

PUBLIC UTILITIES COMMISSION  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



June 30, 2017

**PG&E Advice Letter 3843-G/5075-E  
SCE Advice Letter 3605-E**

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**SUBJECT: Disposition approving Pacific Gas and Electric's Advice Letter 3843-G/5075-E and Southern California Edison's Advice Letter 3605-E to comply with Resolution E-4820 to promote Energy Management Technologies for residential and small and medium business customers**

Dear Mr. Jacobson, Ms. Genao, and Mr. Worden:

On April 6, 2017, the Commission issued Resolution E-4820, approving the Investor Owned Utilities' (IOUs) Advice Letters (ALs) to comply with Assembly Bill (AB) 793, with Commission-directed modifications. The Commission also required that Pacific Gas and Electric (PG&E), Southern California Edison (SCE), San Diego Gas & Electric (SDG&E) and the Southern California Gas Company (SoCalGas) file Tier 2 ALs to demonstrate compliance with the Commission-directed modifications within 45 days of the approval of Resolution E-4820.

On May 22, 2017, PG&E's AL 3843-G/5075-E and SCE's AL 3605-E was timely filed. On May 26, 2017, Nest Labs (Nest) commented on PG&E's AL 3843-G/5075-E and SCE's AL 3605-E. On June 9, 2017, California Efficiency + Demand Management Council, Natural Resources Defense Council and Advanced Energy Economy (the Joint Parties) jointly commented on PG&E's AL 3843-G/5075-E and SCE's AL 3605-E. On June 12, 2017, ecobee and Embertec filed comments on PG&E's AL 3843-G/5075-E and SCE's AL 3605-E. All comments were timely filed. On June 19, 2017, SCE timely replied to the parties' comments. Pursuant to GO 96-B Section 7.5.2 on June 16, 2017, Energy Division (ED) staff suspended PG&E's AL 3843-G/5075-E and SCE's AL 3605-E to allow for more time to review.

Erik Jacobson, Laura Genao, and Russell G. Worden  
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Attachment 1 contains background on the AB 793 legislation and Resolution E-4820, a discussion of the comments filed, replies to the comments and ED's determination that PG&E's AL 3843-G/5075-E and SCE's AL 3605-E are compliant with Resolution E-4820 and approved. Attachment 2 includes the Commission-directed modifications in in Resolution E-4820's Ordering Paragraphs 1, 2, and 3.

Please contact Nils Strindberg of the Energy Division at 415-703-1812 or at [ns2@cpuc.ca.gov](mailto:ns2@cpuc.ca.gov) if you have any questions.

Sincerely,



Edward Randolph  
Director, Energy Division

cc: Robert Strauss, Energy Division  
Hal Kane, Energy Division  
Nils Strindberg, Energy Division  
Daniel W. Douglass, Counsel to Nest  
Melanie Gillette, California Efficiency + Demand Management Council  
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Amisha Rai, Advanced Energy Economy  
Nkechi Ogbue, ecobee, Inc  
Domenico Gelonese, Embertec  
Service Lists R.13-11-005 and R.13-09-011

**Attachment 1**  
**Review and Analysis**

**I. Background:**

Assembly Bill (AB) 793 was signed into law by Governor Brown on October 8, 2015, adding Section 717 to the Public Utilities Code (P.U. Code). The statute require the Commission to order the electric and gas corporations to develop a program by no later than January 1, 2017, to provide incentives to residential or small and medium commercial customers to acquire Energy Management Technologies, and to develop a plan to educate these customers about these incentive offerings by September 30, 2016. Section 717 states:

“(a) The commission shall require an electrical or gas corporation to do all of the following pursuant to AB 793:

- (1) Develop a program no later than January 1, 2017, within the electrical or gas corporation’s demand-side management programs authorized by the commission, to provide incentives to a residential or small or medium business customer to acquire energy management technology for use in the customer’s home or place of business. The electrical or gas corporation may allow third parties or local governments to apply for incentives on behalf of customers. The electrical or gas corporation shall work with third parties, local governments, and other interested parties in developing the program. The electrical or gas corporation shall establish incentive amounts based on savings estimation and baseline policies adopted by the commission.*
- (2) Develop a plan by September 30, 2016, to educate residential customers and small and medium business customers about the incentive program developed pursuant to paragraph (1). The commission may require that the plan be integrated into, or coordinated with, any education campaign required by the commission.*
- (3) Annually report to the commission on actual customer savings resulting from the incentive program established pursuant to this section. The commission shall evaluate all electrical or gas corporation energy savings claims achieved pursuant to the incentive program in a manner consistent with Commission-adopted evaluation protocols and determine if the program shall continue or be modified.”*

On April 6, 2017, Resolution E-4820 approved the IOUs’ ALs to comply with AB 793, with Commission-directed modifications. These modifications listed in attachment 2, direct the IOUs’ to expand their AB 793 offerings to include additional energy management technologies (EMTs), create or include addition EMTs on their energy efficiency online marketplaces and utilize EMTs for disadvantaged customers or customers struggling to pay their energy bills. The

Resolution also required that PG&E, SCE, SDG&E and SoCalGas file Tier 2 ALs to demonstrate compliance with the Commission-directed modifications within 45 days of the approval of Resolution E-4820.<sup>1</sup>

On May 22, 2017, PG&E's AL 3843-G/5075-E, and SCE's AL 3605-E was timely filed. On May 26, 2017, Nest Labs (Nest) commented on PG&E's AL 3843-G/5075-E and SCE's AL 3605-E. On June 9, 2017, California Efficiency + Demand Management Council, Natural Resources Defense Council and Advanced Energy Economy (the Joint Parties) jointly commented on PG&E's AL 3843-G/5075-E and SCE's AL 3605-E. On June 12, 2017, ecobee and Embertec filed comments on PG&E's AL 3843-G/5075-E and SCE's AL 3605-E. All comments were timely filed. On June 19, 2017, SCE timely filed a reply to the parties' comments. Pursuant to GO 96-B Section 7.5.2 on June 16, 2017, staff suspended PG&E's AL 3843-G/5075-E and SCE's AL 3605-E to allow for additional time to review.

## II. Party Comments and Replies:

Nest, the Joint parties and ecobee provided comments regarding PG&E's and SCE's proposals for smart thermostats included in PG&E's AL 3843-G/5075-E and SCE's AL 3605-E. Embertec requested that the Commission require PG&E's AL 3843-G/5075-E and SCE's AL 3605-E include Tier 2 Advanced Power Strips (APS). SCE responded to the parties' comments.

### *Smart Thermostats:*

Nest, the Joint Parties and ecobee all filed comments in support of PG&E's and SCE's proposal to provide \$50 rebates for eligible smart thermostats. In addition, all expressed support for PG&E and SCE's proposal to freeze the ex-ante savings that were granted interim approval by ED in SCE's smart thermostat workpaper (SCE 17HC054) and that any adjustments to the savings be done based on ex-post evaluation results and on a prospective basis.<sup>2</sup> Nest, the Joint Parties and ecobee recommend that the Commission freeze the interim ex ante savings to provide certainty to the IOUs for future smart thermostat energy savings claims.<sup>3</sup>

On June 19, 2017, SCE responded to Nest, the Joint Parties and ecobee, stating that "SCE appreciates the support from the parties regarding SCE's suggestion that any adjustments to the smart thermostat workpaper be based on ex-post measurement and evaluation and be applied on a prospective basis."<sup>4</sup> Finally, SCE stated that given the parties support of their proposal, and that there was no opposition, the Commission should adopt SCE's recommendation to freeze savings claims until an ex-post evaluation of smart thermostats is complete.<sup>5</sup>

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<sup>1</sup> Resolution E-4820 can be found at: <http://docs.cpuc.ca.gov/ResolutionSearchForm.aspx> and the Commission required modifications are included in Ordering Paragraphs 1, 2 and 3 on pages 34-37.

<sup>2</sup> Nest Labs Comments, page 4, the Joint Parties Comments page 4 and ecobee Comments page 2.

<sup>3</sup> Nest Labs Comments, page 4, Joint Parties page 4, ecobee page 4,

<sup>4</sup> SCE reply Comments, page 2.

<sup>5</sup> SCE reply Comments, page 2.

*Tier II Advanced Power Strips:*

Embertec manufactures and sells Tier 2 Advanced Power Strips (APS), which are currently deployed in a number of IOU programs. Embertec states that the current IOU offered APS products are “entry level, and do not provide customers with any energy data to enable the customer to better understand their electricity consumption.”<sup>6</sup> Embertec adds “that the existing IOU-offered Tier 2 APS fall short in providing users with the required power/energy data, which is a critical component of AB 793 in order for the customers to better understand and manage electricity consumption.”<sup>7</sup> Embertec concludes that the “Commission should require the IOUs adopt Tier 2 APS products and solutions that manage and provide real time data to the customers, facilitating a greater understanding of the plug load challenge.”<sup>8</sup>

SCE replied that there is no formal record that requires the IOUs offer Embertec’s enhanced APS Tier 2 product as part of their AB 793 offerings, until Embertec’s comments on the Compliance filings. Finally, SCE added that as indicated in SCE AL 3605-E, they intend to pursue pay-for-performance programs utilizing a third-party solicitation process, where Embertec can offer its enhanced APS products.<sup>9</sup>

**III. Discussion:**

*Smart Thermostats:*

Nest, the Joint Parties, ecobee and SCE request that the ex-ante savings from SCE’s smart thermostat workpaper (SCE 17HC054) are frozen until an ex-post evaluation of the programs results is complete is rejected. The request is at odds with previous Commission Decisions and is outside the scope of this disposition. D.12-05-015 states that “once a workpaper receives interim approval the workpaper review team can review an approved workpaper at any time and apply prospective saving adjustments.”<sup>10</sup> Finally, it would be inappropriate for a AL disposition to exempt a specific technology from the Commission approved workpaper review process.

*Tier II Advanced Power Strips:*

Finally, ED agrees with SCE and rejects Embertec’s suggestion to request the Commission to require that the IOUs adopt an enhanced Tier 2 APS. Embertec failed to build a sufficient record to support this request before the Compliance filings. Finally, Embertec’s request is counter to the recent Commission direction to have the IOUs solicit competitive bids and discourage sole sourcing with a single vendor.

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<sup>6</sup> Embertec Comments, page 1.

<sup>7</sup> Embertec Comments, page 2.

<sup>8</sup> Embertec Comments, page 3.

<sup>9</sup> SCE AL 3605-E, Attachment 2, page 6.

<sup>10</sup> See D.12-05-015 (starting on page 334, Section 17.1.2.4, titled “Review of Non-DEER Workpapers in 2013-2014 Portfolio Applications” and Section 17.1.2.5, titled “Phase 2 Process FOR Mid-Cycle Review of Interim Approved or New Measure Workpapers” for rules on ED review of workpapers which received interim approval.

**Attachment 2**

**Commission-Directed Modifications from Resolution E-4820**

**THEREFORE IT IS ORDERED THAT:**

1. The AB 793 ALs Pacific Gas and Electric AL 3746-G-A/4890-E-A, Pacific Gas and Electric AL 3744-G-A/4886-E-A Pacific Gas and Electric AL 3744-G-B/4886-E-B, San Diego Gas & Electric AL 2505-E-A/2941-G-A, San Diego Gas & Electric AL 2937-E-A/2500-G-A and San Diego Gas & Electric 2937-E-B/2500-G-B, Southern California Edison AL 3449-E-A, Southern California Edison AL 3446-E-A, Southern California Edison AL 3446-E-B and Southern California Gas AL 5003-G-A, Southern California Gas 5003-G-B and Southern California Gas 5012-G-A are approved with the following modifications as described below. Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas shall file a Tier 2 AL to demonstrate compliance with the Commission-directed modifications within 45 days of the approval of this Resolution. Elements of the utility AB 793 offerings not subject to modification herein shall be implemented in an expedited manner.
  - a. Pacific Gas and Electric, San Diego Gas & Electric and Southern California Edison shall offer residential customers rebates for devices that utilize Advanced Meter Infrastructure data through a Home Area Network device or other similar medians such as the internet or Green Button Connect by the Fourth Quarter of 2017. Incentives should include a product rebate at the time-of-sale, but may also include a pay-for-performance component, conforming to the high opportunity projects and program framework, including Section 3.4.3.3. Customer Incentive Design. Before launching programs to provide incentives these devices Pacific Gas & Electric, Southern California Edison and San Diego Gas & Electric shall seek stakeholder feedback from one or more of the California energy efficiency stakeholder groups
  - b. Pacific Gas and Electric and San Diego Gas & Electric shall update the energy technology marketplaces on their websites to include all required measures listed in the draft Resolution that are relevant to Assembly Bill 793 by the Fourth Quarter of 2017. In addition, Southern California Edison and Southern California Gas shall create energy technology marketplaces on their websites that include Assembly Bill 793-relevant technologies by the Fourth Quarter of 2017.
  - c. By the Fourth Quarter of 2017, Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas shall file a report to Energy Division proposing reporting requirements, targets and metrics, at a minimum, for the number of customers in their service territory who visit energy efficiency marketplaces, customer uptake from those marketplaces, rebates provided, and level of engagement with Green Button Connect My Data.

