

2014 Smart Grid R&D Program Peer Review Meeting

Smart Grid Data Access and Customer Engagement
DE-OE-0000607/000

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San Diego Gas & Electric®
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Smart Grid Data Access and Customer Engagement

Objectives

- **Continue to enable access to electricity consumption data** by residential customers and their authorized third parties.
- **Further empower residential customer** to better manage their electricity use.
- Provide or support the use of third-party tools and software products that utilize the available data to deliver **added value to the residential customer**.



Life-cycle Funding Summary (\$K)

Prior to FY 14	FY14, authorized	FY15, requested	Out-year(s)
\$500K	\$2M	N/A	N/A

Technical Scope

- Phase II will continue to use the same data standards deployed with Green Button.
- Deliver customer value from smart grid data in a social, fun, and simple experience for customers.
- 400,000 residential customers will be automatically enrolled, however, all 1.3M SDG&E® customers will have the option to opt-in.
- Track program efficacy with in-depth customer and energy data analysis.
- Drive customer behavior change across different segments.

Key elements to be addressed in the ensuing slides

- Problems & needs addressed by the project
- Current practices and their challenges addressed by the project
- Project significance and impact (in quantitative measures)
- Technical approach for solutions to accomplish the project's objectives/outcomes
- Prior-year progress and results
- FY 2014 performance and results, against objectives and outcomes
- FY 2015 plan, if applicable (key tasks, milestones, and schedules)
- Collaborations and technology transfer (including cost-share info)
- Lessons learned (what worked well & what could be improved)
- Contact information (name/address/phone/email of presenter(s) and PI)

Problems and Needs Addressed By Project

Objectives

- **Continue to enable access to electricity consumption data** by residential customers and their authorized third parties.
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Value to the Customer

- Increasing satisfaction
- Engagement with energy usage data
- Program participation

