energy Efficiency Program
  - E3 Calculators
  - Approved Program Implementation Plan
  - EE Policy Manual
  - Custom Project Review
  - Reporting Requirements
- Coordination with Program Partners
- Successfully Implemented Programs
  - Implementation Phase since early Spring, Beginning to See Results

Coming Soon

- Full On-Bill Repayment Program Ramp Up Q4 2014
  - Single Family Launch October 1
  - Associated Marketing Campaign
- Home Utility Reports Mailing October 1
- Standard Offer Program Ramp Up

Measuring Success

- Cost Effectiveness
  - Total Resource Cost
    - Net Benefits of Program / Total Cost of Program
    - Used to Evaluate Application
    - Difficult to Achieve with MEA Program Design
  - Program Administrator Test
    - Benefits / Program Costs Only

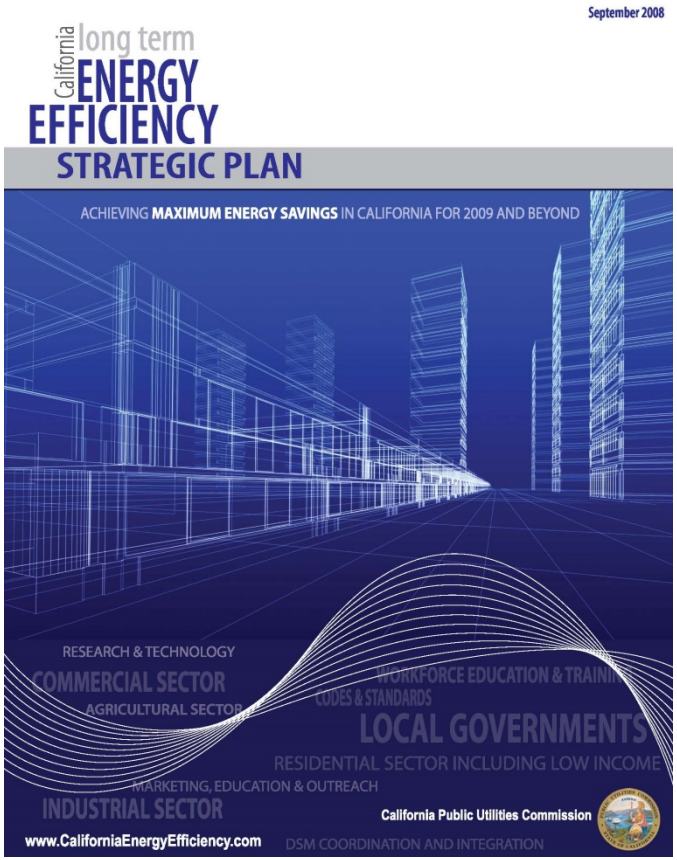
  "…MEA's proposals mostly address hard to reach sectors and thus may not always pass TRC and PAC tests on a standalone basis…therefore we do not set a minimum threshold cost-effectiveness requirement for CCA proposals…"
- Program Performance Metrics
  - Identified by MEA in Our Application
  - Another Metric for Gauging Success

Measuring Success

Long Term Energy Efficiency Strategic Plan

"Big, Bold Strategies"

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low income energy efficiency program by 2020.



Program Accomplishments

Initial Program Results

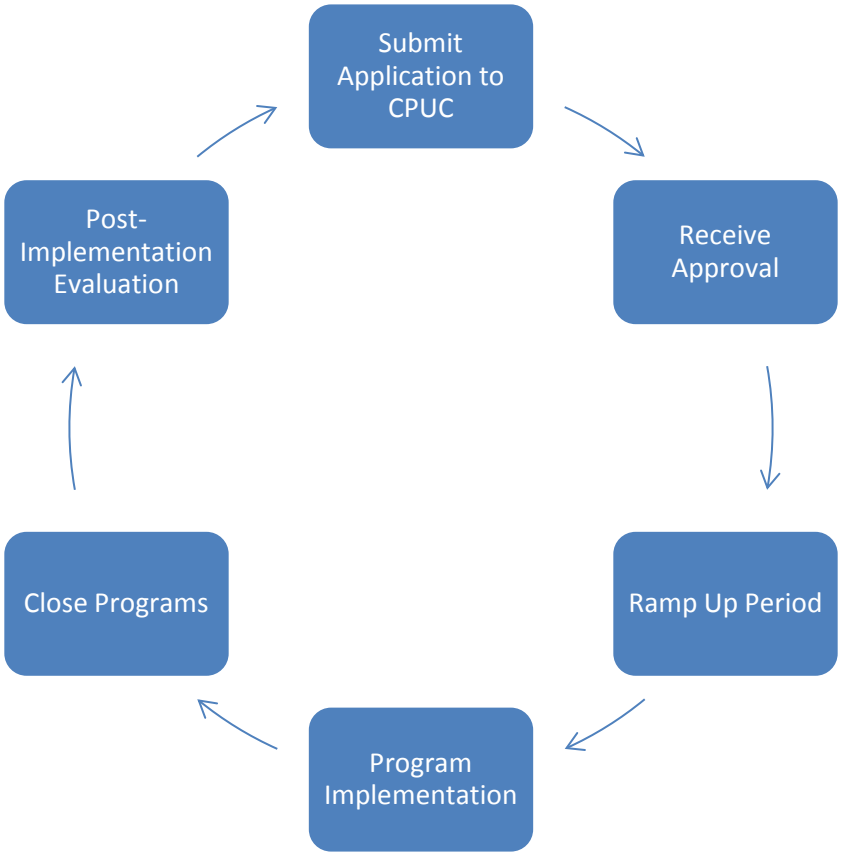
Budget	
Budget Spent	$430,003
Savings	
kWh	108,597
kW	16.8
Therms	2,734

Program Accomplishment: PPMs

Initial Program Results

Performance Metrics	
Multi-family Buildings Provided Technical Assistance	10
Small Businesses touched through outreach	789
Action Plans Started on Web Portal	314
Trained Individuals	32

Program Timeline



2015 and Beyond

- Discussion for Application in Progress
- Potentially Significant Changes to CPUC Portfolio Structure
  - Cost Effectiveness Test Under Evaluation
  - "Evergreen" Portfolio
- Formal Application Process Likely to Begin Early 2014

Questions?

marin clean energy
renewable. reliable. affordable.

Renewable Energy Procurement:
2013 Contract Status

September 25, 2013

MEA Renewable Energy Contracts

Complete and currently delivering energy to MCE:

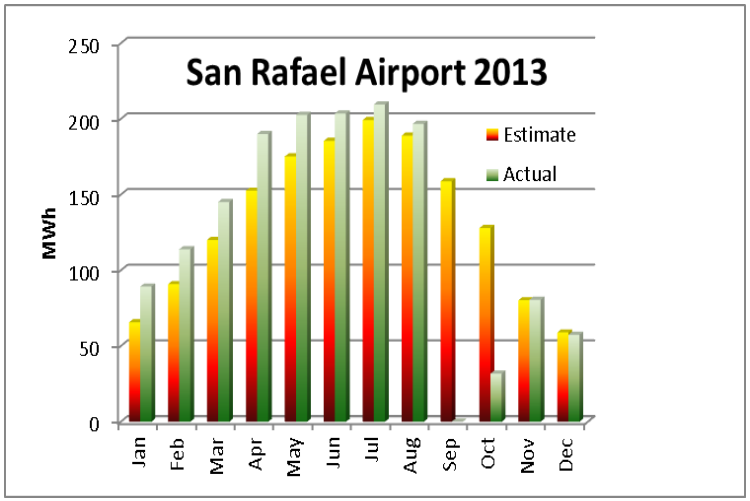
- **San Rafael Airport FIT – COD October 29th, 2012**
- **GenPower - Energy 2001 – COD Feb 11th , 2013**
- **G2 Energy Hay Road– COD July 2nd , 2013**
- **G2 Energy Ostrom Road– Generating, COD TBD**

San Rafael Airport

Project: San Rafael Airport - 972kW Feed- in-Tariff project

- **Contract Executed: May 8th, 2012**
- **Online Date: October 23rd, 2012**
- **Commercial Operation Date: October 23rd , 2012**
- **Product: Solar "as available " Energy Only**
- **Location: San Rafael**
- **Contracted Capacity: 972 kW**
- **Annual Energy: 1600 MWh**

  (producing 13% more than expected)



- **Contract Term: October 23rd , 2012 through October 22nd , 2032 (20 years)**

San Rafael Airport - 972 kW FIT project

GenPower - Energy 2001

Project: Energy 2001

- **Contract Executed: July 6th, 2012**
- **Online Date: October 29th, 2012**
- **Commercial Operation Date: February 11th , 2013**
- **Product: Landfill gas (existing + expansion) baseload energy only**
- **Location: Placer County, 85 miles north east of San Rafael**
- **Contracted Capacity: 4.8 MW - delivering 3.55 MW** (21 of 60 wells are either watered or pinched off; to be resolved by Nov 15, 2013)
- **Annual Energy: 31,098 MWhs @ 3.55 MW average capacity, 91.5% of expected deliveries– 34,000 MWhs expected under contract**
- **Contract Term: Feb 11, 2013 through Feb 10, 2033 (20 years)**

Seller to provide an audit within sixty (60) days of the anniversary of COD summarizing the output of the Facility during the preceding twelve months.