- d. San Diego Gas & Electric, Southern California Edison and Southern California Gas are required to launch residential pay-for-Performance programs by the Fourth Quarter of 2017. All pay-for-performance programs shall explicitly welcome participation by energy management technology vendors and products, including energy management software-as-a-service. The pay-for-performance programs should not rely exclusively on retrofits, as the intent of Assembly Bill 793 is not to stimulate energy efficiency retrofit activities.
  - e. Southern California Edison and San Diego Gas & Electric shall launch small and medium business pay-for-performance programs by the Fourth Quarter of 2017. These pay-for-performance programs should conform to the guidelines in the high opportunity projects or programs Ruling, including Section 3.4.3.3. Customer Incentive Design. All small and medium business pay-for-performance programs shall explicitly welcome participation by energy management technology vendors and products, including energy management software-as-a-service. The pay-for-performance programs should not rely exclusively on retrofits, as the intent of Assembly Bill 793 is not to stimulate energy efficiency retrofit activities.
2. The following marketing AB 793 ALs are approved contingent on implementation of the programmatic modifications described in ordering paragraph 1 above: The AB 793 ALs include local marketing plans in Pacific Gas & Electric AL 3744-G-A/4886-E-A, Pacific Gas and Electric AL 3744-G-B/4886-E-B, San Diego Gas & Electric AL 2505-G-A/2941-E-A, San Diego Gas & Electric AL 2937-E-A/2500-G-A 2937-E-B/2500-G-B, Southern California Edison AL 3449-E-A, Southern California Edison AL 3446-E-A, Southern California Edison AL 3446-E-B and Southern California Gas AL 5003-G-A, Southern California Gas 5003-G-B and Southern California Gas 5012-G-A, the joint marketing plans, which included: Pacific Gas and Electric AL 3746-G-A/4890-E-A, San Diego Gas & Electric AL 2505-G-A/2941-E-A and Southern California Edison AL 3449-E-A. The marketing plans shall be refiled as Tier 2 ALs 45 days after the approval of this Resolution to update the plans to include new product offerings, and timelines directed in this Resolution.
- a. Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas shall include in their AB 793 Marketing Compliance Filing ALs specific strategies on how they plan to market Energy Management Technologies to the communities with the highest disconnection rates in their service territories or in disadvantaged communities. The marketing efforts in these areas shall utilize greater resources and a more targeted effort than general marketing efforts, and the Compliance Filing ALs shall reflect this.
  - b. For Energy Division to better evaluate the effectiveness of these efforts, one year after the AB 793 Marketing Compliance Filing ALs are approved, the Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas shall file a report to the Energy

Division on how the marketing in these parts of the state impacted customer uptake of Energy Management Technologies.

3. Finally, Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas shall follow-up with customers who complain about their bills, customers who are behind on their bills, and customers who have been contacted about disconnection or have been placed on a payment plan. Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas are directed to follow-up with each customer through the customers' preferred method of communication (phone, email or mailer) on potential Energy Management Technology solutions to reduce those customers' bills and avoid disconnection. At a minimum the follow-up would include the following information:
  - i. Direct installation energy management technology measures available through energy efficiency, demand response (including direct install measures that provides a rebate, like Air Conditioning Cycling), and low income or Middle Income Direct Install programs that may be available to the customer;
  - ii. Specific rebates for energy management technology products and programs that may be available to the customer that would be tailored to meet the customer's climate zone, energy consumption patterns, and the home vintage of the customer;
  - iii. Directions on how to access the updated energy technology marketplace website and understand the relevant product information that would be obtained there (product pricing, product rebates available, savings estimates for the products, customer reviews etc.); and
  - iv. Directions to and tips for navigating Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas' online tools to monitor energy usage and perform online audits, such as through MyAccount, and instructions on how to sign up for bill alerts or bill forecasts.





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May 22, 2017

**Advice 3843-G/5075-E**  
(Pacific Gas and Electric Company ID U 39 M)

Public Utilities Commission of the State of California

**Subject: Request for Approval of PG&E's Assembly Bill 793 Implementation Plan**

## **I. Purpose**

The Pacific Gas and Electric Company (PG&E) hereby submits this advice letter pursuant to Resolution (Res.) E-4820, Ordering Paragraphs (OP) 1 - 3. This advice filing seeks approval from the California Public Utilities Commission (CPUC or Commission) for the proposed offerings and associated marketing plans to comply with Assembly Bill (AB) 793.

## **II. Background**

PG&E provides incentives for, and education about, energy management technologies (EMTs) through the use of existing energy efficiency (EE) and demand response (DR) budgets previously authorized by the Commission. These efforts support the Commission's objective to bring forth "a new generation of innovative programs that will drive energy efficiency (EE) savings and load reductions through demand response, with the goal of transitioning away from traditional rebate programs as markets mature."<sup>1</sup> To promote EMTs and further advance California's ambitious energy efficiency goals, PG&E's offers a variety of EMT products and programs and plans to expand these offerings throughout 2017 and beyond for residential and small and medium business (SMB) customers.

This advice letter (AL) demonstrates compliance with the Commission's Resolution E-4820 requirement to provide incentives for devices that utilize Advanced Meter Infrastructure (AMI) data, update the PG&E Marketplace, and provide EMT outreach to customers expressing concern about high bills, on payment plans or facing disconnection. Additionally, PG&E has revised its Marketing Plan, included as an attachment to this advice letter, to include strategies to market EMTs to the

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<sup>1</sup> *Joint Administrative Law Judge's Ruling Providing Guidance on Compliance with AB 793 Activities*, R.13-11-005 and R. 13-03-011, pp. 3-4 (June 10, 2016).

communities with the highest disconnection rates in their service territories or in disadvantaged communities. The IOUs developed a Joint IOU AB 793 Marketing Plan (Joint Plan) to reflect the requirements of Resolution E-4820, and it will be filed separately via a separate advice letter.

Finally, PG&E offers an updated list of existing and planned EMT offerings which are further described in Attachments A, B, and D to this advice letter.

### **III. Evolution of AB 793 Filings**

AB 793 required the Commission to order electric and gas corporations to develop a program no later than January 1, 2017 to provide incentives to residential or SMB customers to acquire EMTs, and to develop a plan to educate these customers about the incentive program by September 30, 2016. As enacted, Section 717 of the Public Utilities Code states:

(a) The commission shall require an electrical or gas corporation to do all of the following:

(1) Develop a program no later than January 1, 2017, within the electrical or gas corporation's demand-side management programs authorized by the commission, to provide incentives to a residential or small or medium business customer to acquire energy management technology for use in the customer's home or place of business. The electrical or gas corporation may allow third parties or local governments to apply for incentives on behalf of customers. The electrical or gas corporation shall work with third parties, local governments, and other interested parties in developing the program. The electrical or gas corporation shall establish incentive amounts based on savings estimation and baseline policies adopted by the commission.

(2) Develop a plan by September 30, 2016, to educate residential customers and small and medium business customers about the incentive program developed pursuant to paragraph (1). The commission may require that the plan be integrated into, or coordinated with, any education campaign required by the commission.

(3) Annually report to the commission on actual customer savings resulting from the incentive program established pursuant to this section. The commission shall evaluate all electrical or gas corporation energy savings claims achieved pursuant to the incentive program in a manner consistent with commission-adopted evaluation protocols and determine if the program shall continue or be modified.

(b) For purposes of this section, 'energy management technology' may include a product, service, or software that allows a customer to better

understand and manage electricity or gas use in the customer's home or place of business.

(c) Nothing in this section shall be construed to amend or limit the ability of a community choice aggregator to apply to administer an energy efficiency or conservation program or a demand-side management program as set forth in Section 381.1.

AB 793 also amends Section 2790 of the PUC, expanding the definition of the weatherization services for low-income customers to include EMTs.

The June 10, 2016 Joint Ruling requires PG&E, Southern California Edison, San Diego Gas and Electric Company, and the Southern California Gas Company (IOUs) to file proposals that are comprehensive, innovative, and scalable, and that are responsive to the needs of the marketplace. The Joint Ruling identified specific items that should be proposed in each of the IOUs' proposals:

1. Strategies for increasing participation and deployment of current demand-side programs and offerings that meet the Legislation's definition of an energy management technology;
2. A list of all energy management technology programs and offerings that are currently not in the IOU portfolios, but will be rebated and available on January 1, 2017;
3. A comprehensive list of all energy management technology programs and offerings that meet the objectives of Section 717, but that the IOUs will not plan to launch until after January 1, 2017. For these programs and offerings, the IOUs shall provide timelines for launch and necessary actions to offer the product(s);
4. Information on all energy management technology products that are currently part of the IOU programs or will be part of the programs on January 1, 2017, with associated rebates, budgets, projected uptake, and target market for all programs and offerings;
5. A proposal for a process for reporting and tracking of Section 717 program accomplishments and savings to the Commission;
6. A list of any and all proposals to implement Section 717 which may be executed in cooperation with all regional energy networks, community choice aggregators, and/or publicly-owned utilities; and
7. A robust two-year marketing plan for energy management technologies that includes the following:
  - Strategies to be employed
  - Metrics and targets
  - Partnerships

PG&E initially filed an advice letter on August 1, 2016, in compliance with the Joint Ruling. On August 4, 2016, the Commission's Energy Division requested that PG&E remove the Joint IOU Marketing Plan from its initial advice letter. Accordingly, PG&E filled a supplemental advice letter (3744-G-A/4886-E-A) on August 08, 2016 for the purpose of removing references to a Joint IOU Marketing Plan. The IOUs<sup>2</sup> developed a Joint IOU AB 793 Marketing Plan (Joint Plan), which was filed separately via a separate advice letter AL 5012 et al on August 11, 2016, in compliance with the Joint Ruling.

On August 24, 2016, the Commission's Energy Division requested via email that the IOUs file a supplemental advice letter in early to mid-September to address perceived deficiencies in the marketing plans. This email was followed by a joint-IOU call with the Energy Division on August 31, 2016. As a result, PG&E submitted its second supplemental Advice Letter with changes to Appendix D: PG&E's Local Market Facilitation Plan based on the recommendations received from the Energy Division staff. PG&E enhanced the marketing plan to address the marketing metrics, key performance indicators, success criteria, measurement of marketing effectiveness, and the marketing planning approach for products that were under development.

On August 29, 2016 Mission:data filed a protest to all of the IOU AB 793 ALs. On September 6, 2016, PG&E timely filed a reply to the Mission:data protest.

On September 20, 2016 PG&E submitted a supplemental advice letter to supersede Attachment D of Advice 3744-G-A/4886-E-A, PG&E's Local Market Facilitation Plan. In addition, the supplemental added Attachment G, which illustrates timelines and metrics for implementing its Plan for residential and small and medium business customers.

On April 6, 2017 the Commission adopted Resolution E-4820 which approved all of the supplemental AB 793 ALs—PG&E AL 3746-G-A/4890-E-A, PG&E AL 3744-G-B/4886-E-B, SDG&E AL 2505-G-A/2941-E-A, SDG&E AL 2937-E-B/2500-G-B, SCE AL 3449-E-A, SCE AL 3449-E-B and SoCalGas 5003-G-A, SoCalGas 5003-G-B and SoCalGas 5012-G-A—with modifications. The Commission ordered Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas to file a Tier 2 AL to demonstrate compliance with the Commission-directed modifications within 45 days of the approval of the Resolution.

In its approved AL 3744-G-A/4886-E-A PG&E stated that it was not seeking approval of Low Income EMT offerings through this advice letter as those offerings were being considered under a separate proceeding.<sup>3</sup> PG&E stated that it plans to coordinate statewide with other IOUs to provide EMT offerings to Low Income customers through the Low Income proceedings. Similarly, this AL does not seek approval or modification of Low Income EMT offerings.

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<sup>2</sup> Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas and Electric Company, and Southern California Gas Company

<sup>3</sup> PG&E Advice Letter 3744-G-A/4886-E-A p. 7

In Section IV of this advice letter, PG&E details how it intends to comply with the new ordering paragraphs in Resolution E-4820. In subsequent sections of this advice letter, PG&E provides an update on current AB 793 offerings and planned EMT offerings that will come online in 2017.