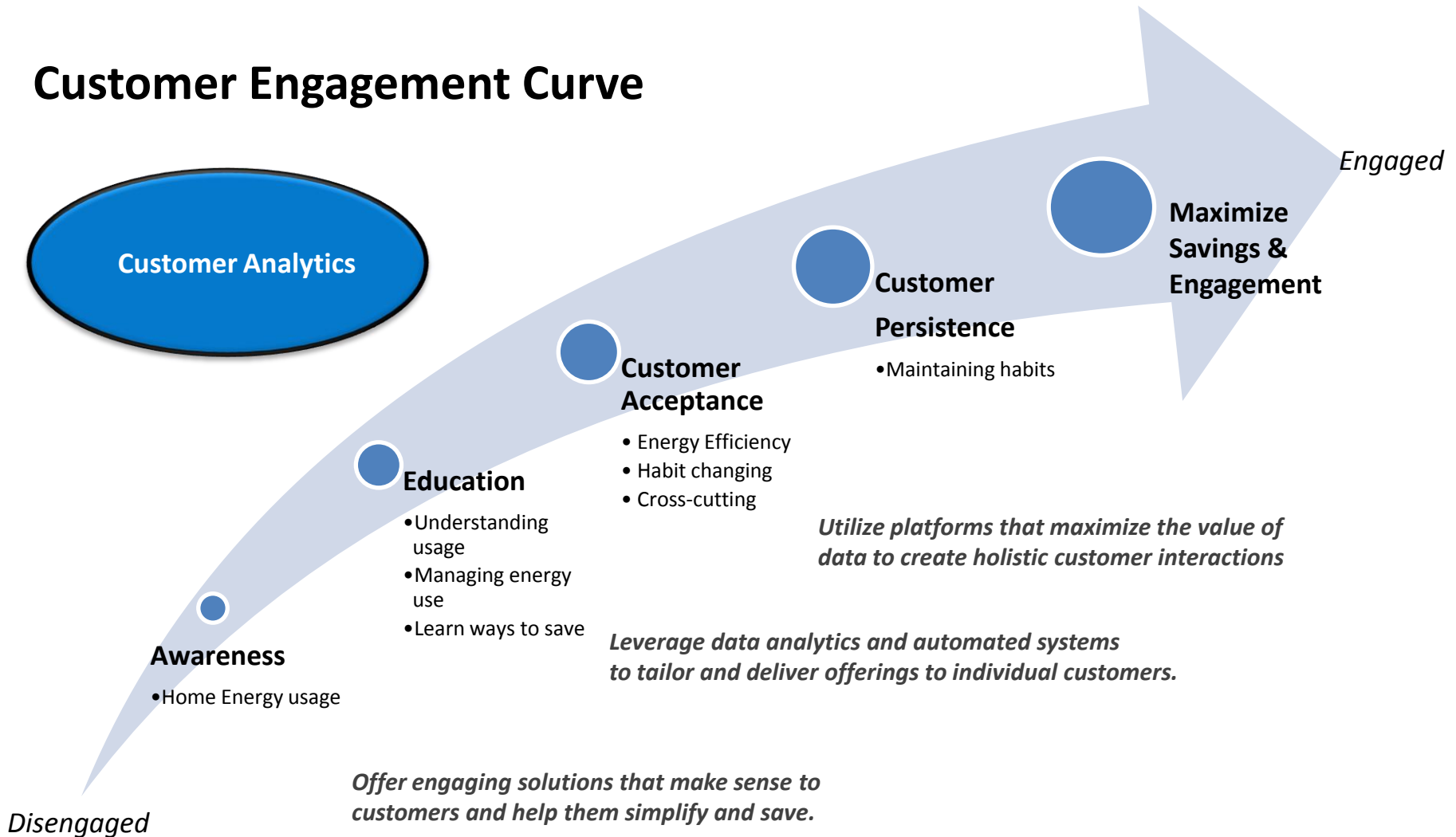


Value to the Grid

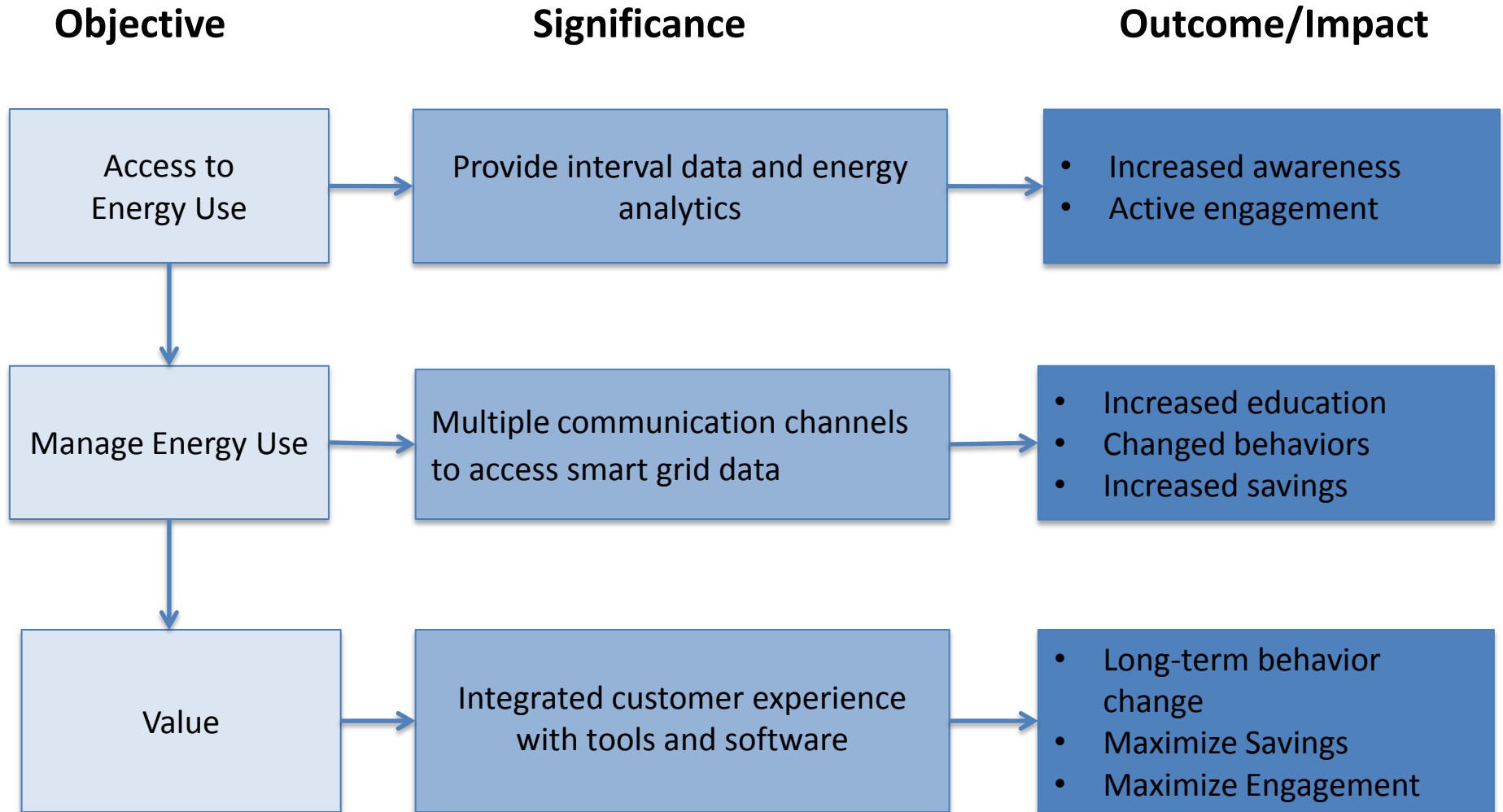
- Delivering increased energy efficiency
- Potential for peak load reduction.