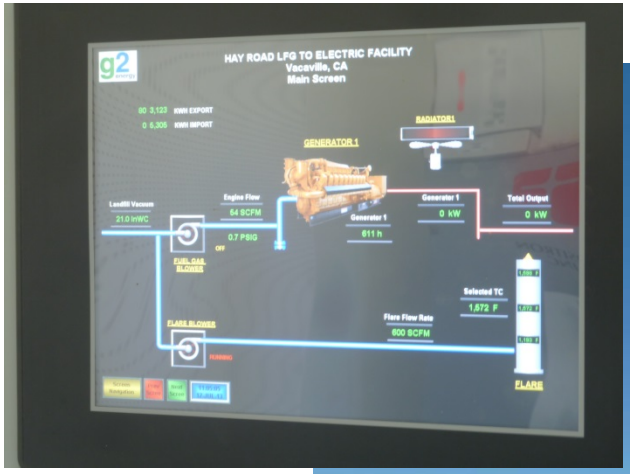
GenPower - Energy 2001

G2 Energy – Hay Road

Project: Hay Road

- **Contract Executed: December 3rd , 2010**
- **Online Date: June 18th, 2013**
- **Commercial Operation Date: July 2nd , 2013**
- **Product: Landfill gas (new) baseload energy only**
- **Location: Solano County, 45 miles east of San Rafael**
- **Contracted Capacity: 1.6MW - delivering 1.50 MW**
- **Annual Energy: 12,500 MWhs @ 1.50 MW average capacity**
- **Contract Term: July 2nd, 2013 through July 1st, 2031 (18 years)**

G2 Energy – Hay Road



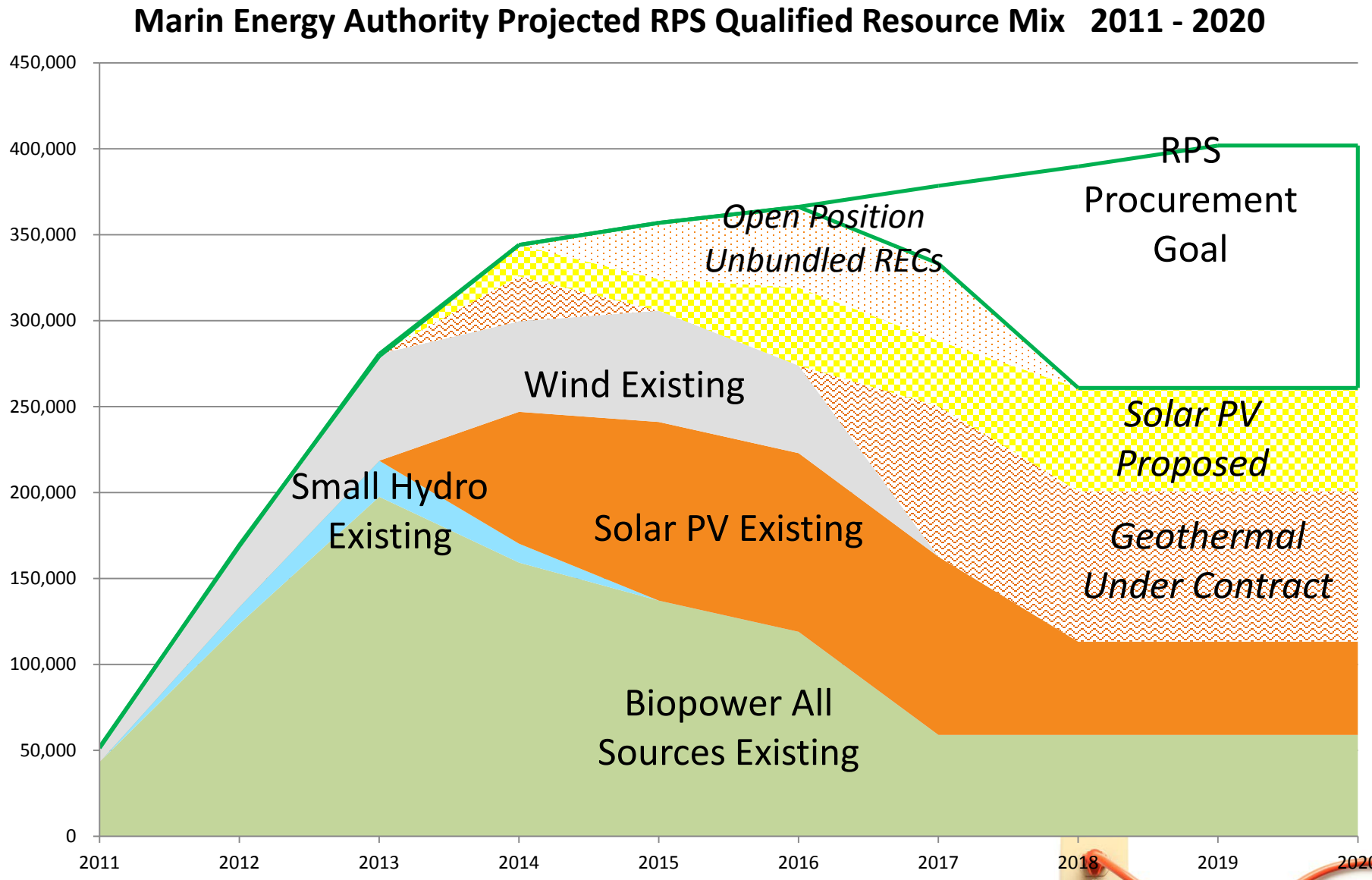
G2 Energy – Ostrom Road

Project: Ostrom Road

- **Contract Executed: December 3rd , 2010**
- **Online Date: August 30th, 2013**
- **Commercial Operation Date: TBD**
- **Product: Landfill gas (existing + expansion) baseload energy only**
- **Location: Yuba County, 100 miles north east of San Rafael**
- **Contracted Capacity: 1.6MW - delivering 1.50 MW**
- **Annual energy: 12,500 MWhs @ 1.50 MW average capacity**
- **Contract Term: August 30th, 2013 through August 29th, 2031 (18 years)**

G2 Energy – Ostrom Road

Renewable Energy Resource Balance

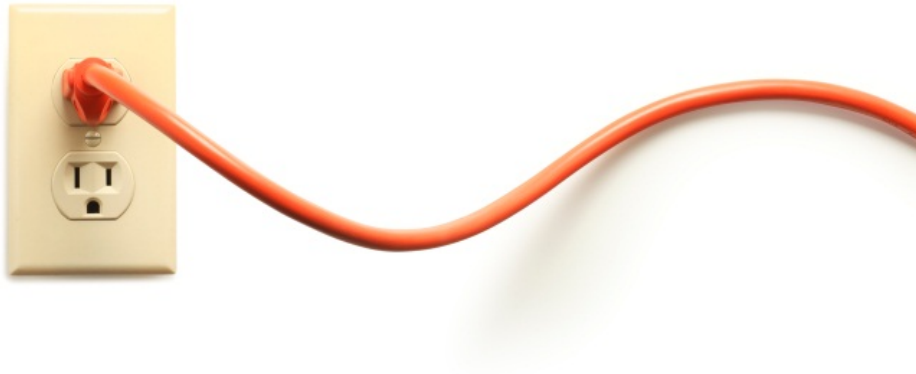


MEA Renewable Energy Contracts

Under Contract and in Development:

- **Recurrent Energy Kansas – Q1, 2015**
- **EDF –RE (enXco) Cottonwood – Jan 29, 2015**
  - **Last progress report – July 2013**
  - **Scheduled Construction Start Date: July 2nd, 2014**
- **EDF –RE (enXco) 1 MW Marin - TBD**
- **Calpine 2 transactions – 2014 and 2017 to 2026**

Questions? Comments?



MCE Expansion and Ratepayer Impacts

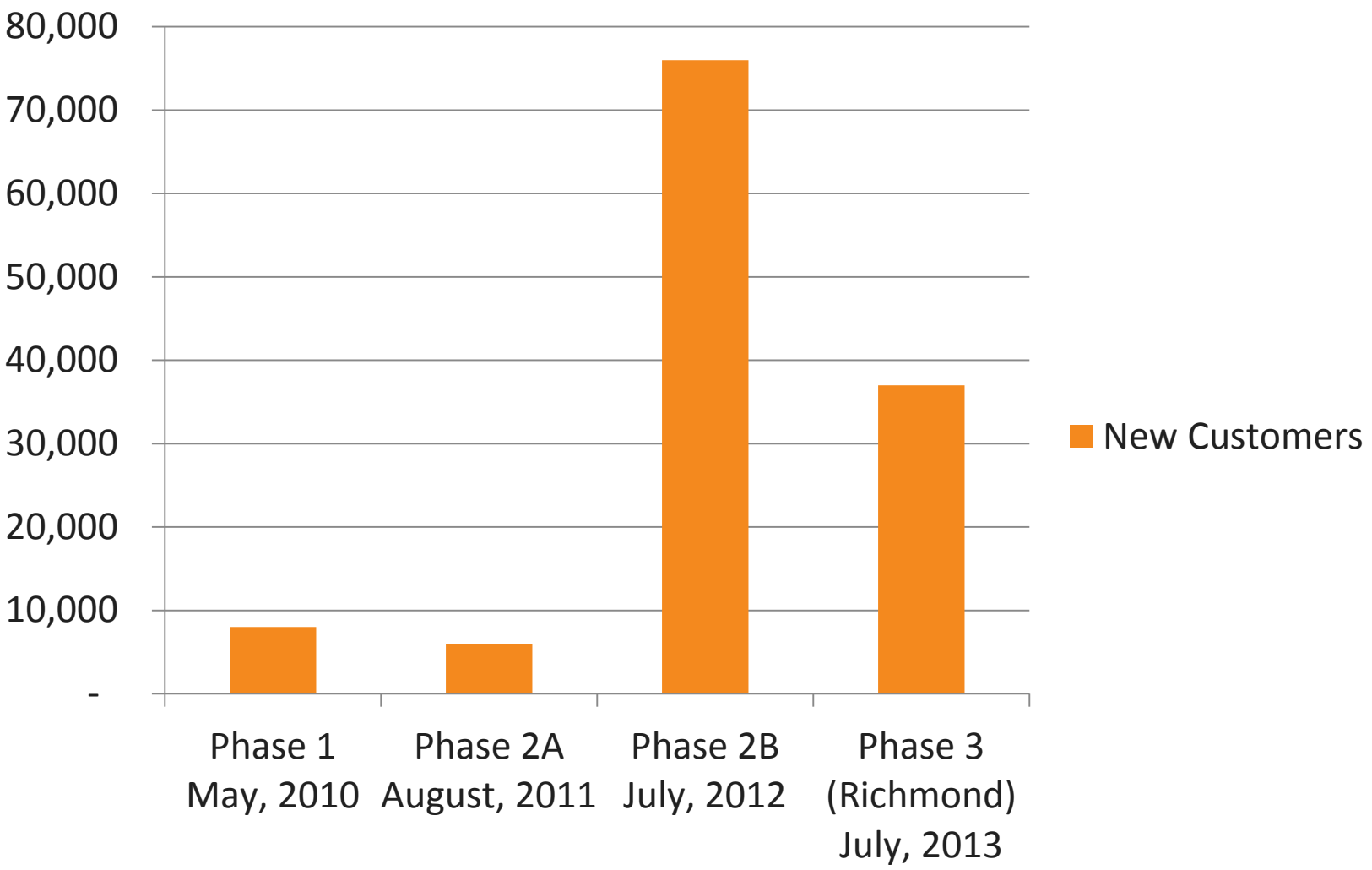



September 25, 2013

Introduction

- Expansion of MCE service to new communities involves several policy issues: political, economic, environmental and strategic.
- Focus of this presentation is on estimating expansion's direct economic benefits to MCE ratepayers from increasing program sales.
- The specific benefits and costs of a contemplated expansion would be determined through a more detailed applicant analysis.

MCE Expansion History



Expansion Experience

- Expansion within the PG&E service territory is operationally straightforward as protocols are well-defined for enrollment of additional customers – expansion to SCE or SDG&E territory would be more challenging.

- Primary workload increases are related to the initial electric procurement, update of Implementation Plan, communications, and customer service (e.g., opt out processing, enrollment and billing).