Attached documents are as follows:

- Attachment A: PG&E's Existing EMT Offerings
- Attachment B: PG&E's EMT Offerings in Development for 2017
- Attachment C: PG&E's Local Market Facilitation Plan
- Attachment D: PG&E's Product Offer Matrix and Timelines

#### **IV. PG&E Responses to Resolution E-4820 Ordering Paragraphs**

Below are PG&E's responses demonstrating compliance with the Commission-directed modifications from Resolution E-4820.

***OP – 1.a.) Pacific Gas and Electric, San Diego Gas & Electric and Southern California Edison shall offer residential customers rebates for devices that utilize Advanced Meter Infrastructure data through a Home Area Network device or other similar medians such as the internet or Green Button Connect by the Fourth Quarter of 2017. Incentives should include a product rebate at the time-of-sale, but may also include a pay-for-performance component, conforming to the high opportunity projects and program framework, including Section 3.4.3.3. Customer Incentive Design. Before launching programs to provide incentives for these devices Pacific Gas and Electric, Southern California Edison and San Diego Gas & Electric shall seek stakeholder feedback from one or more of the California energy efficiency stakeholder groups.***

On August 18, 2016, the Commission issued D.16-08-019 providing final guidance on initial energy efficiency rolling portfolio business plan filings (Final Guidance). PG&E fully embraces inclusion of EMTs within its portfolio and, in its filed Business Plan, proposed to issue Residential sector solicitations in the first quarter of 2018.<sup>4 5</sup> PG&E's approach to comply with this requirement is to leverage market actors to create options that combine time-of-sale interventions with product support to ensure that customers are able to realize the benefits of EMTs to manage energy use.

PG&E will leverage the Residential Pay for Performance (P4P) program approach to enable third parties to provide EMTs and allied services directly to customers. Additionally, PG&E will issue a request for proposal (RFP) in the third quarter of 2017

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<sup>4</sup> PG&E Business Plan Portfolio Overview p. 37

<sup>5</sup> PG&E's position on EMTs is affirmed in its Residential Business Plan chapter wherein PG&E has included a goal to increase the number of customers utilizing EMTs and advancing the capabilities of EMTs over the next 10 years. (Business Plan Residential chapter p. 3)

for a study of Connected Home technology integrations that can provide energy services through EMTs.

### **Residential Pay for Performance (P4P)**

PG&E will leverage the P4P program to promote EMT adoption. The next P4P RFP will offer points in the evaluation process for P4P aggregator proposals that include EMTs as part of the products and services they offer to customers to achieve energy efficiency savings. In principle, the P4P program is technology agnostic, and thus does not require that all proposals include EMTs. However, we will encourage P4P bidders to include, expand, and activate the EMT market.

In addition, PG&E is currently completing final negotiations with residential P4P aggregators from the initial P4P RFP issued in November 2016. We anticipate that EMTs may feature prominently among the aggregators' offerings to customers during this initial P4P enrollment period, the specifics of which can be disclosed when the contracts are executed.

### **Connected Home Study**

EMTs can help customers better understand and manage their energy use, especially when integrated as part of a Connected Home solution. OP-1 orders the utilities to provide rebates for technologies that leverage individual customer AMI data in two ways: connected to a smart meter to provide real-time energy information (PG&E's Stream My Data service), and/or connected to a utility data service via Green Button Connect (PG&E's Share My Data service).

A previous PG&E study on Home Area Network (HAN) (a subset of EMT) technology alone has shown reduction in energy consumption with its use, though continued consumer use was not studied.<sup>6</sup> Therefore, PG&E believes that an interconnected product ecosystem offers a high potential for energy-related benefits for our customers.<sup>7</sup> In order to understand this value proposition more clearly, PG&E will issue an RFP in the third quarter of 2017 for a small-scale study to examine technology integrations that can provide energy services using the EMT solutions in OP-1 as part of a Connected Home solution. In this study, PG&E plans to consider how various EMTs enable customer engagement from installation to consistent energy savings, methods to combine benefits of energy efficiency and demand response, and gather insights to share with technology solution vendors. The study intends to gain insight into the customer experience for the various ways EMTs integrate with modern user interaction technologies such as mobile applications, voice interfaces, cloud services, automated

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<sup>6</sup> [http://www.calmac.org/publications/han\\_final\\_report\\_final.pdf](http://www.calmac.org/publications/han_final_report_final.pdf)

[http://www.calmac.org/publications/HAN\\_Impacts\\_and\\_Savings\\_Report\\_FINAL2.PDF](http://www.calmac.org/publications/HAN_Impacts_and_Savings_Report_FINAL2.PDF)

<sup>7</sup> <http://www.etcc-ca.com/reports/assessing-players-products-and-perceptions-home-energy-management>

and rule-based control services. The study will also help EMTs integrate with our existing energy and demand response programs.

### **Stakeholder Feedback**

Strategic partnerships with existing and new industry partners will be important to increasing the deployment of EMTs. PG&E partners with a number of market influencers, such as local and national retailers, trade professionals and government and community partners. Opportunities for partnerships include the annual Statewide Emerging Technology Program Technology Resource Innovator Outreach (TRIO) Symposiums, where more than 80 vendors, investors, entrepreneurs, academia and other technology professionals convene to explore ways to advance innovative EE and DR technology solutions.

PG&E will host an Emerging Technologies Coordinating Council (ETCC) TRIO event on June 9, 2017 at the PG&E Pacific Energy Center. The agenda includes a session to educate market actors on how to do business with the IOUs, a session on how to leverage AMI data using HAN and Green Button Connect technologies, and a session specific to the P4P program. PG&E hopes these sessions will help EMT providers, as well as other providers, with responses to RFPs, and to foster potential partnerships for bundled approaches to future programs.

PG&E will continue to foster mutually beneficial partnerships for supporting customers in overcoming barriers to engagement and acquisition of EMT solutions, thereby increasing the deployment of EMTs throughout PG&E's territory.

PG&E also encourages EMT stakeholders to participate in the California Energy Efficiency Coordinating Committee (CAEECC).

**OP – 1.b.) Pacific Gas and Electric and San Diego Gas & Electric shall update the energy technology marketplaces on their websites to include all required measures listed in the draft Resolution that are relevant to Assembly Bill 793 by the Fourth Quarter of 2017. In addition, Southern California Edison and Southern California Gas shall create energy technology marketplaces on their websites that include Assembly Bill 793-relevant technologies by the Fourth Quarter of 2017.**

The PG&E Marketplace highlights a product category - Connected Home - that includes EMT hardware and HAN devices.<sup>8</sup> By the end of the third quarter of 2017, PG&E plans to add relevant residential and SMB Share My Data opportunities which include applications and services that help customers manage their energy. In addition, there will be a frequently asked questions (FAQ) section to engage vendors who wish to have their relevant consumer software or mobile applications added to the PG&E Marketplace.

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<sup>8</sup> <https://marketplace.pge.com>

**OP – 1.c.) By the Fourth Quarter of 2017, Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas shall file a report to Energy Division proposing reporting requirements, targets and metrics, at a minimum, for the number of customers in their service territory who visit energy efficiency marketplaces, customer uptake from those marketplaces, rebates provided, and level of engagement with Green Button Connect My Data**

PG&E is working with its Marketplace vendor to determine what metrics are capable of being tracked and is prepared to submit these metrics in the fourth quarter of 2017.

**OP – 2.a.) The IOUs shall include in their AB 793 Marketing Compliance Filing ALs specific strategies on how they plan to market EMTs to the communities with the highest disconnection rates in their service territories or in disadvantaged communities. The marketing efforts in these areas shall utilize greater resources and a more targeted effort than general marketing efforts, and the Compliance Filing ALs shall reflect this.**

Please reference Attachment C: PG&E's Local Market Facilitation Plan for specific targeting, outreach strategies and tactics.

Please reference Attachment D: PG&E's Product Offer Matrix and Timelines for updates related to PG&E's solutions for disadvantaged communities including EMTs, success metrics and campaign timelines.

**OP – 3.) Finally, Pacific Gas and Electric, San Diego Gas & Electric, Southern California Edison and Southern California Gas shall follow-up with customers who complain about their bills, customers who are behind on their bills, and customers who have been contacted about disconnection or have been placed on a payment plan. The IOUs are directed to follow-up with each customer through the customers' preferred method of communication (phone, email or mailer) on potential EMT solutions to reduce those customers' bills and avoid disconnection.**

PG&E recognizes that unexpected large bills can be a burden on consumers and small businesses, especially disadvantaged customers. PG&E is committed to providing customers with solutions that address their individual situations and needs. Currently, customers can access many of the robust self-service solutions online via any computer or mobile device or they can speak live, to a customer service representative (CSR).

### **PG&E Website**

PG&E's website provides customers with the tools and resources to explore options that can help them understand the steps they can take to reduce their bills. The website is mobile responsive and American Disability Act (ADA) compliant. Customers can find information on financial assistance programs including Relief for Energy Assistance through Community Help (REACH), Low-income Home Energy Assistance Program



(LIHEAP), California Alternate Rates for Energy (CARE), Family Electric Rate Assistance (FERA), Medical Baseline, and the Energy Savings Assistance Program (ESA Program). Eligible customers may engage in Payment Arrangements or the Balanced Payment Plan.

Customers who log into “Your Account” are able to access a variety of self-service tools that marry smart-meter data with customer insights and information to help customers better understand and manage their energy use. Starting on the landing page, customers can easily enroll in Energy Alerts including Bill Forecast Alert; navigate to the Home Energy Check Up, and the PG&E Marketplace which showcases energy efficient products and rebates. Customers can also sign up for Stream My Data and Share My Data which enables customers to share their data with innovative EMT solutions created by third-party providers. Other tools include usage and cost graphs broken down by year, month, day and interval, bill projection, bill comparison, usage disaggregation, a rate comparison, a rate simulator, and Next Best Action. This functionality provides customers personalized direction on what specific action to take next to reduce costs and usage. All of these tools can be accessed from any device at any time.

### **Customer Service Representative (CSR) Experience**

When a customer calls to complain about a bill or is behind on his/her bill, the CSRs have the ability to view information about the customer’s program participation history and payment status so that they may promote the services that meet the individualized customer need. Often a high bill may represent multiple months of service or a customer may have inadvertently fallen off an eligible program, such as CARE.

If a customer is not eligible for financial assistance programs, the CSR will take the time to work with the customer to determine if his/her individual load profile would benefit by changing to a rate that better fits their usage needs or direct install measures such as Energy Fitness, SmartAC, or the Middle Income Direct Install (MIDI).

Customers are also advised about options like Home Energy Check Up, which helps customers understand how much of their home energy goes to heating, hot water, appliances, lighting and other uses. The program provides customers an estimate of what is using energy in their home and a list of personalized, suggested actions or improvements from PG&E that can help them save energy and lower their bill. Finally, a CSR will advise a customer of any available rebates or programs that may meet a customer’s individual needs.

PG&E’s Interactive Voice Recognition (IVR) phone system also promotes many of these solutions while a customer completes their transaction or awaits a CSR.

## **Additional Communication Opportunities for EMTs**

PG&E proposes that customers calling to complain about their bill, to inquire about a payment plan or disconnection or who are behind on their bill continue to receive the personalized services we provide them today. Additionally, during the course of the call, the PG&E CSR will ask for customers' consent to send them a follow-up email promoting opportunities for EMTs. The email will highlight customer appropriate EMT offerings that could help customers reduce their usage and better manage their bills. These opportunities could include:

**Bill Forecast Alert:** Bill Forecast Alert notifies customers via email, SMS or phone when their bill is projected to exceed the threshold amount they set during their monthly billing cycle. Customers, who set their Bill Forecast Alert threshold amount lower than their normal energy bill, will have advanced notice allowing them to take steps—such as adjusting the heat and turning off lights and electronics—to help potentially reduce their costs. This will give them time to make the changes required to stay within their budget and avoid the surprise of a high energy bill.

**PG&E Marketplace:** Customers will be directed to the PG&E Marketplace, an easy and user-friendly website that allows customers to discover energy-efficient products and appliances from many of their favorite retailers. Additionally, PG&E Marketplace includes products that offer PG&E customer rebates. Customers will also potentially find information on free mobile applications that can use customers' AMI data to help them better manage their energy usage.

**Direct Install Programs:** Customers will also be made aware of potential direct install programs including Energy Fitness and Smart AC.

PG&E plans to launch this email feature in the third quarter of 2017.

## **V. Summary of PG&E EMT Offerings**

PG&E offers an updated table below of current EMT offerings along with planned offerings for deployment in 2017. Further details on these offerings are included in Attachments A, B and D of this advice letter. In addition, given the ongoing nature of program and product evolution, PG&E provides a brief summary of changes to offerings in our approved PG&E's AB 793 AL 3746-G-A/4890-E-A.