Current Practices and Challenges Addressed By Project

Customer Engagement Curve



Significance and Impact



Significance and Impact continued...

A successful Phase II project achieves the following goals:

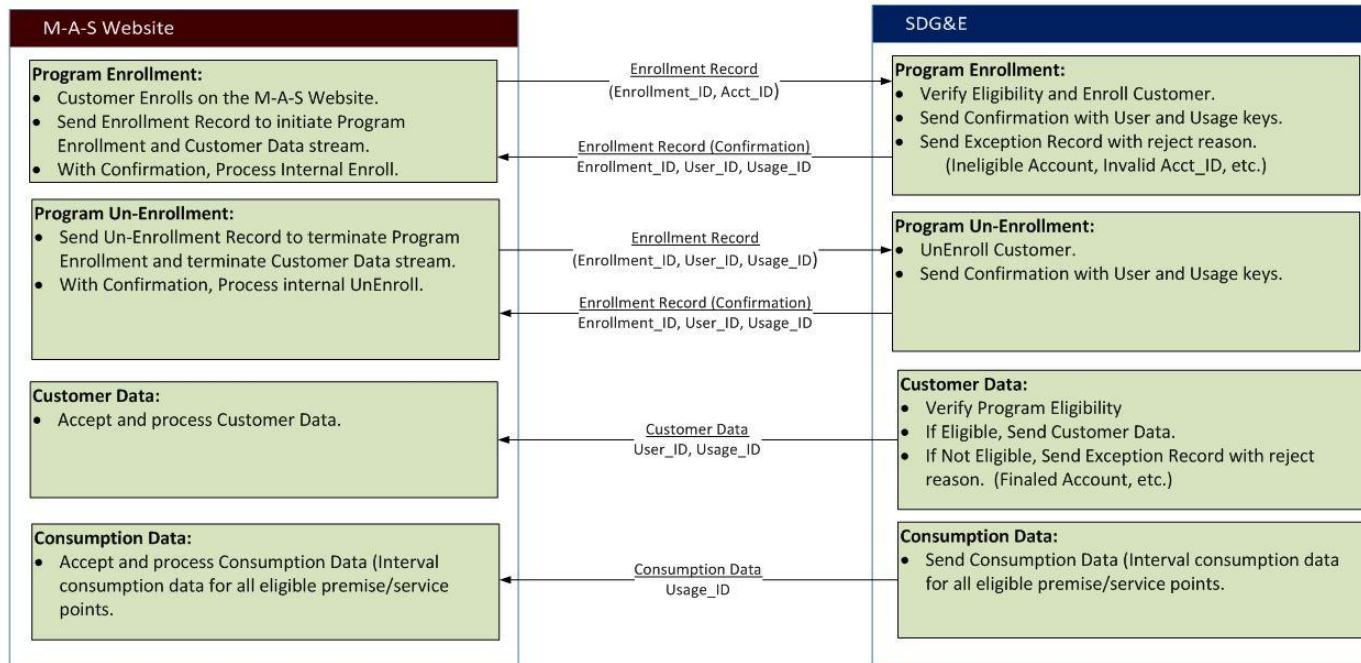
- **400,000+ “encouraged” customers** learning about their energy use
- **50,000+ “engaged” customers** visiting web portal to view energy data
- Overall **reduction of 2-3%** in consumption (kWh)
- **Boost of participation by 20%** in complementary SDG&E programs
- **Use of ESPI** data and transfer for Phase II implementation