- Lessons learned from Phase 2B expansion, particularly in communications and opt-out processing, were applied successfully to Richmond.

How Can Expansion Benefit MCE Ratepayers?

- Greater scale efficiencies can reduce MCE program costs and help reduce customer rates.
- Additional electric purchases can reduce average power supply costs if lower cost power is available in the market.
- Growth through expansion offsets customer attrition that might otherwise result in a slow decline.
- Expansion can enhance MEA credit standing as continuing customer/member growth signals health and competitive success.

Estimated MCE Rate Benefits

Source of Rate Benefit	Impact	Est. Rate Impact for +20% Load Growth	Est. Rate Impact for +100% Load Growth
Fixed costs spread over larger sales base	Small rate benefit because these fixed costs represent only about 5% of MEA budget	Approx. 1% reduction	Approx. 3% reduction
Incremental market purchases may reduce average power supply cost	Depends on market at time of expansion; Currently a modest benefit because MEA supply cost is close to market; could be a detriment if market power prices are increasing	Approx. 1% to 2% reduction	Approx. 2% to 5% reduction
Total		**2% to 3% reduction**	**5% to 8% reduction**

COR Impacts on Staff Capacity

Addition of 2 FTE specifically to serve Richmond:
(Annual cost: $93,000)

- Customer Specialist (Ben Choi)
- Communications and Outreach (Elena Velez .5 FTE)
- Communications and Outreach (Ashley Aberi .5 FTE)

Addition 2 FTE to benefit Agency as a whole:
(Annual cost: $116,000)

- Legal Analyst (Shalini Swaroop)
- Local Project Development (Rafael Silberblatt .5 FTE)
- Energy Efficiency (Rafael Silberblatt .5 FTE)

COR Impact on Indirect Job Creation

Energy Efficiency Programs: multifamily and small commercial: Modest increase in activity (25%)

- Contract jobs (energy audits, retrofits, upgrades)
- Job training programs

Solar installations: Modest increase expected due to new opportunity sites

- FIT-driven solar installations
- Net Energy Metering driven solar installations

COR Impact on Agency Budget FY2012/13

MCE total revenue FY13: $ 53,000,000

COR- specific costs: $ 350,000

- Staff positions
- Communications Expenses
- Technical Consultants

COR Impact on Agency Budget FY2013/14

MCE Total Revenue: $86,900,000

Projected COR customer revenue: $20,800,000

Less expenses

• Power supply cost	$ 17,200,000
• Billing/data management costs	$ 700,000
• Staff positions	$ 100,000
• Subtotal expenses	$ 18,000,000

Net contribution to fixed costs: $2,800,000

Rate benefit: ≈ 3%

Expansion Process for COR

The expansion to COR took approximately 24 months from initial consideration to service cutover.

1. Expansion criteria established
2. Member application/fee agreement
3. Applicant analysis
4. Board approval
5. Implementation Plan update
6. Electric procurement
7. Communications/outreach
8. Enrollment

Questions?




POLICY NO. 007 – NEW CUSTOMER COMMUNITIES

Whereas MEA's founding mission is to address climate change by using a wide range of renewable energy sources, reducing energy related greenhouse gas emissions and promoting the development of energy efficiency programs; and

Whereas creating opportunities for customer electric service in new communities may allow MEA to further progress towards its founding mission; and

Whereas MEA currently provides a minimum 50% renewable energy supply to all MCE customers (through its default Light Green retail service option), which substantially exceeds similar renewable energy supply percentages provided by California's investor-owned utilities (IOUs); and

Whereas the addition of new communities to MEA's membership will inevitably increase state-wide renewable energy percentages due to MCE's specified minimum renewable energy supply percentage of 50%; and

Whereas the addition of new communities to MEA's membership will also decrease greenhouse gas emissions within the Western United States as a result of minimum renewable energy supply percentages exceeding such percentages provided by California's IOUs.

Therefore, it is MEA's policy to explore and support customer electric service in new communities to further agency goals.

In consideration of the above, MEA will allow access to service in new communities through two channels, affiliate membership or special-consideration membership, as applicable:

<u>Affiliate membership considered if:</u>

1. All applicable membership criteria are satisfied,
2. New community is located in a county that is not more than 30 miles from MCE existing jurisdiction, and
3. Customer base in new community is 40,000 or less.

<u>Special-consideration membership considered if:</u>

1. All applicable membership criteria are satisfied,
2. New community is located in a county that is more than 30 miles from MCE existing jurisdiction and/or the customer-base in the new community is greater than 40,000.

MCE Affiliate Membership Process

Step 1: Governing body submits letter to MEA from new community jurisdiction, requesting consideration as a member.

Step 2: Staff evaluates request timing to determine if internal resources are available to consider request, and to ensure no impact to core agency functions.

Step 3: Request submitted to MEA Board to authorize initiation of membership analysis.

Step 4: Following MEA Board approval, staff executes contract with governing body of new jurisdiction to fund membership analysis. Staff undertakes and completes analysis.

Step 5: Results of membership analysis presented to governing body of new community and to MEA Board. 1). If all of the affiliate membership criteria below are met, community is automatically authorized to complete affiliate membership process. 2). If all criteria are not met but other compelling criteria are present, Board may consider approval of affiliate membership.

Affiliate Membership Criteria:

A. **Allowing for MCE service in new customer community will result in a projected net rate reduction for existing customer base.**
B. **Offering service in new customer community will accelerate greenhouse gas reductions.**
C. **Including new community in MCE service will increase the amount of renewable energy being used in California's energy market.**
D. **There will be an increase in opportunities to launch and operate MCE energy efficiency activities and programs.**
E. **New opportunities are available to deploy local solar and other distributed renewable generation through the MCE Net Energy Metering Tariff and Feed in Tariff.**
F. **Greater demand for jobs and other economic activity is likely to result from service in the new community.**
G. **The addition of the new community is likely to create a stronger voice for MCE at the State and regulatory level.**

Step 6: Governing body of new jurisdiction approves a resolution requesting membership and a standard ordinance authorizing community choice aggregation service through MCE.

Step 7: MEA Board adopts a resolution authorizing membership of the additional incorporated municipality and submits updated Implementation Plan to CPUC.

ORDINANCE NO. XXX

ORDINANCE OF THE CITY/TOWN COUNCIL OF _____ APPROVING THE MARIN ENERGY AUTHORITY JOINT POWERS AGREEMENT AND AUTHORIZING THE IMPLEMENTATION OF A COMMUNITY CHOICE AGGREGATION PROGRAM

The City/Town Council of the City/Town of _____ ordains as follows:

SECTION 1. The City/Town of _____ has been exploring options to provide electric services to constituents within its service area with the intent of using a wide range of renewable energy sources, reducing energy related greenhouse gas emissions and promoting the development of energy efficiency programs.

SECTION 2. On September 24, 2002, the Governor signed into law Assembly Bill 117 (Stat. 2002, ch. 838; see California Public Utilities Code section 366.2; hereinafter referred to as the "Act"), which authorizes any California city or county, whose governing body so elects, to combine the electricity load of its residents and businesses in a community-wide electricity aggregation program known as Community Choice Aggregation.

SECTION 3. The Act expressly authorizes participation in a Community Choice Aggregation (CCA) program through a joint powers agency, and on December 19, 2008, the Marin Energy authority (MEA) was established as a joint power authority pursuant to a Joint Powers Agreement, as amended from time to time.

SECTION 4. On February 2, 2010 the California Public Utilities Commission certified the "Implementation Plan" of the MEA, confirming the MEA's compliance with the requirements of the Act.

SECTION 5. In order to become a member of the MEA, the Act requires the City of _____ to individually adopt an ordinance electing to implement a Community Choice Aggregation program within its jurisdiction by and through its participation in the MEA.

SECTION 6. Based upon all of the above, the City/Town Council elects to implement a Community Choice Aggregation program within the City/Town of _____'s jurisdiction by and through the City/Town of ____'s participation in the Marin Energy Authority. The Mayor is hereby authorized to execute the MEA Joint Powers Agreement.

SECTION 7. This ordinance shall take effect and be in force 30 days after its adoption, and, before the expiration of 30 days after its passage, a summary of this ordinance shall be published once with the names of the members of the Council voting for and against the same in the _____, a newspaper of general circulation published in the _____.

The foregoing ordinance was introduced at a meeting of the City/Town Council of the City/Town of _____ held on Date, and adopted at a meeting held on Date, by the following vote:

AYES: Councilmember
NOES: Councilmember
ABSENT: Councilmember

/s/_____
XXX, Mayor

/s/_____
XXX, City Clerk

MCE Clean Energy
My community. My choice.

MCE Support for Local Renewable Projects

September, 25, 2013

MCE Mission

MCE's mission:

"Promote the development and use of renewable energy and energy efficiency programs to reduce greenhouse gas emissions, support stable energy prices and yield local economic benefits."

MCE Programs

MCE Promotes Local Renewables

Programs in place:

- ✓ Net Energy Metering (NEM) Tariff
- ✓ Feed-in Tariff (FIT)

Programs in process:

- ➢ Local renewables through standard PPA
- ➢ Local MCE-owned project
- ➢ Developing local solar program

Program Status

- ✓ Net Energy Metering Tariff: 2,500+ participating customers
- ✓ Feed-in Tariff: 1 participating project

- ➢ Local renewables through standard PPA: Sites identified, delays encountered
- ➢ SEED Program: RFP issued for municipal projects
- ➢ Local MCE-owned project: 2 sites identified, pre-development work underway
- ➢ Developing local solar program: Early discussions occurring with MCE Technical Committee

Success and Challenges

Net Energy Metering Tariff has been successful, and has exceeded targets for participation. Billing challenges remain and are being addressed.

Feed-in Tariff, launched in January, 2011, has only resulted in one completed project.

Interested FIT applicants have reported challenges:

- Interconnection process with PG&E costly and time-consuming
- Permitting delays or barriers
- Financing challenges

FIT: Appropriate Scope for MCE

MCE is equipped to, and has provided support as follows:

- Publicize FIT in events, on the website, and through press releases
- Held local workshops to publicize FIT, help land owners meet developers, and respond to questions
- Respond to inquires from land owners and developers who want to begin the application process
- Confer with land owners and developers to help them identify resources related to interconnection, metering and financing strategies

MCE is not equipped to:

- Conduct site analysis or environmental impact review
- Provide direction related to land use planning and permit decisions
- Make or influence land-use decisions

FIT: Additional Relevant Policy Guidance

MEA Joint Powers Authority Agreement: Compliance with Local Zoning & Building Laws:

"..Any facilities, buildings or structures located, constructed or caused to be constructed by the Authority within the territory of the Authority shall comply with the General Plan, zoning and building laws of the local jurisdiction within which the facilities, buildings or structures are constructed."