PG&E EMT Offerings		
Phase	Available Now	Deploy in 2017
Residential Offerings	<ul style="list-style-type: none"> <li>▪ Advanced Power Strips</li> <li>▪ Bill Forecast Alert</li> <li>▪ Energy Fitness</li> <li>▪ Home Energy Checkup</li> <li>▪ SmartAC™</li> <li>▪ Share My Data</li> <li>▪ Stream My Data</li> <li>▪ Connected Savings Smart Thermostat Assessment</li> <li>▪ Smart Water Heater Controller</li> <li>▪ Time-of-Use Management App</li> </ul>	<ul style="list-style-type: none"> <li>▪ Automatic Demand Response</li> <li>▪ Nest Seasonal Savings Assessment</li> <li>▪ Smart Thermostat Incentive</li> <li>▪ Energy Engagement from School Energy Education Programs</li> <li>▪ Product Bundles and Residential Mobile Application</li> </ul>
Small and Medium Business Offerings	<ul style="list-style-type: none"> <li>▪ Automatic Demand Response</li> <li>▪ Business Energy Checkup</li> <li>▪ Energy Management Systems Assessment</li> <li>▪ Enhanced In-Season Support for Peak Day Pricing</li> <li>▪ On-Bill Financing Alternative Pathways</li> <li>▪ Share My Data</li> <li>▪ Stream My Data</li> <li>▪ Bill Forecast Alert</li> </ul>	<ul style="list-style-type: none"> <li>▪ Circuit Level Load Monitoring</li> <li>▪ Energy Management System Pay for Performance</li> <li>▪ Managed Energy Services</li> </ul>

### Changes in Product Offerings from PG&E's AB 793 AL 3746-G-A/4890-E-A

**The Demand Response Pilots:** The Behavioral Demand Response and Bring Your Own Thermostat (BYOT) pilots have concluded and did not provide results that warrant moving the pilots into programs.

**Automatic Demand Response:** Res. E-4820 approval on April 6, 2017 did not leave sufficient time to develop and roll out the Residential Automatic Demand Response (ADR) program before the Smart Rate season started on May 1, 2017. PG&E will launch the first release of the Residential ADR Program during the third quarter of 2017 with the following programs: the Demand Response Auction Mechanism (DRAM), the Supply Side Pilot and the Excess Supply Pilot. PG&E will explore expanding the Residential ADR Program to Smart Rate and other residential DR Programs in its second release in 2018.

**Residential and SMB Energy Alerts and Bill Forecasts:** These two offerings have since been renamed to be Bill Forecast Alert and Projected Bill Tool.

**Smart Appliances:** Smart appliances have been redefined to reference Smart Water Heater Controller as smart water heaters have the highest potential for energy savings.

**Commercial Mobile Application:** The Commercial Mobile Application offering has been deferred pending a deeper understanding of project findings from the Residential Application.

**Incentives for Smart Thermostats:** PG&E will offer a \$50 downstream incentive for smart thermostats by the end of the second quarter of 2017.

The smart thermostat that would qualify for an EE incentive are based on SCE's residential smart communicating thermostat workpaper (SCE 17HC054) which recently received interim approval on April 14, 2017 consistent with the Energy Efficiency Policy Manual.<sup>9</sup> The program design and all the calculations in this workpaper were subject to a rigorous evaluation by the California Technical Forum (CaTF) culminating on February 23, 2017. PG&E recognizes that, consistent with the EE Policy Manual<sup>10</sup> and D.12-05-015<sup>11</sup>, the Commission staff may review SCE's residential smart communicating thermostat workpaper. PG&E recommends that any adjustments to the workpaper be made ex-post as a result of future EM&V studies, upon Commission Staff review and be applied on a prospective basis. This will allow PG&E to move expeditiously to implement the EE smart thermostat incentive program while providing for workpaper refinements that may result from a future Commission Staff review.

PG&E is moving forward with direct install programs for smart thermostats as detailed in the Energy Fitness offering and smart thermostats are also being added in other residential programs including the Synergy Mobile Homes and Middle Income Direct Install (MIDI) programs. In addition, smart thermostats will be incentivized in the Automatic Demand Response program starting in the third quarter of 2017.

## **Protests**

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than June 12, 2017, which is 21 days<sup>12</sup> after the date of this filing. Protests must be submitted to:

CPUC Energy Division  
ED Tariff Unit  
505 Van Ness Avenue, 4<sup>th</sup> Floor  
San Francisco, California 94102

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<sup>9</sup> Energy Efficiency Manual, Version 5, published July 2013, page 98

<sup>10</sup> Ibid

<sup>11</sup> See D.12-05-015 pages 333-336.

<sup>12</sup> The 20-day protest period concludes on a weekend. PG&E is hereby moving this date to the following business day.

Facsimile: (415) 703-2200  
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

Erik Jacobson  
Director, Regulatory Relations  
c/o Megan Lawson  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B23A  
P.O. Box 770000  
San Francisco, California 94177

Facsimile: (415) 973-1448  
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

### **Effective Date**

PG&E requests that this Tier 2 advice filing become effective on regular notice, June 21, 2017, which is 30 calendar days after the date of filing.

### **Notice**

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for R.13-11-005 and R.13-09-011. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process\_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter filings can also be accessed electronically at: <http://www.pge.com/tariffs/>.

\_\_\_\_\_  
/S/

Erik Jacobson  
Director, Regulatory Relations

Attachments:

- Attachment A: PG&E's existing EMT offerings
- Attachment B: EMT offerings in development for 2017
- Attachment C: PG&E's Local Market Facilitation Plan
- Attachment D: Product Offer Matrix and Timelines

cc: Service List R.13-11-005 and R.13-09-011

# CALIFORNIA PUBLIC UTILITIES COMMISSION

## ADVICE LETTER FILING SUMMARY ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. **Pacific Gas and Electric Company (ID U39 M)**

Utility type:

ELC       GAS  
 PLC       HEAT       WATER

Contact Person: Annie Ho

Phone #: (415) 973-8794

E-mail: AMHP@pge.com and PGETariffs@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric      GAS = Gas  
PLC = Pipeline      HEAT = Heat      WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: **3843-G/5075-E**

**Tier: 2**

Subject of AL: **Request for Approval of PG&E's Assembly Bill 793 Implementation Plan**

Keywords (choose from CPUC listing): Compliance, Energy Efficiency

AL filing type:  Monthly  Quarterly  Annual  One-Time  Other \_\_\_\_\_

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: Resolution E-4820

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL: \_\_\_\_\_

Is AL requesting confidential treatment? If so, what information is the utility seeking confidential treatment for: No

Confidential information will be made available to those who have executed a nondisclosure agreement: N/A

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: \_\_\_\_\_

Resolution Required?  Yes  No

Requested effective date: **June 21, 2017**

No. of tariff sheets: N/A

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed: N/A

Pending advice letters that revise the same tariff sheets: N/A

Protests, dispositions, and all other correspondence regarding this AL are due no later than 21 days<sup>1</sup> after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

**California Public Utilities Commission**  
**Energy Division**  
**EDTariffUnit**  
**505 Van Ness Ave., 4<sup>th</sup> Flr.**  
**San Francisco, CA 94102**  
**E-mail: EDTariffUnit@cpuc.ca.gov**

**Pacific Gas and Electric Company**  
**Attn: Erik Jacobson**  
**Director, Regulatory Relations**  
**c/o Megan Lawson**  
**77 Beale Street, Mail Code B23A**  
**P.O. Box 770000**  
**San Francisco, CA 94177**  
**E-mail: PGETariffs@pge.com**

<sup>1</sup> The 20-day protest period concludes on a weekend, therefore, PG&E is moving this date to the following business day.

## **Attachment A**

### **PG&E's Existing EMT Offerings**

Attachment A provides an overview of PG&E's existing AB 793 offerings that meet the definition of energy management technology (EMT) product, software or service offerings as defined in AB 793. PG&E plans to continue offering these products and tools in 2017 and beyond.

Existing PG&E AB 793 offerings are as follows:

#### **Existing Residential Offerings**

- Advanced Power Strips
- Bill Forecast Alert
- Projected Bill
- Energy Fitness
- Home Energy Checkup
- Share My Data
- SmartAC™
  - General Program
  - Plus SmartRate™
- Stream My Data
- Connected Savings Smart Thermostat Assessment
- Smart Water Heater Controller
- Time of Use Management App

#### **Existing Small and Medium Business (SMB) Offerings**

- Automated Demand Response
- Business Energy Checkup
- Energy Management Systems Assessment
- Enhanced In-Season Support for Peak Day Pricing
- On-Bill Financing (OBF) Alternative Pathway
- Share My Data
- Stream My Data
- Bill Forecast Alert
- Projected Bill



## **Existing Residential Product Offering Descriptions**

### **Advanced Power Strips**

**Sector:** Residential, Moderate and Low Income

**Offering Type:** Hardware, Service -- Energy Efficiency

**Description:** Direct installation of Advanced Power Strips through the Moderate Income Direct Install (MIDI) and Energy Savings Assistance (ESA) programs, as well as Energy Fitness, a government/community partnership program offered through RHA. The power strips are included as free add-ons when other products are installed. The Tier 2 Advanced Power Strips included in the MIDI program use television remote infrared remote sensing and true Root Mean Squared (RMS) power sensing technologies. Partners include Richard Heath and Associates, Synergy, Embertec and TrickleStar.

To gauge the potential for a downstream rebate PG&E will launch an Emerging Technologies assessment in June 2017 for the purpose of determining install and persistence rates for self-installation of Tier 2 Advanced Power Strip devices. Results will be available in Q4.

**Additional Information:** Additional information about advanced power strips is included in D.14-08-030, p. 124 (OP 54).

### **Bill Forecast Alert - Residential**

**Sector:** Residential, Low Income

**Offering Type:** Software – Energy Efficiency

**Description:** Bill Forecast Alert for residential customers is an easy-to-understand bill analysis tool that includes a forecast of a customer's bill as early as seven days into the billing cycle. Bill Forecast allows customers to understand their near real-time consumption in the familiar monthly bill context, making it easier to understand how they are using energy and how they can manage it.

**Additional Information:** Bill Forecast can be accessed via My Account via [www.pge.com](http://www.pge.com).

### **Projected Bill - Residential**

**Sector:** Residential, Low Income

**Offering Type:** Software – Energy Efficiency

**Description:** Projected Bill is a self-serve online tool that estimates the customer's end of month bill. This provides predictability and helps customers plan and manage their monthly bill.

**Additional Information:** Projected Bill can be accessed via My Account via [www.pge.com](http://www.pge.com).

### **Home Energy Checkup**

**Sector:** Residential

**Offering Type:** Software – Energy Efficiency

**Description:** The Home Energy Checkup is available to all residential customers through My Account pge.com. The tool uses hourly SmartMeter™ data along with other customer insights to make it easy for customers to find energy savings ideas that are tailored to how they use energy. The tool is progressive in nature, continually learning based on the information the customer provides. Home Energy Checkup provides recommendations across energy efficiency, demand response, and distributed generation, including behavioral changes. Over 300,000 residential customers have completed the Home Energy Checkup since 2012. The tool continues to be marketed through income qualified programs and mass marketing.

**Additional Information:** The Home Energy Checkup is available within My Account via [www.pge.com/homeenergycheckup](http://www.pge.com/homeenergycheckup).

### **Energy Fitness**

**Sector:** Residential, Third Party

**Offering Type:** Service – Energy Efficiency

**Description:** The Energy Fitness program is a third party administered Direct Install Program, administered by Richard Health Associates in partnership with Home Energy Analytics, that performs data analytics using Smartmeter data to target high energy users with inefficient homes for no or low cost measures in targeted counties in PG&E's service territory. The program is planning to add new measures in 2017 including smart thermostat, advanced power strips and includes a custom Home Energy Report to help customers better manage energy use. The program aims to facilitate penetration of targeted measures including Tier II advanced power strips, smart thermostat and provide energy education and feedback to homes that have a significant opportunity to benefit from energy savings due to high bills.

**Additional Information:** Additional information on the Energy Fitness program can be found in PG&E's Energy Fitness Program Implementation Plan, under Third Party PIPs on EE Stats.

### **Share My Data –Residential**

**Sector:** Residential, Low Income and SMB

**Offering Type:** Service – Energy Efficiency, Demand Response

**Description:** Share My Data Third Party connectivity is an existing service offered to all PG&E customers, allowing them to automatically share ongoing account, usage or billing data with an authorized business of their choice, or receive data themselves via an Application Programming Interface (API). This offering, the same as “Green Button Connect,” allows customers to share data with third parties.