Technical Approach

IT Phase II - Solution Architecture

- Developed & Tested in July/Aug 2013
- Leverages Green Button
- Provided Simple Energy daily energy data for SDG&E residential customers using ESPI standards

Manage-Act-Save – Data Exchange



Prior Year Progress and Results

1,000,000+

Personalized customer messages sent

42,400

Customers receiving weekly energy emails

\$26,500

Prizes awarded to nine local schools

39

San Diego middle schools engaged

27%

Web activation rate of emailed customers

7

Peak events with prize competitions

Energy Efficiency - overall energy savings of 6% during summer and 2% during winter.

Peak Demand Reduction – on peak demand reduction of an additional 2.2%



Three primary goals for the Phase I Demonstration

- ✓ Enable access to electricity consumption data by residential customers and their authorized third parties
- ✓ Empower residential customers to better manage their electricity use
- ✓ Provide or support the use of third-party tools and software products that utilize the available data to deliver value added service to the residential customer



	Phase I Demonstration	Phase II Adoption
Focus	Reducing peak demand by combining with the Peak Time Rebate program; and energy efficiency savings	Data and segmentation used to create a personalized customer experience to drive customer to manage energy use
Participants	City of San Diego 500,000+ eligible households 42,400 auto-enrolled	SDG&E Service Territory 1.3M eligible households 400,000 auto-enrolled
Incentive	Individual and school-based competition for energy savings	Innovative rewards marketplace and competition
Energy Savings	6% Summer Savings 2% Winter Savings 2.2% Incremental Peak Reduction	2-3% Energy Savings 20% Boost to Program Participation
Drivers	Social pressure, community sentiment, individual achievements, personalized messaging	Rewards, individual achievements, targeted messaging, personalized energy savings tips and programs

Phase II Program Overview

Awareness



Engagement



Savings

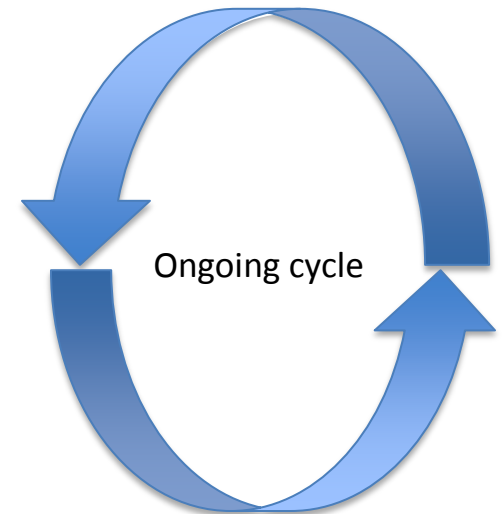
Become Aware
(auto-enroll email, or paper reports)

-----Activate-----

Sign-Up (opt-out optional)

1. Receive weekly emails
2. Open
3. Click/Visit site
4. Log in
5. Browse
6. Online Action

Behavior Change
Energy savings



Phase II: Customer Centric Experience



NEW IN PHASE II

Rewards

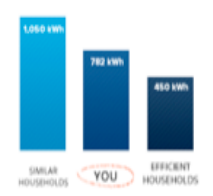
NEW IN PHASE II

Energy Insights

★★★★☆

Great Job!
Congratulations! You're in the top 25% of similar homes for saving energy. Maintain your lead this month by learning more ways to save.