California Solar Rights Act of 1979:

"It is the intent of the Legislature that local agencies not adopt ordinances that create unreasonable barriers to the installation of solar energy systems, including, but not limited to, design review for aesthetic purposes, and not unreasonably restrict the ability of homeowners and agricultural and business concerns to install solar energy systems."

"…[the Act] requires that local governments us an administrative, nondiscretionary review process for on-site solar energy systems."

Going Forward

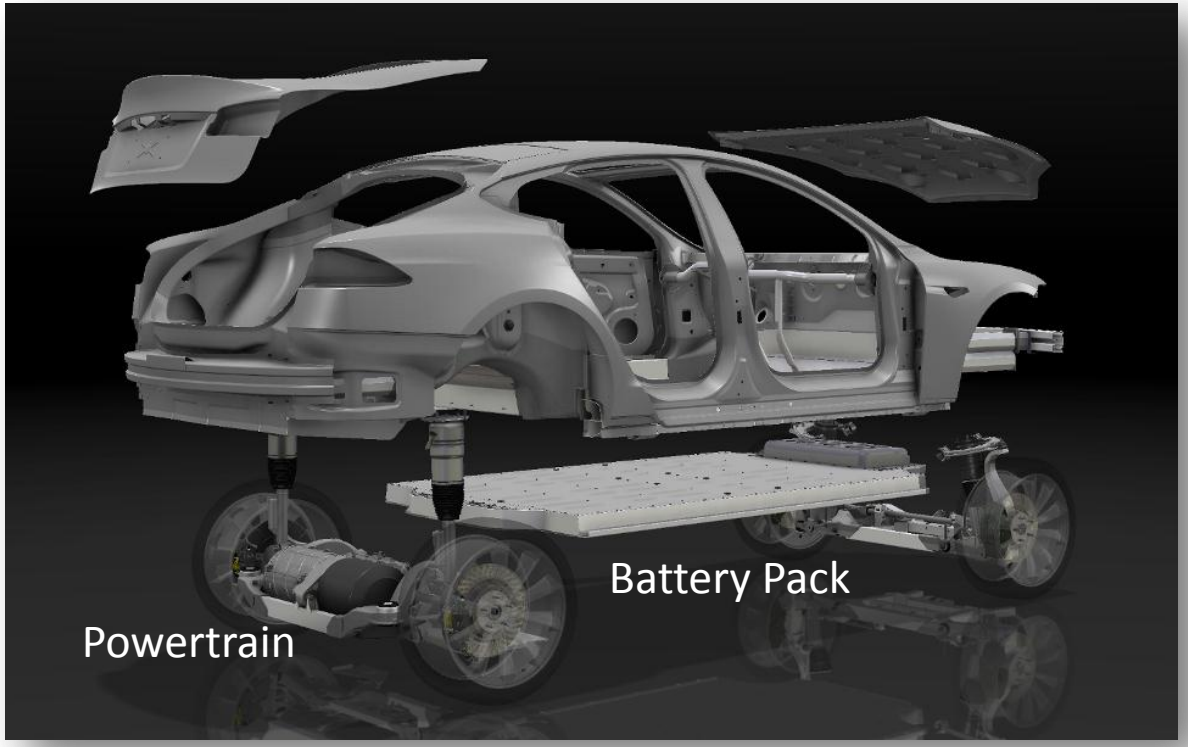
For discussion:

- How should MCE support approval of FIT projects by other governing bodies when land use decisions are being considered?
- Appropriate role for Staff?
- Appropriate role for Board members?

Stationary Energy Storage

Arch Padmanabhan | Stationary Energy Storage
3500 Deer Creek Rd. Palo Alto, CA 94304 | desk: 650.681.6018 | mobile: 650.796.6702 |
arch@teslamotors.com

Stationary Energy Storage



Product Overview

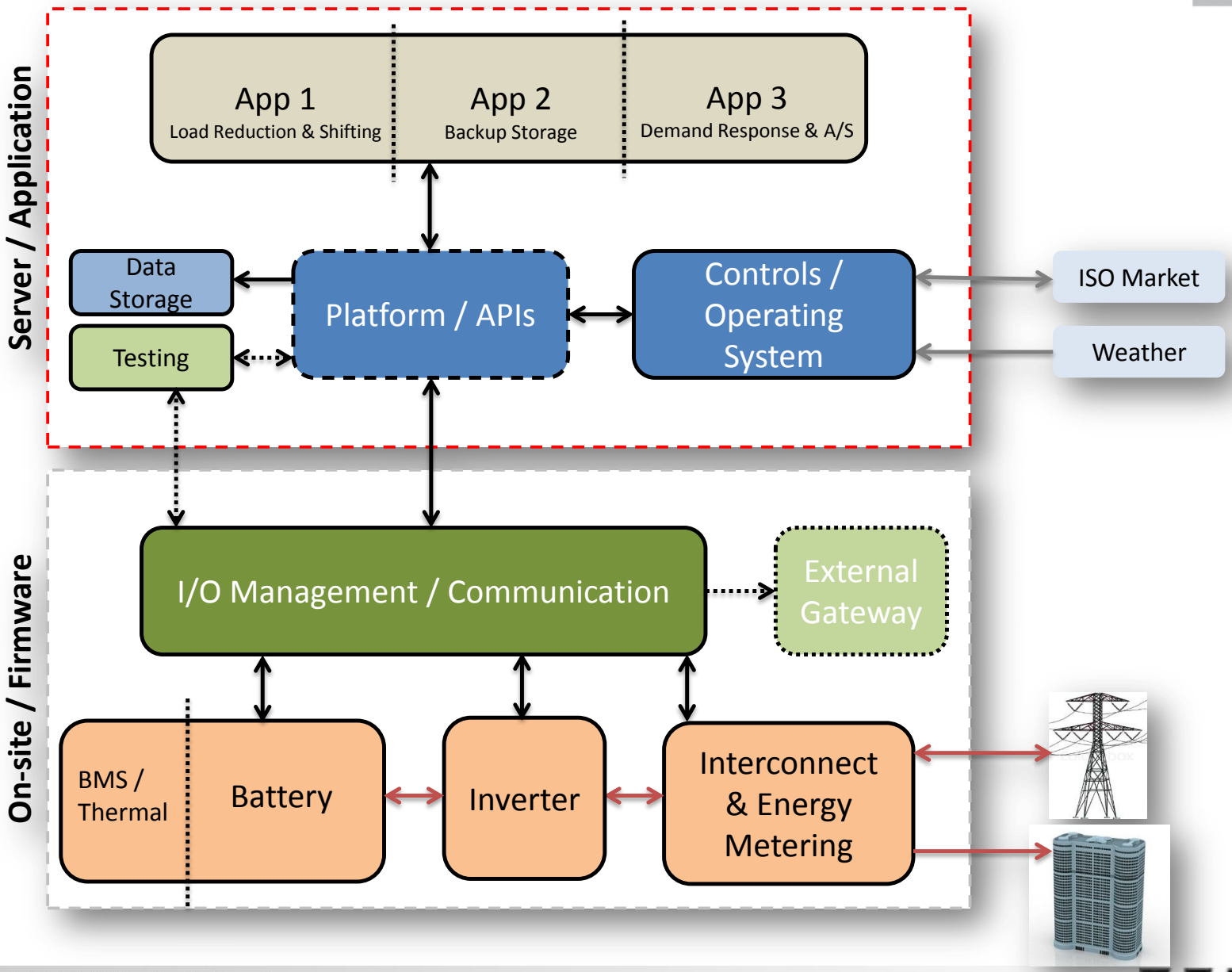
Residential	Commercial	Utility-Scale
10 – 20kWh	50kWh – 2MWh	2MWh+
800 x 350 x 260mm	1450 x 650 x 750mm	Modular Superpacks
Power electronics separate	Integrated power electronics, full balance of plant	
UL listed, outdoor rated; remote dispatch capability		
HV Battery includes BMS, thermal management, PPR resistance		

Storage Applications

- "**Energy arbitrage**" - reduce energy costs by charging battery at night and using that energy during the day
- Lower **demand charges** by smoothing out demand
- Wholesale market participation (**demand response** and ancillary services)
- Backup power*
- Capacity Firming for renewables

*Planned feature

Architecture



Deployed Systems – Fremont (1MW / 2MWh)

Electrical		
Voltage (grid interface)	208 or 480	VAC
Continuous Charge/Discharge Power (2hr)	**200**	kW
Rated Storage Capacity	**400**	kWhr*

**net energy delivered at AC voltage, based on 2hr discharge at rated power*

System Efficiency @ C/2	89% / 80%	1way / RT
System Efficiency @ C/4	93% / 86%	1way / RT

Communications:

Ethernet and GSM connectivity
Accepts instantaneous and scheduled charge/discharge commands per IEC61850

Mechanical and Mounting		
Battery Dimensions	1.75x2.5x1.5	WxLxH (m)
Weight	7000	kg
Power electronics packaged seperately	size varies	

Applications	
Demand Charge Reduction	Firming of Renewables
Demand Response	Peak Shifting
Energy Arbitrage	Ancillary Services
Microgrid	Emergency Backup

Regulatory

Li-Ion cells listed to UL 1642
Power Electronics listed to UL 1741
System listing planned to UL 1973

400 kWh module installed on skids for easy shipping and installation.

Deployed Systems – Tejon Ranch (300kW/600kWh)