**Additional Information:** Information on the Share My Data program can be found at [Advice Letter 4378-E-A dated 14 August 2014 and online at http://www.pge.com/sharemydata](http://www.pge.com/sharemydata).

### **Smart AC™ General Program**

**Sector:** Residential, Low Income

**Offering Type:** Hardware, Service – Demand Response

**Description:** Customers receive a free installed SmartAC™ load control receiver and a \$50 credit to participate in the SmartAC™ program. The SmartAC™ program allows for automated demand response by cycling air conditioners during peak day events. Evaluation provided by Nexant. Partners include Enertouch (GoodCents), Eaton's Cooper Power Systems and Energate.

**Additional Information:** Additional information on the Smart AC program is included in PG&E's Filing for 2018-2022 application for Demand Response.

### **Smart AC™ + SmartRate™**

**Sector:** Residential, Low Income

**Offering Type:** Hardware, Service – Demand Response

**Description:** SmartRate™ customers receive a free installed SmartAC™ load control receiver and a \$50 credit when they also participate in the SmartAC™ program. The SmartAC™ program allows for automated demand response by cycling air conditioners during peak day events. Evaluation provided by Nexant. Partners include Enertouch (GoodCents), Eaton's Cooper Power Systems and Energate.

**Additional Information:** Additional information on the Smart AC program is included in PG&E's Filing for 2018-2022 application for Demand Response.

### **Stream My Data - Residential**

**Sector:** Residential, Low Income

**Offering Type:** Service – Energy Efficiency, Demand Response

**Description:** A service offered to all PG&E SmartMeter™ customers that allows a ZigBee enabled Home Area Network (HAN) or gateway device to connect directly to the customer's meter for real-time data access. This includes real time usage, price, billing information, and SmartRate™ event alerts.

**Additional Information:** Information on Stream My Data can be found at [www.pge.com/streammydata](http://www.pge.com/streammydata)

### **Connected Savings Smart Thermostat Assessment-Residential**

**Sector:** Residential

**Offering Type:** Service – Energy Efficiency

**Description:** The Whisker Labs Connected Savings Smart Thermostat project is designed to use the data from connected thermostats to increase energy efficiency in PG&E customers' homes by providing thermostat optimization, and personal Home Energy ScoreCards. The intervention will deliver HVAC energy savings by optimizing system performance.

**Additional Information:** Proof of concept for the combination of intervention strategies.

### **Smart Water Heater Controller**

**Sector:** Residential

**Offering Type:** Emerging Technology Assessment – Energy Efficiency

**Description:** Evaluate the energy efficiency gained from the residential application of Aquanta Smart Water Heater Controller with gas/electric storage water heaters.

**Next Steps:** Coordinate with Statewide IOUs to develop small-scale field trial, consider developing product offering for 2018

**Proposed Timeline:** Draft Emerging Technology Report expected May 2017.

### **Time of Use (TOU) Management App**

**Sector:** Residential

**Offering Type:** Software– Time of Use Rates

**Description:** As part of the Opt-in TOU Pilot, PG&E is offering Bidgely's HomeBeat SmartPhone App to a target group of customers involved in PG&E's Opt-in Time of Use pilot to help customers better understand and manage their energy relative to their TOU rate.

**Next Steps:** Evaluate the effectiveness of the app in helping customers manage their energy for Time of Use

**Proposed Timeline:** Study to conclude at end of 2017.

## **Existing Small and Medium Business AB 793 Product Offerings**

### **Automated Demand Response - Commercial**

**Sector:** Commercial

**Offering Type:** Service – Demand Response

**Description:** The Automated Demand Response (ADR) Program provides incentives and technical assistance for customers investing in EMTs that also enable them to perform demand response (DR). It encourages customers to expand their energy management capabilities by participating in DR programs using automated electric controls and management strategies. Customers who sign up to participate in the ADR program will receive automated event signals from PG&E. These signals will be sought out by a technical solution on site that initiates pre-programmed DR strategies. In 2017, PG&E will offer an additional option of deemed incentives to SMB customers, for certain end uses, based on average kW reductions, to make it easier for SMBs to apply for ADR incentives. SMB customers could elect to have their load shed determined either by the deemed kW, which is based on customer type, end use, operation, level of participation, and climate zone (for weather sensitive load), or by the traditional calculated approach. In the former case, the incentive amount will be calculated by applying the ADR SMB incentive rate to the deemed kW.

**Additional Information:** Additional information on the Automated Demand Response program is included in PG&E's Filing for 2017 Bridge Funding for Demand Response, submitted February 1, 2016.

### **Business Energy Checkup**

**Sector:** Commercial

**Offering Type:** Software -- Energy Efficiency, Demand Response, Distributed Generation

**Description:** PG&E provides the Business Energy Checkup for SMB customers through My Account on pge.com. The Business Energy Checkup uses hourly SmartMeter™ data, customer-specific site and business data to provide energy-saving recommendations to small and medium business customers tailored to their facility and business type. The Business Energy Checkup is a progressive audit tool that allows customers to track their energy use, get energy-saving recommendations and help identify what could be wasting energy in their businesses.

**Additional Information:** PG&E Business Customers can access the Business Energy Checkup at [www.pge.com/businessenergycheckup](http://www.pge.com/businessenergycheckup).

### **Energy Management Systems Assessment**

**Sector:** Commercial

**Offering Type:** Software, Service, Product - Energy Efficiency

**Description:** PG&E is recruiting 10 SMB customers for an Emerging Technologies assessment of integrated control systems (HVAC, lighting and plug load) that are currently on the market. Targeted host sites include stand-alone retail, office, school, and specialty/fast food. The project will assess to what extent customers are able to engage with and manage their energy use using web portals and smartphone applications. The project is currently in the recruiting phase and after 12 months of post-install monitoring, the final report will be delivered in Q4 2018.

**Additional Information:** The final report will be posted to the Emerging Technologies Coordinating Council in Q4 2018.

### **Enhanced In-Season Support for Peak Day Pricing**

**Sector:** Commercial

**Offering Type:** Service - Marketing Campaign for Pricing Products

**Description:** Enhanced In-Season Support is a marketing campaign that targets SMB customers on Peak Day Pricing (PG&E's non-residential Critical Peak Pricing program) to help increase awareness of and response to Peak Day Pricing Events. Enhanced In-Season Support utilizes email and text messaging to encourage customers' curtailment behavior during Events. Customers receive alerts a day-ahead that encourage a pre-commitment, a reminder day-of with tips to conserve and a post-event follow up message providing feedback on event day energy use.

**Additional Information:** More information on Enhanced In-Season Support for Peak Day Pricing is available via PG&E's Time-Varying Pricing Quarterly Updates and Peak Day Pricing Semi-Annual Reports

### **On-Bill Financing Alternative Pathway**

**Sector:** Small and medium business

**Offering Type:** Service – Financing

**Description:** The On-Bill Financing (OBF-AP) Alternative Pathway program is a variation of PG&E's existing On-Bill Financing (OBF) program that increases the potential for participating contractors to deliver energy savings. PG&E's existing OBF program offers non-residential customers 0% interest loans to finance the purchase and installation of energy efficiency measures when they also receive a rebate or incentive through PG&E's energy efficiency program. The OBF-AP provides a process for customers to secure an OBF loan without requiring participation in an EE rebate or incentive program, reducing risk for both the customer and contractor. In addition, OBF-AP will allow measures that do not currently receive a rebate or incentive to be financed, including EMTs in keeping with the goals of AB 793. OBF-AP is designed to leverage market actors such that contractors can develop energy savings interventions that align with businesses' and customers' needs.

**Additional Information:** Plans for the OBF-AP program are outlined in Advice 3697-G-A/4812-E-A.

### **Share My Data - Commercial**

**Sector:** Small and medium business, Commercial

**Offering Type:** Service – Energy Efficiency, Demand Response

**Description:** Share My Data Third Party connectivity is an existing service offered to all PG&E customers, allowing them to automatically share ongoing account, usage or billing data with an authorized business of their choice, or receive data themselves via an Application Programming Interface (API). This offering, the same as “Green Button Connect,” allows customers to share data with third parties.

**Additional Information:** Information on the Share My Data program can be found at [Advice Letter 4378-E-A dated 14 August 2014 and online at http://www.pge.com/sharemydata](http://www.pge.com/sharemydata).

### **Stream My Data - Commercial**

**Sector:** SMB

**Offering Type:** Service – Energy Efficiency, Demand Response

**Description:** A service offered to all PG&E SmartMeter™ customers that allows a ZigBee enabled Home Area Network (HAN) or gateway device to connect directly to the customer’s meter for real-time data access. This includes real time usage, price, billing information, and Peak Day Pricing event alerts.

**Additional Information:** Information on Stream My Data can be found at [www.pge.com/streammydata](http://www.pge.com/streammydata)

### **Bill Forecast Alert - SMB**

**Sector:** SMB

**Offering Type:** Software – Energy Efficiency

**Description:** Bill Forecast Alert for SMB customers is an easy-to-understand bill analysis tool that includes a forecast of a customer’s bill as early as seven days into the billing cycle, Bill Forecast Alert allows customers to understand their near real-time consumption in the familiar monthly bill context, making it easier to understand how they are using energy and how they can manage it.

**Additional Information:** Bill Forecast can be accessed via Your Account via [www.pge.com](http://www.pge.com).

**Projected Bill - SMB**

**Sector:** SMB

**Offering Type:** Software – Energy Efficiency

**Description:** Projected Bill is a self-serve online tool that estimates the customer's end of month bill. This provides predictability and helps customers plan and manage their monthly bill.

**Additional Information:** Projected Bill can be accessed via My Account via [www.pge.com](http://www.pge.com).



## **Attachment B**

### **PG&E's EMT Offerings in Development for 2017**

Attachment B provides information on proposed, new EMT offerings which are not part of PG&E's existing energy efficiency or demand response portfolios, but will be launched in 2017.

#### **Proposed Residential EMT Offerings for Launch in 2017**

- Automated Demand Response
- Nest Seasonal Savings Assessment
- Smart Thermostat Incentive
- Energy Engagement from School Education Programs
- Product Bundles and Residential Mobile App
- Smart Thermostat Direct Install

#### **Proposed Small and Medium Business Offerings for Launch in 2017**

- Circuit Level Load Monitoring
- Energy Management System (EMS) Pay for Performance
- Managed Energy Services (MES)

**Proposed Residential EMT Offerings for Launch in 2017**

<b>Automated Demand Response Program - Residential</b>	
<b>Short Description of Offering</b>	The Automated Demand Response (ADR) Program provides incentives and technical assistance for customers investing in EMTs including smart thermostats that also enable them to perform demand response (DR). It encourages customers to expand their energy management capabilities by participating in DR programs using automated electric controls and management strategies. Customers who sign up to participate in ADR will receive automated event signals from PG&E. These signals will be sought out by a technical solution on site that initiates pre-programmed DR strategies.
<b>Program Partners</b>	Vendors that provide ADR certified technologies. For a list of ADR certified technologies, please visit <a href="http://www.openadr.org">www.openadr.org</a>
<b>Market Sector</b>	Residential
<b>Primary Intervention Strategy</b>	Downstream incentive to customer
<b>Offering Category</b>	Deemed approach – Software and Hardware
<b>Implementation Timeline</b>	3 <sup>rd</sup> quarter of 2017 (PG&E does not have budget authorization for DR programs beyond December 31 <sup>st</sup> , 2017, pursuant to D.16-06-029)
<b>Product Delivery and Coordination</b>	Demand Response
<b>Proposed Incentive Level and Justification</b>	Deemed approach - \$ rebate based on the type of DR measure (calculated by using \$200/kW), up to 100% of the measure cost, and 100% upfront incentive.
<b>Product Qualification Requirements</b>	ADR project eligibility applies to equipment that can be controlled through a central Energy Management System, Home Automation System or other local control system that can receive an OpenADR 2.0 a or b event signal from the PG&E's Demand Response Automation Server. The system requires no human intervention to initiate the preprogrammed load reduction sequence during a DR event.
<b>Target Customers</b>	The ADR Program is open to all Residential Customers who: <ul style="list-style-type: none"> <li>• Receive electric services from PG&amp;E.</li> <li>• Either already enrolled in qualifying DR programs (DRAM or SSP/XSP) or eligible to enroll.</li> </ul>

<b>Automated Demand Response Program - Residential</b>	
<b>Product Goals and Objectives</b>	Automated DR Program main purpose is to transform the market by increasing adoption of DR Enabling Technologies, which would increase DR potential and activities in CA
<b>High Level Evaluation Plan</b>	The statewide Automated DR team will work with Demand Response Measurement and Evaluation Committee to determine if an Evaluation Plan is needed in 2017.
<b>Proposed Evaluation Metrics</b>	Number of applications receive, number of customers enrolled, and number of MW enrolled in the program
<b>Proposed Budget</b>	\$400,000 (from the existing 2017 residential ADR Program budget)