Visit your energy portal



Actions & Points

21,014
Points Available



Badges & Feedback

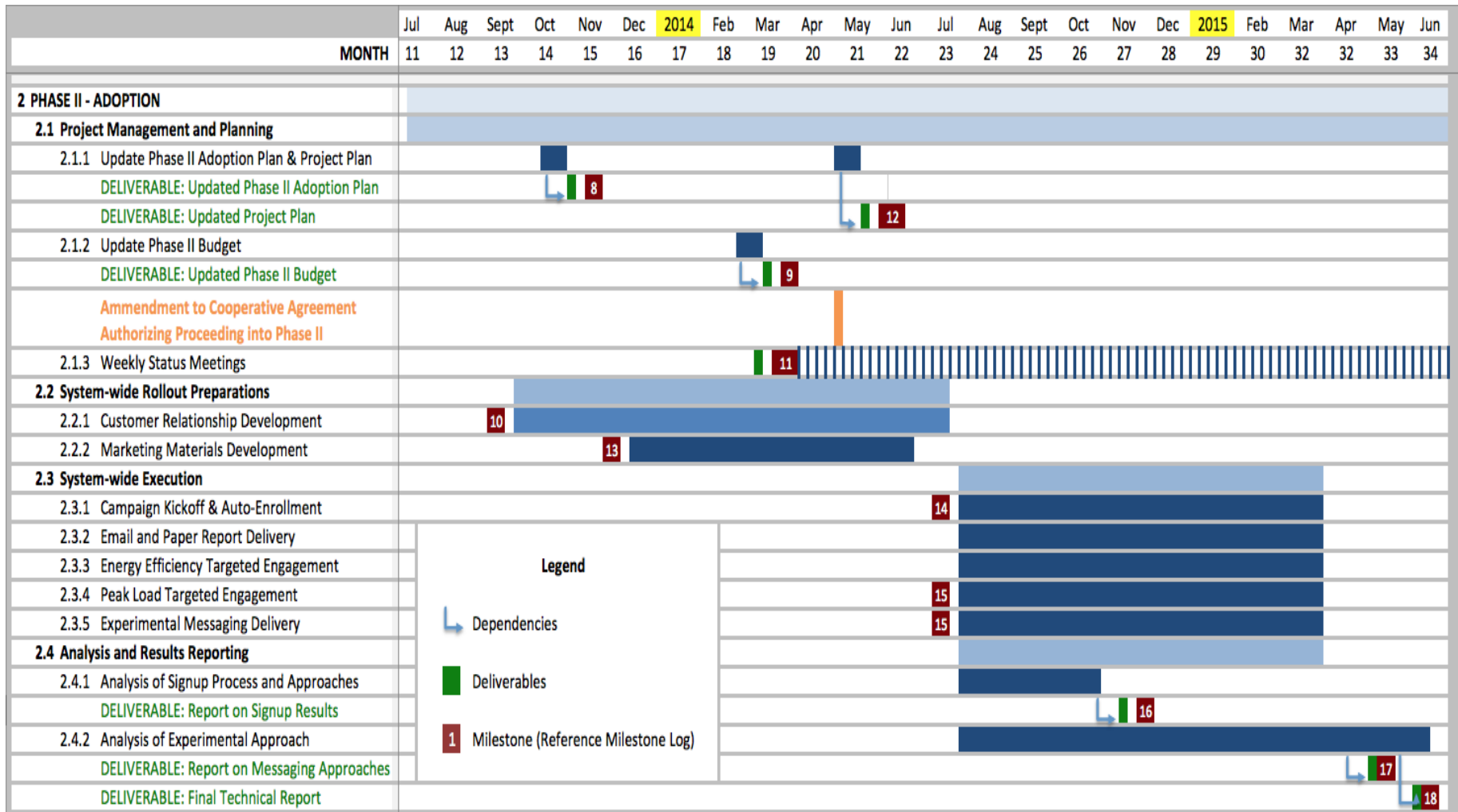
	Activation	Behavior Change	Program Participation
Features	<ul style="list-style-type: none"> Rewards points Personalized energy data messaging Testimonials 	<ul style="list-style-type: none"> Badges Personal and normative comparison Targeted tips 	<ul style="list-style-type: none"> Personalized program recommendations Energy Efficiency Service offers in Rewards Marketplace
Motivation	<ul style="list-style-type: none"> Real rewards Easy enrollment Peer comparison 	<ul style="list-style-type: none"> Real rewards Social pressure Dynamic Feedback 	<ul style="list-style-type: none"> Real rewards Sense of commitment Accomplishment
Action	Website visit and registration	Change in consumption patterns – e.g. adjust thermostat settings	Participating in utility offerings such as A/C tune up