Site Analysis Method

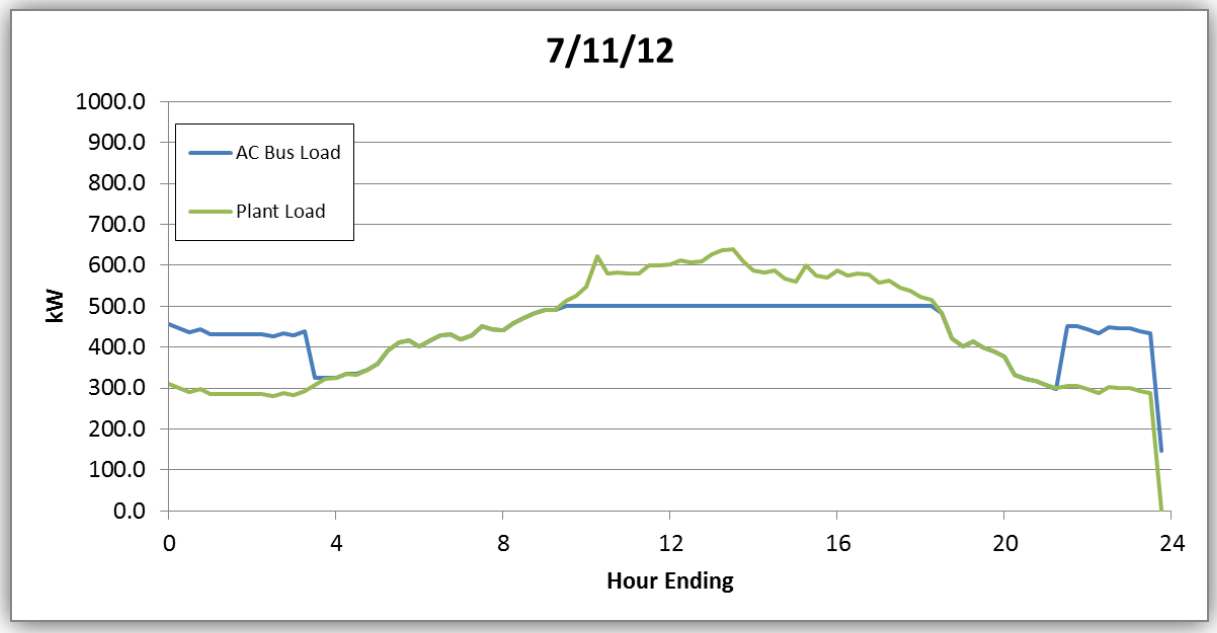
Energy Use

date	season	touPeriod	power
1/1/2012 0:15	Winter	OFF_PEAK	91
1/1/2012 0:30	Winter	OFF_PEAK	91
1/1/2012 0:45	Winter	OFF_PEAK	90
1/1/2012 1:00	Winter	OFF_PEAK	92
1/1/2012 1:15	Winter	OFF_PEAK	89
1/1/2012 1:30	Winter	OFF_PEAK	95
1/1/2012 1:45	Winter	OFF_PEAK	86
1/1/2012 2:00	Winter	OFF_PEAK	88
1/1/2012 2:15	Winter	OFF_PEAK	87
1/1/2012 2:30	Winter	OFF_PEAK	86
1/1/2012 2:45	Winter	OFF_PEAK	85
1/1/2012 3:00	Winter	OFF_PEAK	85
1/1/2012 3:15	Winter	OFF_PEAK	85
1/1/2012 3:30	Winter	OFF_PEAK	84
1/1/2012 3:45	Winter	OFF_PEAK	84
1/1/2012 4:00	Winter	OFF_PEAK	88

Rate Tariff

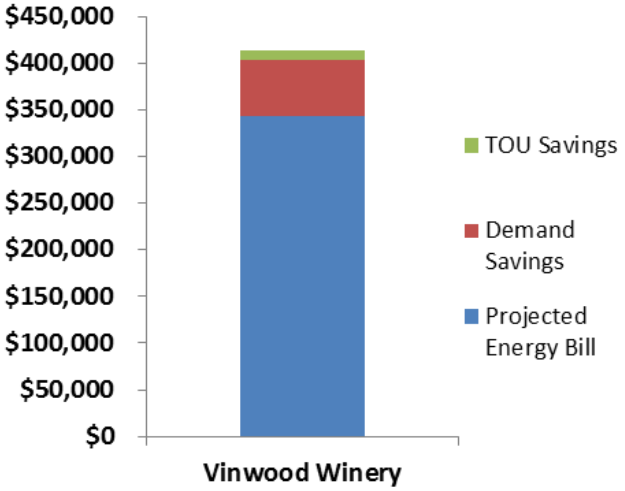
PG&E, SDGE, SOUTHERN CALIFORNIA EDISON

Storage Optimization

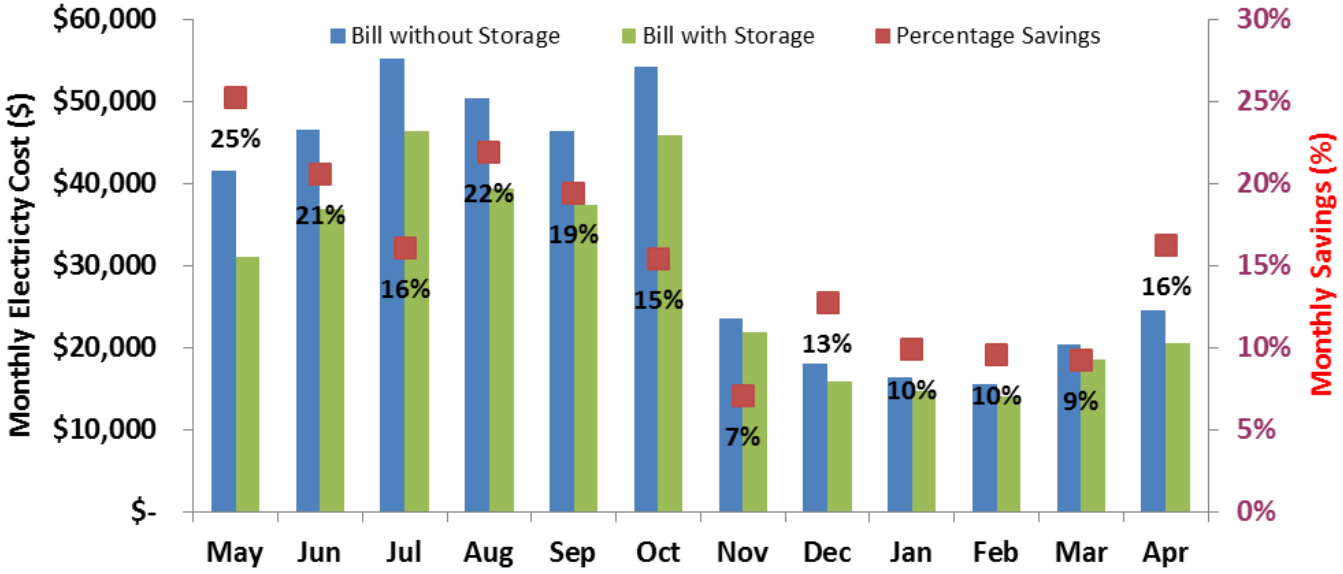


Co-optimize dispatch by evaluating load shifting, demand shaving, tariff, and battery characteristics to maximize savings potential.

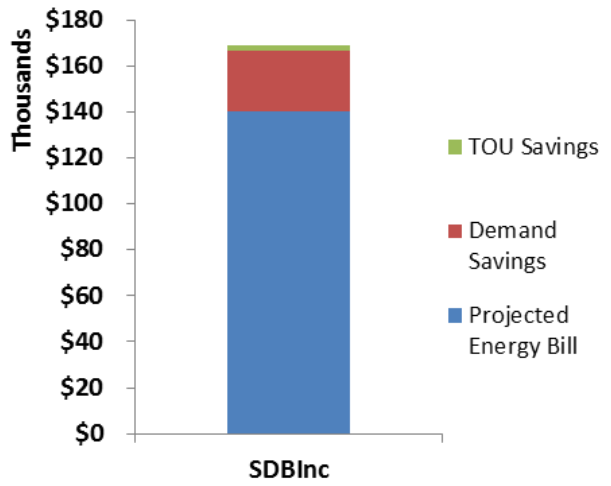
PG&E Site (800kW / 1600kWh)



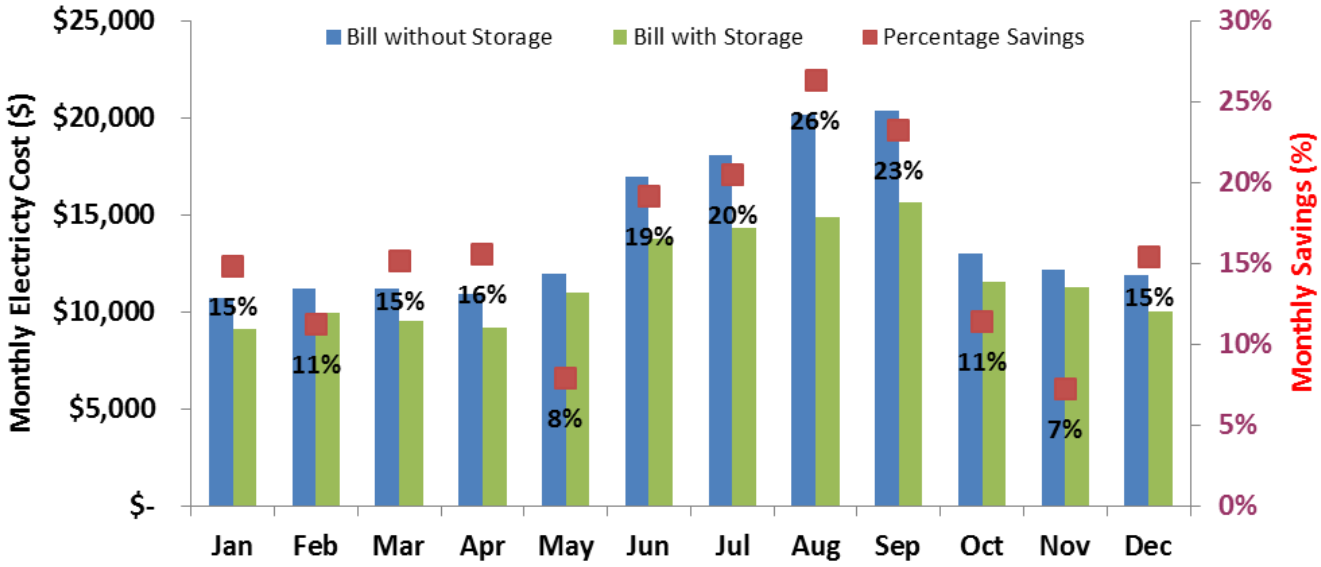
Peak Demand	843.84 kW
Annual Bill (without storage)	$ 413,133.20
Annual Bill (with storage)	$ 342,823.76
Demand Savings	$ 60,823.05
TOU Savings	$ 9,486.39
Percentage Savings	**17%**
Rate Tariff	E19S



SCE Site (300kW / 600kWh)



Peak Demand		384.96 kW
Annual Bill (without storage)	$	168,683.45
Annual Bill (with storage)	$	140,312.49
Demand Savings	$	26,462.73
TOU Savings	$	1,908.23
Percentage Savings		**16.82%**
Rate Tariff		TOU-GS-3B



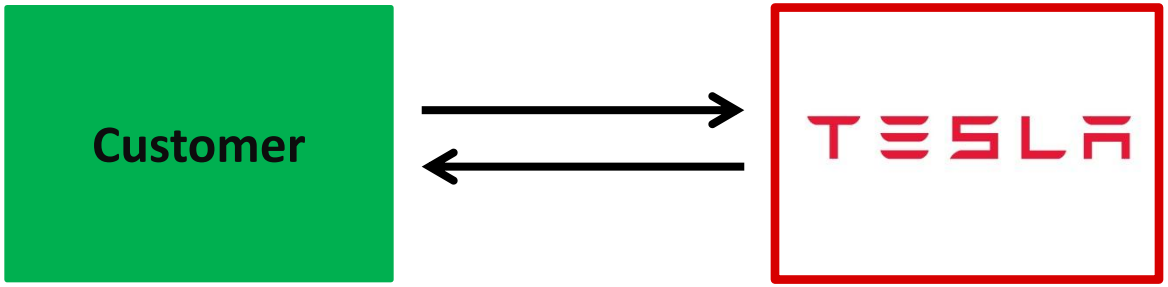
Self-Generation Incentive Program (SGIP)