<b>Nest Seasonal Savings Assessment</b>	
<b>Short Description of Offering</b>	The Nest Seasonal Savings Assessment provides automated, software driven, HVAC controls to customers with Nest thermostats already installed in PG&E service territory. Customers are sent invitations via email, mobile app and thermostat interface. The software aims to provide incremental savings by delivering customer-specific, set-point altering algorithms to customers.
<b>Program Partners</b>	Nest
<b>Market Sector</b>	Residential
<b>Primary Intervention Strategy</b>	Midstream
<b>Offering Category</b>	Software, Service
<b>Implementation Timeline</b>	Kick-Off March 2017, Deploy June 2017
<b>Product Delivery and Coordination</b>	Energy Efficiency Emerging Technologies Project
<b>Proposed Incentive Level and Justification</b>	Service is free to end-use customers
<b>Target Customers</b>	Existing Nest residential customers in PG&E territory
<b>Product Goals and Objectives</b>	<ol style="list-style-type: none"> <li>1. Provide proof of concept for set-point altering algorithms.</li> <li>2. Evaluate if concept can be deployed territory wide.</li> </ol>
<b>High Level Evaluation Plan</b>	<p>PG&amp;E proposes to evaluate the Nest Seasonal Savings Plan Assessment using:</p> <ul style="list-style-type: none"> <li>• Randomized Encouragement Design</li> <li>• Savings determined through device level data and HVAC data and assumptions</li> <li>• Goal is to reach a treatment group of 30,000 (out of a population of 100,000)</li> <li>• Seasonal Savings will run for 2 seasons (summer and winter 2017), with deployment covering 8-12 weeks per season</li> <li>• Coordinating with MCE and SCG on evaluation, savings determination, and survey strategy</li> <li>• Overall M&amp;V strategy was developed by DNVGL and has been vetted with Commission staff ex-ante team.</li> <li>• Third party evaluator to be determined, considering DNVGL</li> </ul>
<b>Proposed Evaluation Metrics</b>	<ul style="list-style-type: none"> <li>• Opt-In rate, Opt-Out Rate</li> <li>• Estimated Savings Results</li> </ul>

<b>Nest Seasonal Savings Assessment</b>	
	<ul style="list-style-type: none"> <li>• Customer Satisfaction</li> </ul>
<b>Proposed Budget</b>	\$350,000 (Emerging Technologies)

<b>Smart Thermostat Incentive</b>	
<b>Short Description of Offering</b>	PG&E plans to provide a downstream smart thermostat incentive to residential customers. Customers can apply for rebate of qualified products online. The incentive will be available to all residential customers, but marketing efforts will target customers with the greatest opportunity to saving, namely those with large air conditioning load.
<b>Program Partners</b>	Vendors that qualify for participation include, but are not limited to: Nest, Ecobee
<b>Market Sector</b>	Residential
<b>Primary Intervention Strategy</b>	Downstream Incentive
<b>Offering Category</b>	Hardware
<b>Implementation Timeline</b>	Q2 2017
<b>Product Delivery and Coordination</b>	The smart thermostat incentive will be offered through the Residential Plug-Load and Appliances.
<b>Proposed Incentive Level and Justification</b>	PG&E will offer a \$50 rebate to offset the cost of purchasing a smart thermostat.
<b>Target Customers</b>	Residential customers with air conditioning
<b>Product Goals and Objectives</b>	Thermostat categorized as smart (enabled machine learning algorithm) and connected (with ability to communicate) with geo-fencing and occupancy sensing capabilities.
<b>High Level Evaluation Plan</b>	<p>The trial is set up as a true experiment with randomized encouragement design. Billing data of treatment group with 2,207 household with installed smart thermostat compared to control group (2,000 households). The billing analysis will look at the three thermostats individually and combined, across the three climate zones, over the course of one year. Where available from the manufacturers, thermostat-level data will also be analyzed to understand interaction and set-point factors. The study period runs from December 2015 to December 2017.</p> <p>PG&amp;E contributed results from its smart thermostat Pilot to the statewide workpaper. PG&amp;E will apply the statewide</p>

<b>Smart Thermostat Incentive</b>	
	smart thermostat workpaper to claim ex ante savings, as an approved workpaper exists at the time of drafting this AL and measure is cost-effective with current workpaper values.
<b>Proposed Evaluation Metrics</b>	<ul style="list-style-type: none"> <li>• Annual number of new connected devices</li> <li>• Effectiveness of device &amp; service options offered through the HAN Validated Device program</li> </ul>
<b>Proposed Budget</b>	Total Incentive Budget Estimate: \$500,000 (at \$50 incentive per unit)

<b>Energy Engagement from School Energy Education Programs</b>	
<b>Short Description of Offering</b>	Study the “spillover effect” that classroom energy education programs have on household energy-conservation behaviors including the acquisition, use and maintenance of energy management technologies.
<b>Program Partners</b>	TBD
<b>Market Sector</b>	Residential
<b>Offering Category</b>	Service
<b>Implementation Timeline</b>	Intend to launch study in advance of 2018 school year.
<b>Product Delivery and Coordination</b>	Energy Efficiency- Develop contract with study implementer to design evaluation and intervention strategy.
<b>High Level Evaluation Plan</b>	To be determined

<b>Product Bundles and Mobile App</b>	
<b>Short Description of Offering</b>	The majority of the energy benefits of connected products exist in their interaction with other products. PG&E seeks to test EMT bundles that use product interaction for efficiency and energy conservation behaviors. PG&E therefore proposes to deploy a field trial of a select set of EMT bundles, combined with a Residential Mobile App, to test targeted customer uptake and savings potential of the technologies deployed.
<b>Program Partners</b>	An RFP will determine program partners
<b>Market Sector</b>	Residential
<b>Primary Intervention Strategy</b>	Small scale field study
<b>Offering Category</b>	Software and Hardware
<b>Implementation Timeline</b>	Solicit RFP Q3 quarter of 2017
<b>Product Delivery and Coordination</b>	Energy Efficiency, Demand Response
<b>Product Goals and Objectives</b>	Apply various control strategies, in conjunction with a mobile app, to determine customer impact and use cases as well as technology enablement.
<b>High Level Evaluation Plan</b>	To be determined
<b>Proposed Budget</b>	\$300,000 (combined EE and DR ET Budget)



<b>Smart Thermostat Direct Install</b>	
<b>Short Description of Offering</b>	Direct installation of Smart Thermostats through the Moderate Income Direct Install (MIDI) programs. The smart thermostats are included as free add-ons when other products are installed.
<b>Program Partners</b>	Richard Heath and Associates, Nest, and Ecobee.
<b>Market Sector</b>	Residential-Middle Income
<b>Offering Category</b>	Hardware
<b>Implementation Timeline</b>	Q3 2017

**Small and Medium Business (SMB) Offerings for Launch in 2017**

PG&E's vision for its SMB AB 793 implementation is to help customers understand and manage their energy use with targeted offerings for a diverse SMB customer base. PG&E's proposed solutions will span a range of EMTs, from self-service tools to turnkey interventions to deliver the technology and technical advice required to deploy and realize the benefits of EMTs.

<b>Circuit Load Monitoring</b>	
<b>Short Description of Offering</b>	PG&E plans to study and determine the level of energy efficiency delivered by building management systems with circuit sub-metering. This technology helps customers understand how energy is being used in their building by equipment type including HVAC units, walk-in coolers, kitchen hoods and steam tables. Circuit load monitoring delivers a deeper level of understanding than current load disaggregation technology and continually optimizes operation of end uses.
<b>Market Sector</b>	Small Medium Business
<b>Offering Category</b>	Software, Product – Energy Efficiency
<b>Implementation Timeline</b>	Launch ET project in Q2 2017, conduct interim evaluation after the summer of 2017 and deliver final report in Q2 2018. PG&E will expedite a product launch to Q1 2018 if strong results are shown during the interim evaluation

<b>Energy Management System (EMS) Assessment</b>	
<b>Short Description of Offering</b>	PG&E plans to study and determine the level of energy and peak demand savings delivered by a building energy management system, specifically for the food service. This

<b>Energy Management System (EMS) Assessment</b>	
	technology utilizes data analytics to provide control, automated energy optimization and energy alerts for HVAC, refrigeration, and lighting systems.
<b>Market Sector</b>	Small Medium Business
<b>Offering Category</b>	Service, Software, Product – Energy Efficiency
<b>Implementation Timeline</b>	Launch project in Q2 2017. Final report to be delivered in Q1 2018.

<b>Managed Energy Services (MES)</b>	
<b>Short Description of Offering</b>	This scaled field placement will test the viability of an intervention model using targeted outreach, integrated building controls, continuous customer engagement after project completion and third party financing. The MES model lowers the upfront cost barrier to energy management, while minimizing the risk of the efficiency investment for the customer and program administrator. Projects will be financed through a third party who will incentivize contractors to ensure project performance.
<b>Market Sector</b>	Small Medium Business
<b>Offering Category</b>	Service, Software, Product – Demand Response
<b>Implementation Timeline</b>	The project will be launched in early 2017 to a limited group of customers. Program viability will be assessed based on the performance of the first customer cohort.

**Attachment C:**  
**PG&E's Local Market  
Facilitation Plan**

**2<sup>nd</sup> Supplemental Plan Filed**

**May 22, 2017**

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# **PG&E's AB793 Local Market Facilitation Plan**

## **I. PG&E's AB 793 Local Market Facilitation Plan**

The local market facilitation plan is intended to build upon the AB 793 Joint IOU marketing plan and provide information on the effort to market PG&E's specific AB 793 offerings, to move customers along in their energy management journey. PG&E's local plan focuses on targeting customers with the highest propensity to benefit from energy management technologies (EMTs) offerings using methods most likely to elicit customer responses.

### **A. AB 793 Objectives and Goals**

PG&E's AB 793 marketing plan, running from September 2016 to December 2018, addresses the overall challenge of low customer awareness and adoption of EMTs in residential and small and medium business customer segments. The plan is designed to educate and encourage the adoption of solutions with the highest impact on customers' energy usage and to prepare residential customers for transition to Time-of-Use (TOU) rates in 2019. Business customers already on TOU rates will be able leverage increasingly sophisticated solutions to save time and energy while reducing costs.

PG&E's marketing plan takes an integrated approach to help customers progress on their energy management journey by increasing their awareness and ultimately their adoption and use of EMTs. The marketing efforts will highlight the variety of solutions available, underscore the benefits of adoption and help guide customer behavior change in relation to changing rates. Campaign tracking will reflect specific EMT product goals where possible.

For greater effectiveness, the integrated marketing plan will leverage existing initiatives already underway in 2016 and beyond, coordinate across product portfolios, and align with state level initiatives.

### **B. Target Markets**

Both residential and SMB customers in PG&E's territory will be targeted, encouraged to participate in relevant demand side management programs and adopt recommended solutions.

EMT products are in their early stages of acceptance and have only recently started to be acquired by Early Adopters<sup>1</sup>, accounting for approximately 3.32 percent of the overall 13.5 percent of the market (see Figure 1), leaving a significant portion of the market untapped. Therefore, there is a large opportunity and the majority of PG&E’s customers that have yet to adopt EMTs. As the EMT category is still nascent, targeting future leaning customers is essential to gain ground in adoption. The potential is significant. For example, the US residential smart home market alone is expected to grow from 5.82 percent in 2016 to 18.62 percent by 2020<sup>2</sup>.

It is critical for new technologies such as EMTs, to be purchased by Early Adopters in order for the product adoption cycle to progress to Early Majority. The product adoption cycle progresses when more Early Adopters purchase and start to experience the product, offering opinion leadership to other segments.<sup>3</sup> This adopter category, more than any other, has the highest degree of opinion leadership in most systems. Potential adopters look to early adopters for advice and information about an innovation.<sup>4</sup> The sharing of the delight of their purchase becomes advocacy for the product and results in increased adoption by introducing it to other market segments. This is illustrated by the Early Adopters influence on the purchase potential of the Early Majority, which creates the first mass adoption of the product.

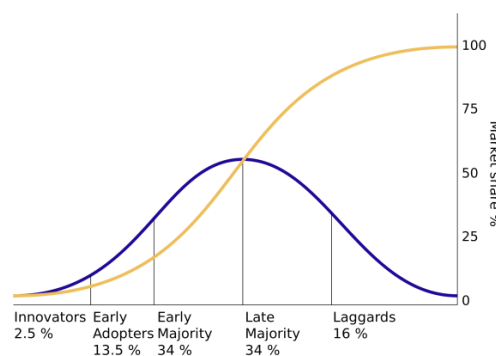


Figure 1. Rogers Diffusion of Innovation Model. [yellow line represents the innovation lifecycle for a technology; blue line represents the product adoption cycle by segment].