Key Tasks

- June 2014
 - Complete Marketing Materials Development
 - Complete selection of treatment and control group
- July 2014
 - Auto-Enrollment of 200,000 additional customers
 - “Welcome” materials sent (direct mail and email)
- August 2014 – March 2015
 - Continued Engagement and Message Testing
 - Energy Efficiency Targeted Engagement
- February 2015
 - Final project briefing
- March 2015
 - End of Phase II
- June 2015
 - Final Technical Project Report

Project Deliverables and Milestones



Project Collaboration and Technology Transfer

Project Management Plan

- Defined a complete list of tasks and milestones that will inform the project implementation process throughout Phase II.

Project Team Capabilities

- Both San Diego Gas & Electric and Simple Energy have long been leaders in smart grid and data access.
- The two companies have already launched three projects together.
- A full project team has been selected with the qualifications knowledge, readiness, and experience to begin working on Phase II

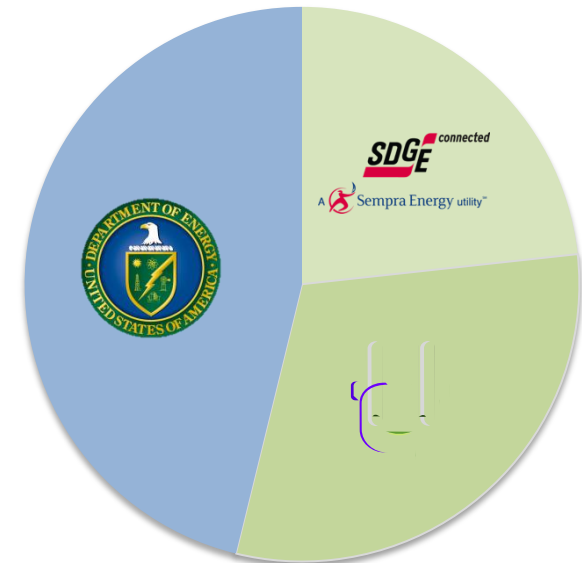
Standards

- The SDG&E Smart Grid Deployment Plan identifies the importance of standards across smart grid implementation efforts
 - including the utilization of Standards with vendors and third party software applications for data transfer.
- The Deployment Plan states, “SDG&E will require customer authorized third parties adhere to specific data transfer protocols
 - (i.e., OpenADE/NAESB ESPI standards, SEP) to ensure security encryption, customer verification and device compatibility.”
- Data Integrations have been completed
 - This integration enables Simple Energy to provide program participants with accurate household comparison information
 - Full ESPI utilization has been completed.

Cost Sharing

The total expected cost for the Phase II project is \$4,132,500

Funding Source	Amount*
Lead Applicant – SDG&E	\$933,000
Other – Simple Energy	\$1,139,500
DOE	\$2,000,000
TOTAL	\$4,132,500



Costs Include

- Turnkey Project Delivery
- Software-as-a-Service Licensing for 400,000 Customers
- Printing and Mailing Costs for Paper to Web Reports

Lessons Learned

Successes:

- The weekly email summary allowed for continuous message testing
- Automatic enrollment is most effective
 - Activations doubled when ~45K customers began receiving personalized weekly messaging in December 2012

Challenges:

- Opt-in strategy creates enrollment challenges
- Community Challenge provided alternative motivation but took significant effort.

Contact Information

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