- Under SGIP, Tesla provides an energy storage solution at **no upfront cost** to the customer; Tesla and customer share ongoing savings
- CPUC started current SGIP program in 2012, which provides incentives for advanced energy systems
- Under the 2013 program, Tesla receives $1,800/kW for systems in PG&E, Socal Edison, or SDG&E territories

SGIP Process

1. Due Diligence

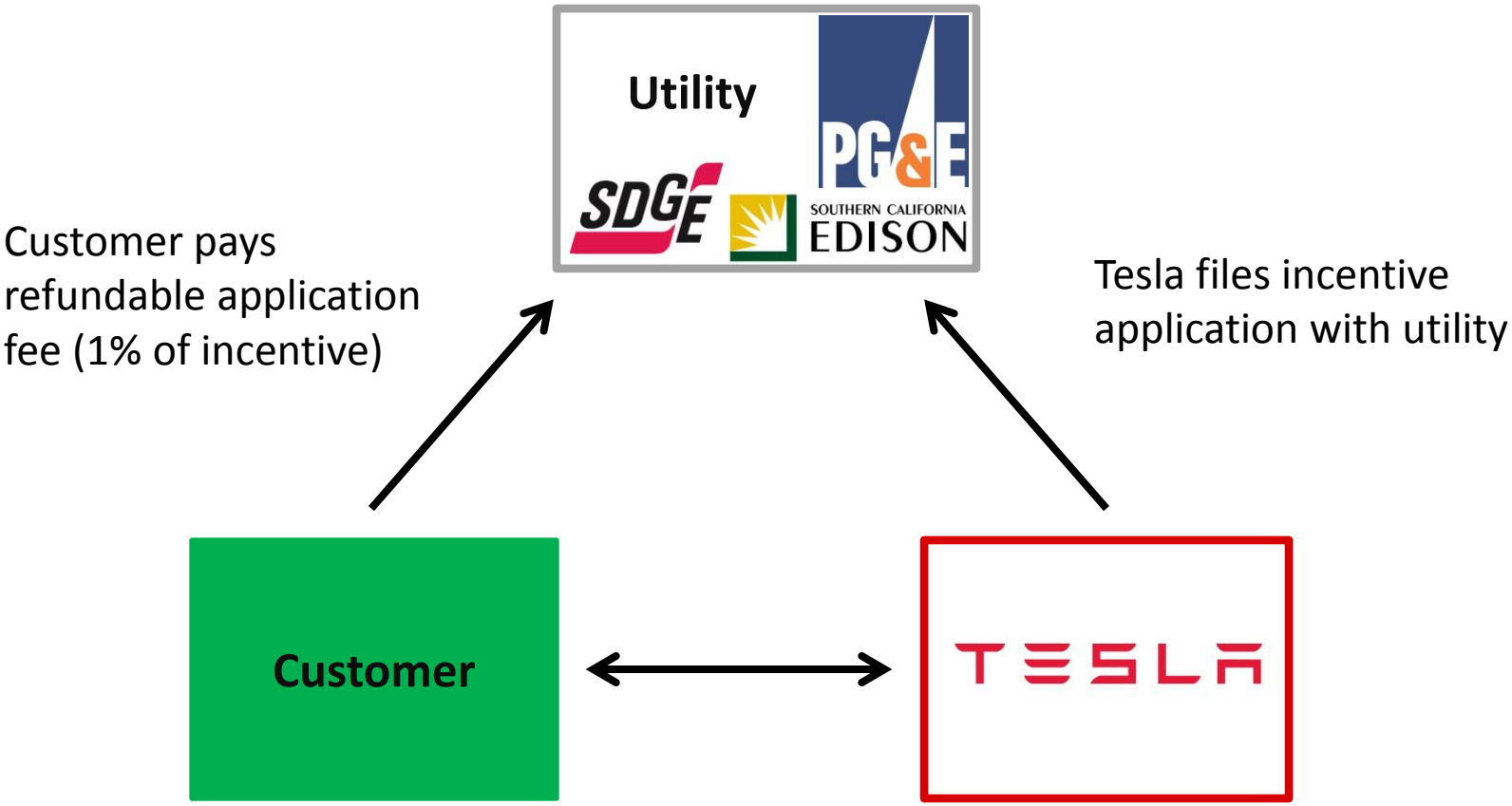
Customer shares 1-2 years of energy data with Tesla



Using customer's data, Tesla estimates how much customer would have saved using Stationary Storage system