<sup>1</sup> Statista (2016) <https://www.statista.com/outlook/279/109/smart-home/united-states#>

<sup>2</sup> Statista (2016) <https://www.statista.com/outlook/279/109/smart-home/united-states#>

<sup>3,4</sup> Rogers, E. (1962) Diffusion of innovations. <https://commons.wikimedia.org/w/index.php?curid=18525407>

PG&E's marketing plan will target customers who have the greatest motivation to adopt EMTs, determined by their unique needs, along with an inherent early adopter mindset. This mindset is comprised of customers who are discerning and savvy with new technologies, enjoy being the first among their peers to try the latest and greatest technologies, and are motivated by the unique qualities of EMT solutions, such as increased convenience, comfort, efficiencies and personalization. This high opportunity target resides within each of the core overarching audiences of residential, low income<sup>5</sup> and small and medium business customers (see diagram below).

A low income customers' mindset is further influenced by sensitivity to cost.<sup>6</sup> These customers face adoption barriers such as lack of internet access or dated buildings and appliances that make managing energy use more challenging.<sup>7</sup> Low income customers will be offered ESA's Advanced Energy Education for income-qualified customers, and additional free or low cost EMT solutions if proven a fit for the low-income portfolio, in order to help better manage energy bills.

PG&E has spent considerable time researching customer segments to better understand the underlying motivations, beliefs and behaviors of customers. The research and subsequent segmentation is inclusive of demographics (such as geography, household income, home and household characteristics), behavioral and lifestyle choices (such as preferred recreational activities, media channel preferences and internet usage), and psychographics (such as attitudes toward technology and environment, or family values).

PG&E plans to use existing definitions of the low income segment to drive EMT education and adoption most-effectively with these customers. This is because PG&E can build upon programs, channels and communications in place today, which makes integration quicker, broader and more seamless.

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<sup>5</sup> Low income refers to customers on CARE and income qualified CARE eligible customers based on propensity modeling.

<sup>6</sup> Travis Research with PG&E (2017) CBO Rate Reform Training Study.

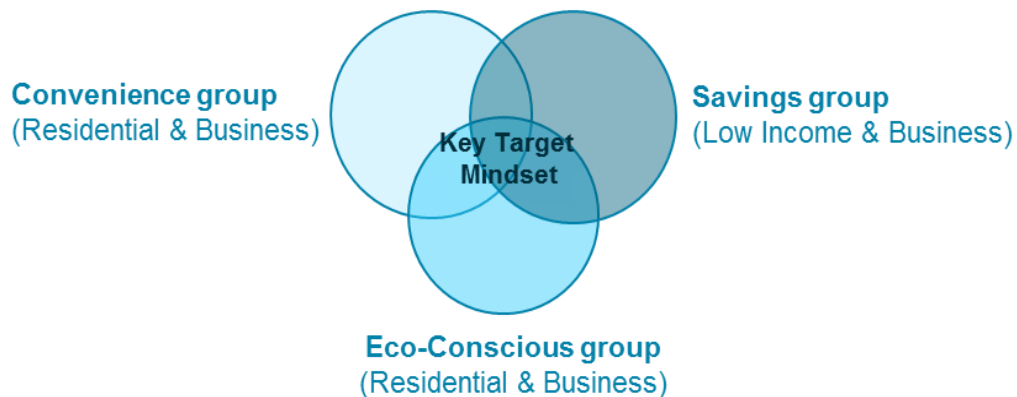
<sup>7</sup> California Energy Commission (2016) Senate Bill 350 Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities. [http://docketpublic.energy.ca.gov/PublicDocuments/16-OIR-02/TN214830\\_20161215T184655\\_SB\\_350\\_LowIncome\\_Barriers\\_Study\\_Part\\_A\\_Commission\\_Final\\_Report.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/16-OIR-02/TN214830_20161215T184655_SB_350_LowIncome_Barriers_Study_Part_A_Commission_Final_Report.pdf)



PG&E’s low income segmentation is based on identifying customers who are CARE enrolled,<sup>8</sup> or those who are identified as income qualified but not CARE or ESA participants. In order to determine the number of eligible Income qualified customers not on CARE and ESA, PG&E and the other California IOUs use a joint utility methodology.<sup>9</sup> Because all customers do not provide PG&E their household income and size, PG&E leverages 3<sup>rd</sup> party data and a propensity model to market to low income customers.

PG&E has also been working to define other groups of customers with unique communication requirements, in order to ensure support for those who most need it. Those groups include, but are not limited to: high usage customers, customers impacted by rate changes, customers living in rural areas, customers in high poverty areas, customers living in multi-family buildings, renters, customers with limited English proficiency or literacy, customers with disabilities, seniors, undocumented immigrants, and other vulnerable populations such as customers struggling with high bill payments and disconnections.

The highest opportunity segments are combined into three core groups: convenience, savings and eco-conscious. These core groups are described in further detail and illustrated in Figure 2 below:



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Figure 2. Opportunity for EMT adoption through the lens of customer groups. The highest

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<sup>8</sup> ,89.5 percent CARE penetration. (2017) Community Outreach Contractor Training Report

<sup>9</sup> Methodology adopted by the CPUC in D.01-03-028

opportunity lies in the Key Target Mindset, which all groups have in common.

**Convenience group** – *Customers are motivated by high quality solutions that create greater convenience in their lives.*

- Residential - Seek products that add simplicity and efficiency to their lives. For example, customers expect novel solutions in real time that they can access through their preferred devices such as mobile phones or tablets.
- Business - Seek automation and easy to implement products and services, yet have a low existing engagement with energy management. Seek solutions that feature simplicity. Convenience means different things to different SMBs: some businesses seek third party solutions, while others look for self-serve data to work with their existing energy controls systems.

**Savings group** – *Customers are motivated by solutions that create financial savings.*

- Low Income- Any incremental dollar savings are extremely important.
- Business - See energy management as part of reaching business goals, tech savvy, focused on value. Seek to improve existing resources/systems.

**Eco-Conscious group** – *Customers seek innovative and green-minded solutions.*

- Residential – Open to participating in energy management when it has a positive impact on reducing their emissions and carbon footprint.
- Business - Early adopters of more sophisticated solutions such as energy storage and may also seek brands known for their clean/sustainable energy management.

EMTs will be marketed to specific audiences within each of these segments appealing to their specific needs and desires. For example, PG&E successfully implemented this approach for business customers impacted by higher bills during the TOU transition. Impacted customers were encouraged to create an online account and complete an online energy audit using the Business Energy Checkup tool , which provides a gateway towards energy engagement. For low income, customers enrolled in

CARE were Bill Forecast Alerts can help a customer further manage their energy costs through proactive predictions of higher than normal bills.

### C. Positioning

The positioning for residential and SMB customers will focus on communicating the benefits of EMTs, and illustrate how the recommended components of Integrated Demand Side Management offerings will work together to offer greater personalization, ease of use and customer control. As described by some vendors in the AB 793 workshop<sup>10</sup>, energy management is often times a secondary motivation for purchasing EMTs, therefore messaging around the overall benefits would be more appealing than energy savings singularly.

PG&E’s positioning and outreach messaging is under development and will continue to be refined in preparation for launch. The current positioning that will help inform message development is further illustrated below in Figure 3:

Proposed Positioning		
Residential - General	Residential – Low Income	Small and Medium Business
Energy management technologies provide an intuitive way for technologically savvy customers to create greater personalization and control of energy in their home by predicting, alerting and acting on varying demands and needs.	Energy management technologies provide greater control over their energy usage and bills. Additionally, Customers will be educated on EMTs	Energy management technologies provide simple, automated ways for time-constrained, price-sensitive businesses to optimize energy usage for their unique operational needs.

Figure 3. Proposed positioning for outreach messaging to residential and business customers.

### D. Strategies

PG&E acknowledges that each customer, whether residential, low income or small or medium business; will be in their own unique step in the energy management

<sup>10</sup> CPUC AB793 Workshop on June 24, 2016

journey. To best meet customers' where they are along the journey, PG&E's tailored strategies will guide them from one step to the next, helping customers learn and apply the tools and practices that bring better efficiency and energy management into their homes or businesses. PG&E will leverage customer and market research to address barriers and offer solutions that best meet a customer's needs and wants.

Marketing strategies will align with a step in the customer journey process (Figure 4).

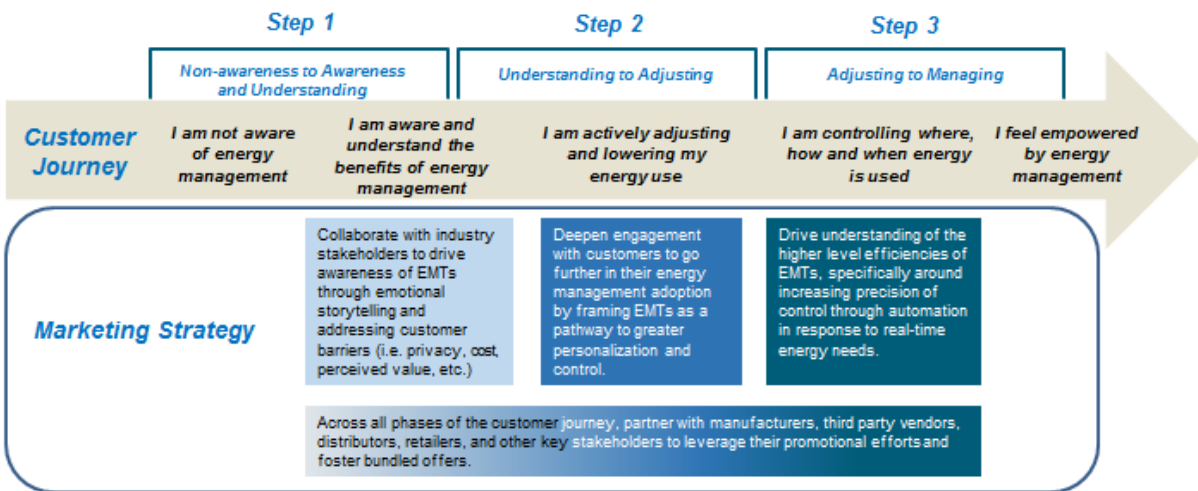


Figure 4. Illustration of customer journey from non-awareness to feeling empowered by energy management.

Specifically for low income customers, PG&E plans to offer solutions that fit their particular needs and circumstances to help them have greater control over their energy usage and bills. PG&E will offer preventative solutions to help these customers avoid potential disconnection, aid them in setting up a payment plan, and empower them to better manage their energy bills. For disconnected customers, who are in a more critical state, PG&E's strategy is to be sensitive to and solve their immediate need first, such as a bill payment, and then subsequently offer EMT solutions where relevant.

### Step 1 - Non-awareness to Awareness and Understanding

Some customers may begin with no awareness of EMTs. According to recent research of PG&E customers, approximately 30-60 percent of customers are

unaware<sup>11</sup> of various available EMT solutions. To move customers into a state of awareness and understanding, PG&E creates and leverages partnerships with industry stakeholders to build awareness and address key barriers that are holding back customers from adoption.

Vendor feedback and market research indicate<sup>12</sup> that residential and SMB customers' interest in "smart" or "connected" technologies revolves around convenience, comfort, and safety<sup>13</sup> – yet most customers remain largely unaware of the energy management potential of these technologies. Several key barriers have been identified that contribute to low mass-market adoption in this space, including<sup>14</sup>:

- Price and maintenance costs (waiting for rebate or sale)
- Confusion around interoperability
- Knowing what to buy and from whom
- Concerns about security and privacy
- Frustrations with installation, connectivity and interoperability
- Market volatility and fear of obsolescence (waiting for a better-reviewed version to come out)
- Waiting for current device to break
- Uncertainty around potential energy savings

One option in addressing barriers for different customer segments is bundling solutions that are natural complements to one another. This strategy will be addressed in the future EMT offerings, pending the various solutions that are currently in development. Low customer awareness will be addressed in coordination with partner efforts through emotional storytelling with an emphasis on real-life examples that help customers visualize what adoption might look like for them.

For low income customers, cost is a fundamental barrier to adoption of EMTs. PG&E plans to address this particular barrier by including relevant EMTs in existing

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<sup>11</sup> See Change Institute (July 2016) HEMS Phase II Research.