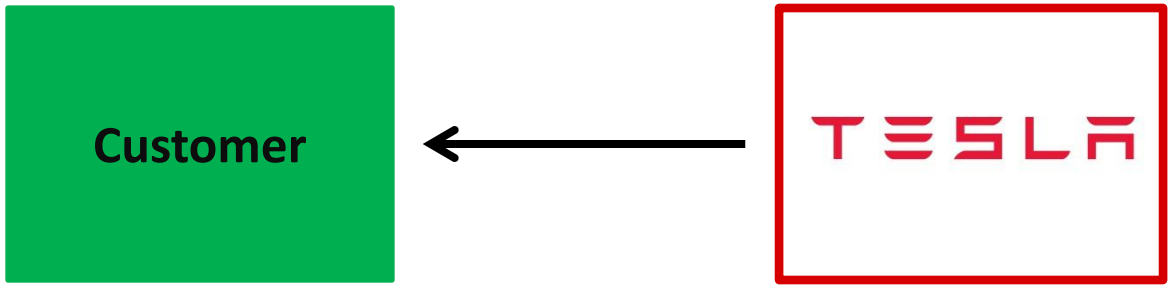
SGIP Process

2. Incentive Application



SGIP Process

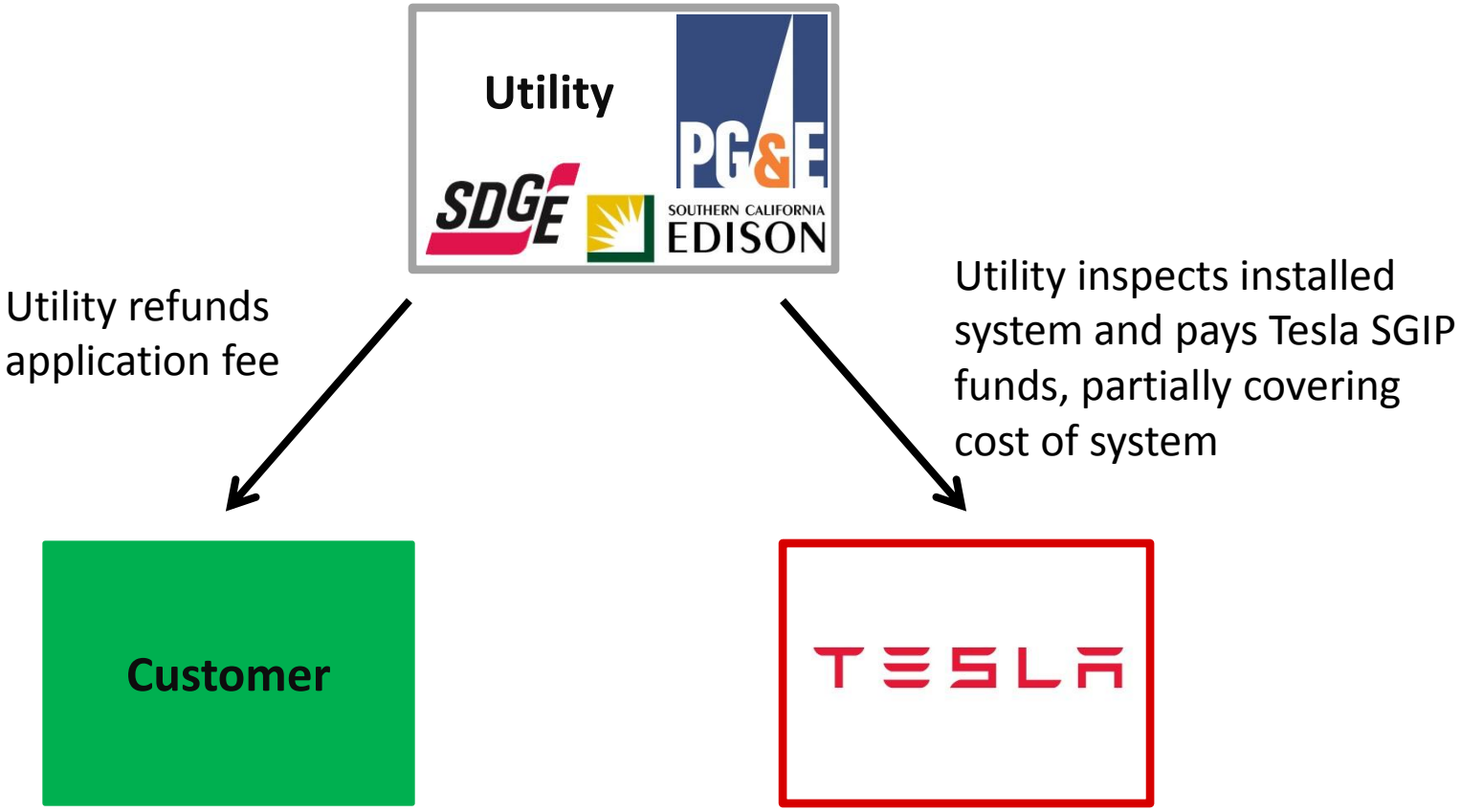
3. Installation



Tesla installs Stationary Storage system at customer's site

SGIP Process

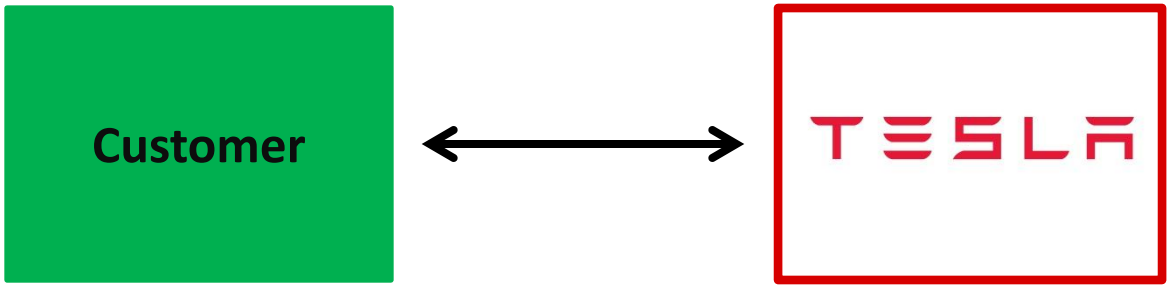
4. Incentive Claim



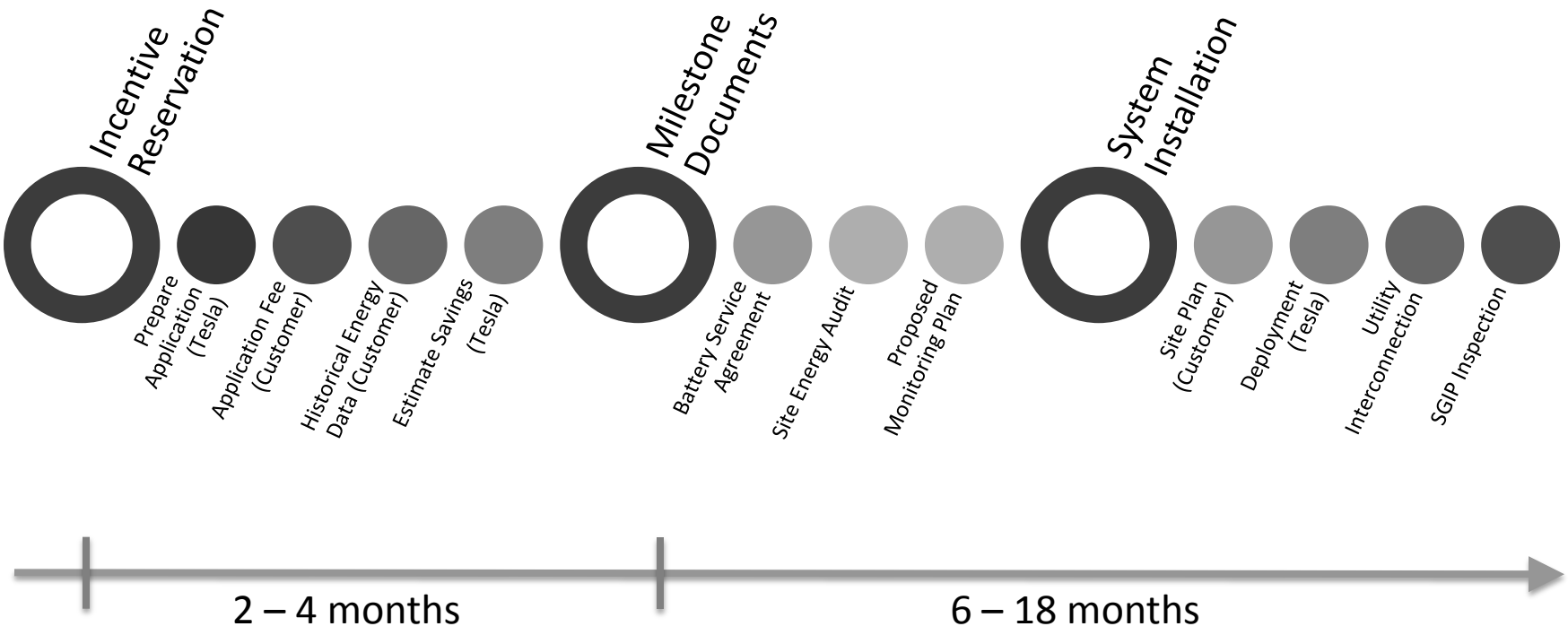
SGIP Process

5. Reduce Energy Costs

Customer and Tesla split energy savings equally

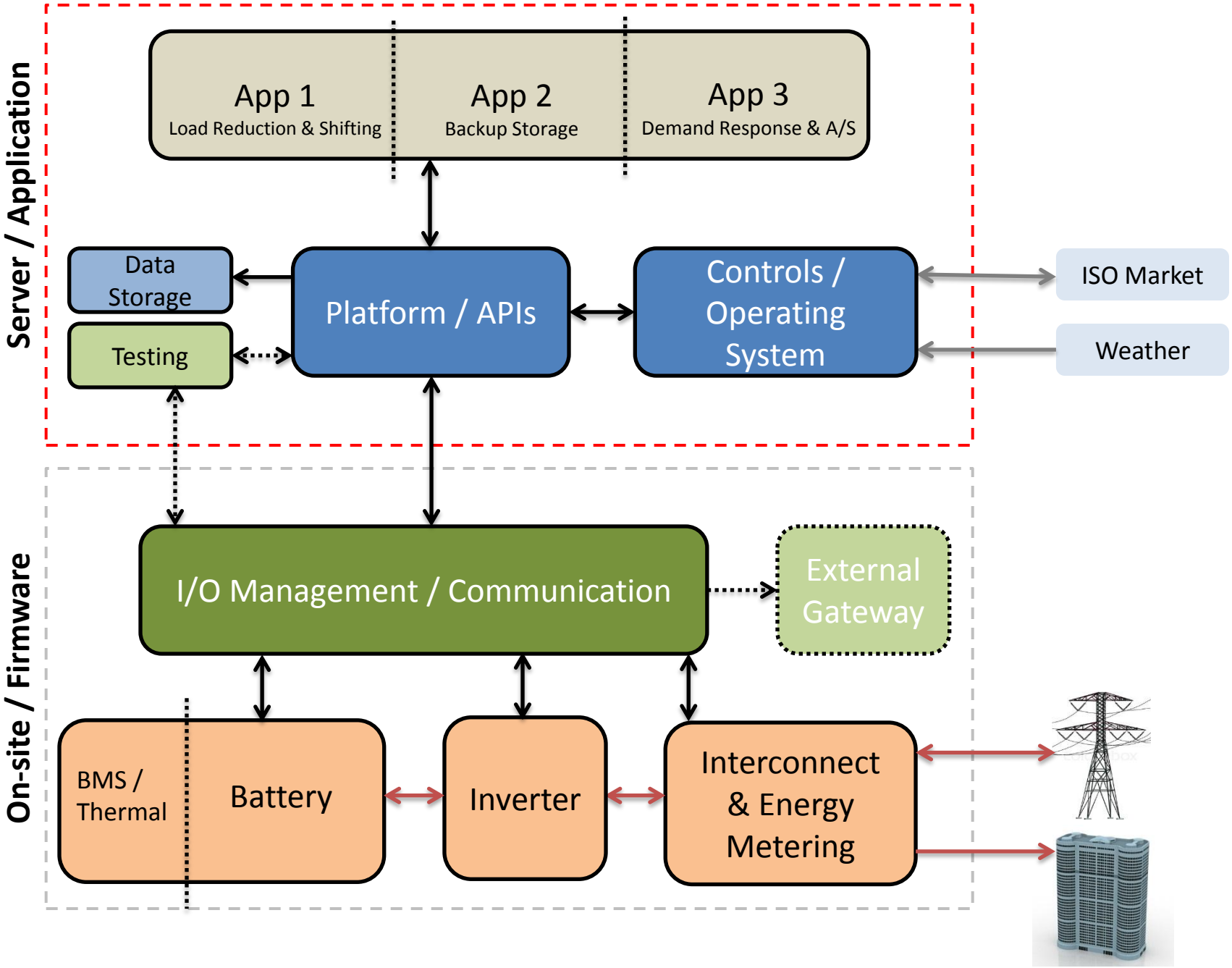


SGIP Process



Thank You

Arch Padmanabhan | Stationary Energy Storage
3500 Deer Creek Rd. Palo Alto, CA 94304 | desk: 650.681.6018 | mobile: 650.796.6702 | arch@teslamotors.com


Server / Application
App 1
Load Reduction & Shifting
App 2
Backup Storage
App 3
Demand Response & A/S
Data Storage
Testing
Platform / APIs
Controls / Operating System
ISO Market
Weather
On-site / Firmware
I/O Management / Communication
External Gateway
BMS / Thermal
Battery
Inverter
Interconnect & Energy Metering

SMUD's SmartPricing Options Pilot – Interim Evaluation Result

Nikolas Rechtiene

September 25th, 2013

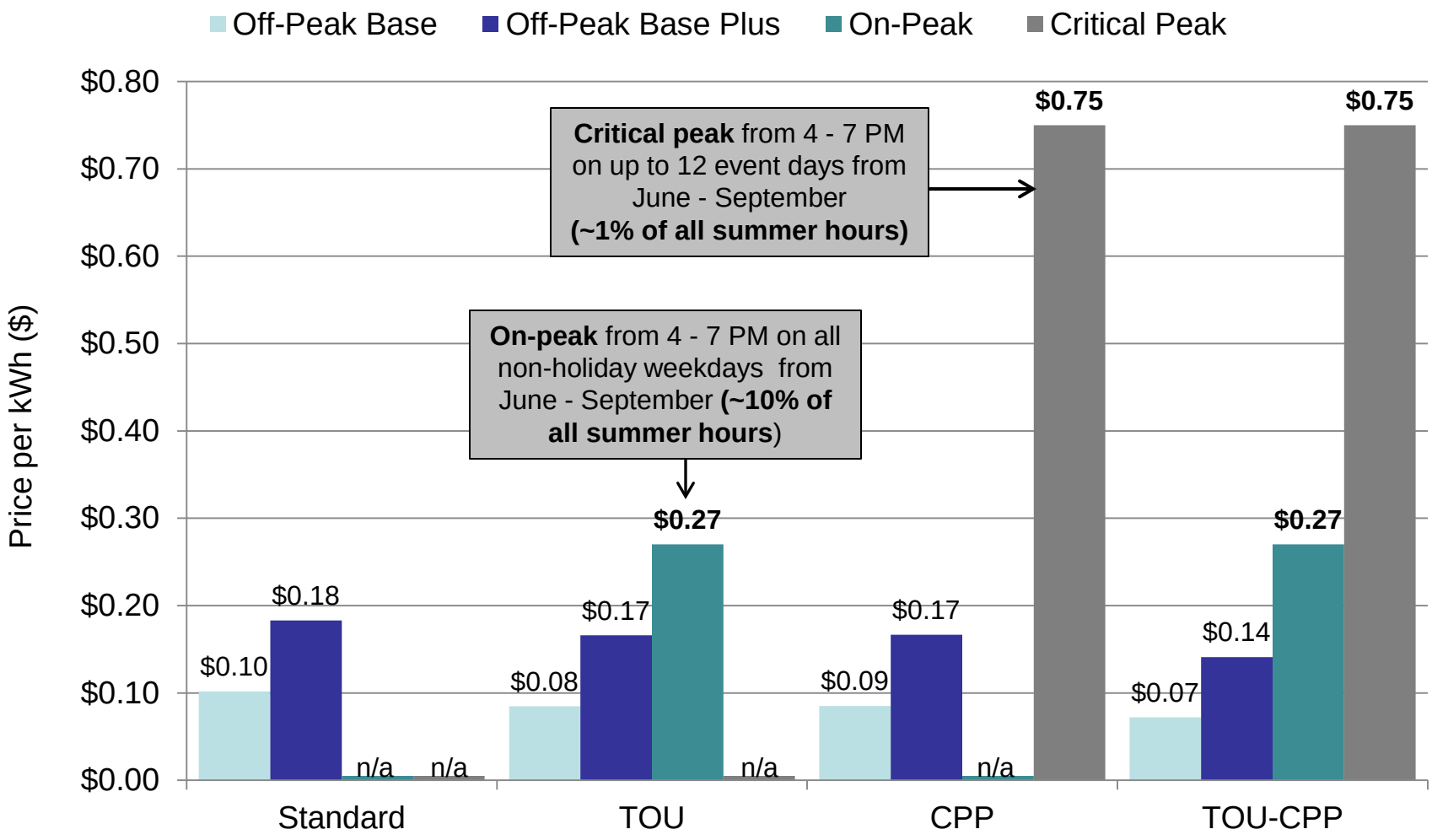
Powering forward. Together.

SMUD™

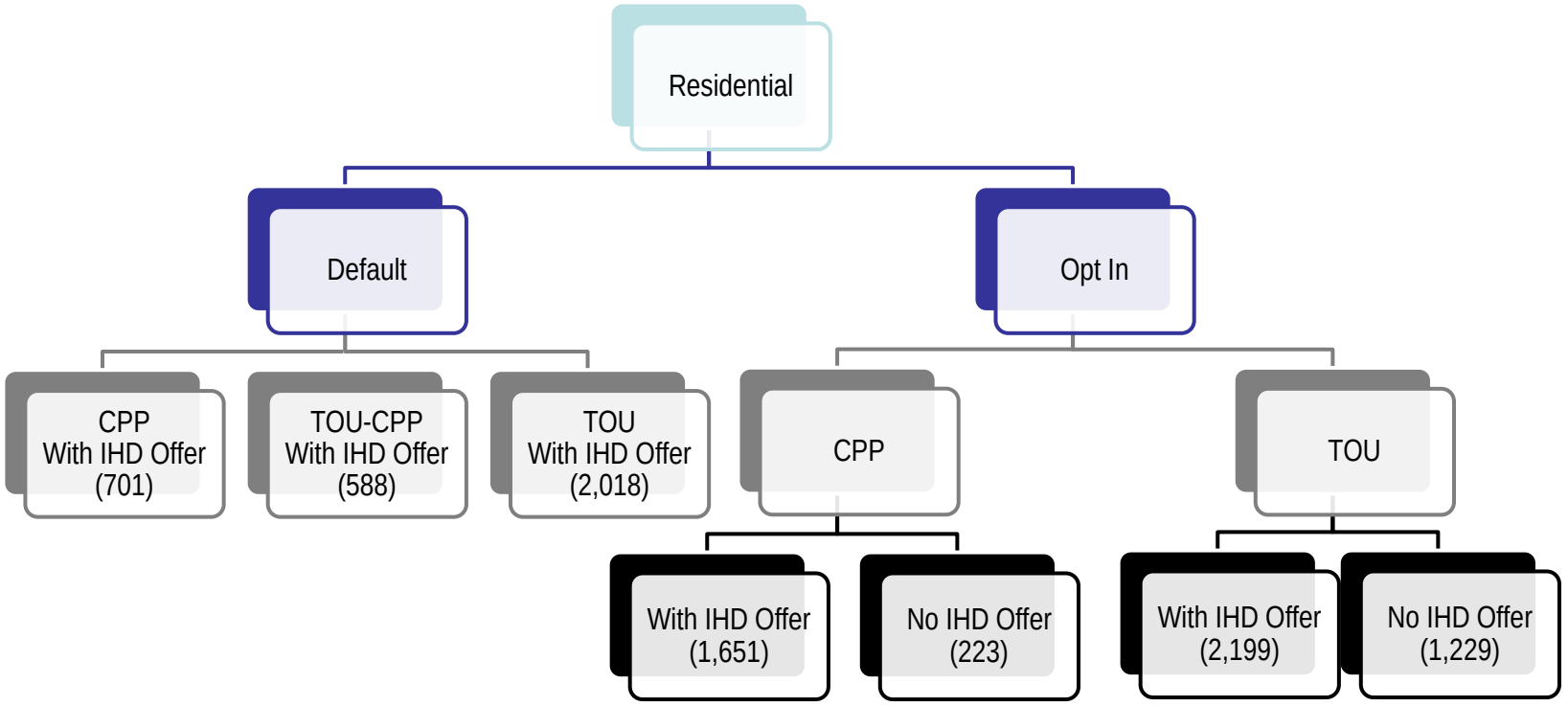
U.S. Department of Energy Disclaimer

- **Acknowledgement: "This material is based upon work supported by the Department of Energy under Award Number OE000214."**
- **Disclaimer: "This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof."**

Key features of SPO – three pricing plans



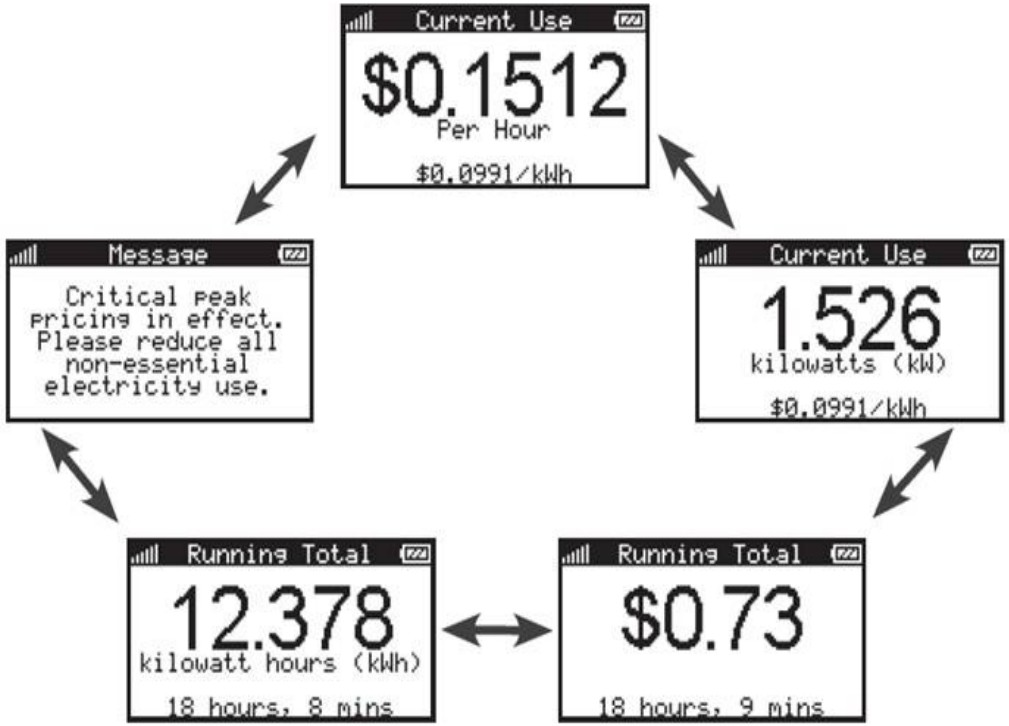
Key features of SPO pilot & enrollment



Total enrollment including deferred groups = 12,027; Total # of customers receiving offers (including deferred groups) = 53,798; Total # of customers in SPO including controls = 99,661

Pre-commissioned in-home displays (IHDs) were offered to some opt-in treatment groups and to all default groups

Customers could cycle through 5 screens



SPO design & implementation

- **SMUD used the "gold standard" of experimental design principles, including a randomized control trial**
- **Implementation highlights**
  - All marketing materials were identical except for treatment differences
  - Extensive market research to develop customer friendly marketing and educational materials
  - Effective tracking of offers, enrollment and attrition
- **Addressed most important industry policy issues**
  - Side-by-side analysis of opt-in and default enrollment and load impacts for same rate plans
  - Comparison of customer acceptance rates for different time-varying rate plans
  - Examines impact of information feedback technology on customer acceptance of opt-in rates and load impacts

Key findings on customer acceptance

- SMUD's marketing strategy produced opt-in rates that exceeded the target of 15% (16.4% to 18.8%) and above industry standards
- Acceptance rates were very similar for CPP and TOU pricing plans
- Offer of enabling technology (free IHD) did not materially increase customer acceptance of the opt-in CPP or TOU pricing plans
- Default treatment groups displayed exceptional enrollment rates, ranging from almost 93% to 98% (vs. 50% target)
- Once enrolled, less than 2% of opt-in customers and 4% of default customers dropped rate, excluding account closures

Key findings on rates and peak loads

- % load reductions for TOU pricing plans were significant for both opt-in and default participants (6-13%)
- % peak load reductions for CPP pricing plans were significant for both opt-in and default participants (12-26%), but
  - Load reduction for default CPP were large and statistically significant AND differed from results of only other default pilot conducted in the industry
  - CPP rate plan customers show higher % impacts than TOU customers on CPP days
  - TOU-CPP rate produces same demand reduction as CPP on event days, but also produces average reduction of 8% on non-CPP days
- Measured by acceptance rates and average load impacts per customer, aggregate load impacts are much larger for default enrollment than for opt-in enrollment

Key findings on energy savings and IHDs

- **Average energy savings per month were small overall**
  - Only one of the four TOU treatments had statistically significant energy savings (Default TOU with IHD offer @ 13 kWh/mo)
  - The only CPP group with significant average energy savings per month was the opt-in with IHD offer group (@ 34 kWh/mo)
- **Opt-in customers were more likely to accept the IHD offer but less likely to activate it than default customers**
- **Does the offer of a free IHD:**
  - Increase participation rates in time-varying rates? (No)
  - Impact the type of customers who opt-in to time-varying rates? (Personal demographics: No. Housing characteristics: TBD)
  - Increase the conservation effect? (No.)
  - Increase peak load impacts? (Interim results indicate TOU: Yes; CPP: No)

Experiment measures effect of IHD offer in conjunction with rate offer

- **IHDs are information feedback devices that help consumers understand in near real time the energy use and cost of behavioral choices they make**
  - Conceptually similar to (but more timely than) other options such as web-portals, home energy reports, bill alerts, etc.
- **Opt-in customers were more likely to accept the IHD offer but less likely to activate it than default customers**
- **Does the offer of a free IHD:**
  - Increase participation rates in time-varying rates? (No)
  - Impact the type of customers who opt-in to time-varying rates? (Personal demographics: No. Housing characteristics: TBD)
  - Increase the conservation effect? (No.)
  - Increase peak load impacts? (Interim results indicate TOU: Yes; CPP: No)

Key findings on customer satisfaction

- More than 75% participants felt was as expected or better than expected
- Satisfaction was greater for those who understand pilot goals
- Roughly half of participants reported behavior changes
- The IHD and Energy Tips are valued by those who elect to receive them