<sup>12</sup> Business Insider (June 2016) <http://www.businessinsider.com/most-people-have-no-idea-where-to-buy-smart-home-products-2016-6>

Cnet (March 2016) <http://www.cnet.com/news/smart-home-buying-guide-home-automation/>

<sup>13</sup> Engadget (May 2016) <https://www.engadget.com/2016/05/25/what-does-the-smart-home-industry-promises-us-in-the-future/>

<sup>14</sup> See Change Institute (February 2017) Energy Management Technology Exploratory Research.

direct install programs such as Energy Savings Assistance Program (ESA) and Energy Fitness, which provides EMTs for customers who may not qualify for ESA. The benefit of these programs is that they not only provide low income customers with EMT solutions, like Tier 2 Advanced Power Strips, but they also educate them on energy management to help them reduce bills and save time with self-service online tools. For example: Customers who participate in the ESA program are provided with Energy Education on programs and services offered by PG&E and energy savings tips.

### Step 2 - Understanding to Adjusting

After awareness and understanding has been established for EMTs, the customer progresses to a step of actively adjusting their energy use. In this step, PG&E will demonstrate the primary benefits of EMTs to customers such as:

- Customer control
- Personalization of solutions
- Ease of use
- Connection with rate management

In addition for low income customers, the benefit of the EMTs offered through the direct install programs and others, will be focused on learning how to better adjust their energy usage in order to have greater control over their energy bills. Using real life customer energy use scenarios, marketing highlights the value that EMTs offer in relation to customizing solutions for households and businesses' with different needs.

### Step 3 - Adjusting to Managing

The next step goes beyond solutions and integrates higher levels of energy management by introducing automation for greater customization, control and a tie-in to the response to TOU pricing. This step will be targeted at Convenience, Savings and Eco-conscious segments who are ready to make this next step given the solutions they have already adopted. Some strategies are beneficial through multiple steps of the journey and will be implemented throughout the entire process. These include:

- Partnering with manufacturers, third party vendors, contractors, distributors, retailers and other stakeholders to leverage their promotional efforts and to create bundled offerings;
- Collaborating with other lines of PG&E business, such as field services and local offices to leverage their communications to cross-promote efficiency programs. Integration of these efforts is particularly helpful to low income customers who are more likely to pay their bills in person at local field offices.
- Promoting incentives in existing and new channels;
- Leveraging partnership networks, for example Synergy for direct install programs.

Various solutions will be offered at different steps of the customer journey to help households and businesses best learn and self-select. See Customer Journey Maps in Section 9 for more details on the solutions offered along the customer journey for residential, low income and small and medium businesses.

## **E. Tactical Approach**

The key tactics outlined below represent how PG&E intends to help move customers through the steps of the customer journey outlined above. The overall objective of these tactics is to deliver a clear and consistent message across various channels year over year.

PG&E will continue to integrate complementary energy management messaging in a multi-channel multi-touch campaign across channels including: online, search, direct mail, email, in-store, web, and digital collateral. PG&E rebates and product incentives are highlighted through co-marketing and local promotional efforts. Below are some examples of tactics.

### **Step 1: From Non-Awareness to Awareness and Understanding**

A combination of tactics may be used to move customers to awareness and understanding:

- Digital media

Digital media includes paid media, search engine marketing, social media, streaming radio, and owned media such as pge.com. These work hand in hand, to drive customers to various educational pages and rebates, such as PG&E's Marketplace. For example, when customers are coming to the pay their bill or look up other energy related information, ad pods on pge.com will communicate the value of EMTs and drive the customers to other pages where they can learn more or apply for specific rebates. Social media advertising targets customers who are already exploring energy management options, intercepting and engaging them by linking directly to different PG&E offers.

- Residential Home Energy Reports

PG&E provides bi-monthly reports to targeted high energy usage customers to inform them of their energy usage in comparison to their neighbors. These reports include marketing modules and energy efficiency tips targeted to general market and low income customers for solutions relevant to them.

- Content marketing

Content marketing will include compelling content that effectively communicates the value proposition of EMTs and piques customers' interest through high quality, relevant content such as editorials, articles, or rich media. As customers research EMT solutions, PG&E will use content to highlight success stories from other customers' experiences. Content marketing will include links directly to PG&E's marketplace for customers to learn more and apply for rebates, as well as links to demand response offers and third party energy management applications (such as Share My Data through the Green Button standard). Further, customer reviews and endorsements are part of a combination of influence strategies<sup>15</sup> that actively persuade customers to adopt EMTs.

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<sup>15</sup> Joseph Grenny (2013) Influencer



- Channel Support

PG&E will continue to leverage integrated product portfolio marketing efforts and cross-promotions across owned assets such as pge.com, call centers, local offices, and customer relationship managers, in order to create better recommendations for customers. PG&E plans to enhance and expand its call center support by equipping customer service representatives with the ability to follow up customer calls with tailored emails that offer customers relevant EMTs to their situation. For example, a customer service representative speaking with a CARE customer who is having trouble with high bills can offer them a Bill Forecast Alert which will help them plan for their next upcoming bill and/or reduce usage when they receive the forecast alert.

Additional tactics used to move low income customers from non-awareness to awareness and understanding (Step 1):

- Partner with Community-Based Organizations (CBOs)

PG&E's Community engagement team partners with over 70 community-based organizations to educate low income and disadvantaged customers on becoming better energy managers and providing resources, tools and tips for customers to make the right decisions for their household.

- Energy Education (Included as a part of ESA)

Low income customers qualified and participating in ESA are provided with Energy Education on programs and services offered by PG&E, and energy savings tips.

## **Step 2: From Understanding to Adjusting Energy Usage Behavior**

This step utilizes the same tactics listed above, but goes a step further to tailor solutions for specific customers. For example, after PG&E has identified certain customer attributes, like someone who purchases a smart thermostat, targeted emails in conjunction with digital ads would then promote an appropriate next-best product, service or software. This higher level of relevancy and personalization will help guide customers onto the next step of the energy management journey. PG&E is facilitating

moving a customer through the journey using automated marketing tools that offer up the next solution a customer can take next in their journey.

### **Step 3: From Adjusting to Managing Energy Usage**

To help move customers from adjusting to managing energy use, a combination of tactics may be used, such as:

- *Direct to customer outreach—email and direct mail*  
Building on the achievements of past efforts, PG&E plans to continue using direct to customer channels such as email and direct mail, which have proven to be very effective for both general and hard to reach audiences.
- *PG&E Marketplace<sup>16</sup> in combination with digital and search retargeting*  
PG&E's online resource for customers to browse, research and apply for rebates for recommended EMTs. PG&E Marketplace is a convenient and quick way for customers to access and apply for rebated products. Digital retargeting drives customers who have already visited the website through digital outreach as they enter the final steps of the customer journey back to the Marketplace.
- *Point of sale merchandising*  
PG&E's in-store displays provide an easy way for customers to understand the choices and features of different products. PG&E has found that leveraging retail partnerships with businesses such as Home Depot is an effective way to educate customers.
- *Customer support*  
PG&E's call center, products and services teams, and customer relationship managers are on hand to answer customer questions, as well as help customers understand which EMTs would most benefit them. Additionally, low income customers are offered custom support and solutions depending upon their

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<sup>16</sup> PG&E (2016) PG&E Marketplace <https://marketplace.pge.com/>

primary needs such as CARE, medical baseline or payment plans.<sup>17</sup>

Additionally, customers can access many self-serve solutions on their mobile device or online.

## **F. Local Partnerships**

In moving customers from a state of non-awareness to understanding their energy usage, PG&E will help customers discover solutions through local contractors, installers, distributors, retailers and other partnerships. In addition, PG&E will coordinate with other program administrators where applicable including, the Bay Area Regional Energy Network (BayREN) and Marin Clean Energy (MCE), to explore opportunities to use existing BayREN and MCE residential and/or SMB programs as channels to deploy EMTs.

PG&E will continue to explore and build marketing partnerships that leverage product/supply-side partners. An example of this type of coordination can be found in the multifamily space, where PG&E is currently working with BayREN to offer up the CSI-Solar Thermal rebate program through the BayREN's multifamily energy efficiency program. In driving customers from adjusting their behavior to actively managing their energy usage, PG&E will support and expand its partnerships with local governments, schools and industry leaders.

PG&E will work to deepen the customer's relationship with EMTs and lead them to adjust their energy usage through partnerships with third parties to create more opportunities to intercept and demonstrate the benefits of EMTs. For example, PG&E's Share My Data platform offers customers' choices of third party applications to manage their real-time energy usage. Partnerships with other trusted brands will be leveraged as well, such as co-branding with Nest, to provide customers with co-branded communications from offering customers ways to reduce peak usage to saving energy seasonally.

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<sup>17</sup> Attachment D includes a column for indication of which offerings will be targeted as low income solutions.

Lastly, in order to address price point barriers, PG&E is exploring a variety of ways to help customers finance their EMTs, such as on bill financing. From partnerships with large companies such as Johnson Controls and Siemens to smaller companies such as Gridium and First Fuel, PG&E will continue to market solutions such as self-serve energy audits and data sharing, empowering customers in a landscape of changing rates.

## **G. Budget**

PG&E plans to fund the AB 793 local ME&O activities for residential and SMB customers using authorized funding established for Energy Efficiency (D.14-10-046), Demand Response (D.16-06-029<sup>18</sup>) and Low Income (D.16-11-022). Specific marketing budgets for new EMTs and those under consideration will be determined during the marketing planning phases of the go-to-market process and funding will be allocated from Energy Efficiency, Demand Response or other authorized funding source. The marketing budget is determined by defining the tactical spend necessary to meet marketing objectives and product goals. For some EMTs, this budget determination is already underway, and other marketing spend will be determined as each EMT solution is more clearly defined. PG&E will evaluate and optimize outreach efforts and allocated budget levels based on the offerings available each year recognizing that the portfolio may grow between now and the end of 2018.

## **H. Timeline**

PG&E plans to steadily increase residential, low income and SMB customers' ability to become familiar with their energy usage, increase their decision-making as rates change, and ultimately take advantage of an increasingly custom set of solutions both from PG&E itself and from third-party providers. PG&E plans to utilize the strategies outlined in the AB793 marketing plan for activities from October 2016 through December 2018 according to the timelines provided in attachment E to this advice letter.

As EMT penetration increases, PG&E will seek to bundle offers where logical, to help counter residential and SMB customers' concerns with connectivity,

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<sup>18</sup> Decision 16-06-029 – Adopting Bridge Funding for 2017 Demand Response Programs and Activities. 2018 funding pending.

interoperability, and other barriers described above. For example, both from a product standpoint and a marketing standpoint, PG&E will connect smart products and rates with enabling hardware and software such as HVAC controls, advance power strips and switches, appliances, circuit level monitoring, energy management displays and portals. For low income customers, PG&E may offer a bundle such as a direct install program in addition to signing up for Bill Forecast Alert. Bundles are still in development and are set to be offered in 2018. Below is an overview of products and potential bundles that will be marketed through this plan. Further details on product offerings are available in Attachments A and B.

Product Phase	2016 and Beyond	2017	2018
Time Period	09/2016 to 12/2016	01/2017 to 12/2017	01/2018 to 12/2018
Objective	Increase customers' awareness and understanding of their energy usage	Continue to raise awareness and enable customers to adjust their energy usage in an environment of changing rates	Drive customers to actively manage their energy usage by leveraging a wider EMT ecosystem and its higher level benefits
Customer Engagement	<ul style="list-style-type: none"> <li>▪ Provide customers with bill alerts and self-serve data</li> <li>▪ Offer customers the most beneficial products for their particular needs</li> <li>▪ Incentivize customers to participate in easy ways to understand their energy usage and make simple decisions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide customers access to a variety of software solutions and devices</li> <li>▪ Next level connected home or business, increasing their decision making</li> <li>▪ Incentivize customers to either bring their own devices or invest in more complex systems</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide customers with energy management platforms and portals including load monitoring</li> <li>▪ Support customers in leveraging advanced metering, connectivity, and energy disaggregation</li> <li>▪ Incentivize customers to leverage utility approved third party solutions on a wide scale</li> </ul>
Residential Offerings	<ul style="list-style-type: none"> <li>▪ Advanced Power Strips</li> <li>▪ Bill Forecast Alert*</li> <li>▪ Energy Fitness*</li> <li>▪ Home Energy Checkup*</li> <li>▪ SmartAC™*</li> <li>▪ Share My Data*</li> <li>▪ Stream My Data</li> </ul>	<ul style="list-style-type: none"> <li>▪ Automated Demand Response</li> <li>▪ Nest Seasonal Savings Assessment</li> <li>▪ Smart Thermostat Incentive</li> <li>▪ Time-of-Use Management App</li> <li>▪ Connected Savings Smart Thermostat</li> </ul>	<ul style="list-style-type: none"> <li>▪ Energy Engagement from School Energy Education Programs*</li> <li>▪ Product Bundles and Residential Mobile Application</li> <li>▪ Smart Appliance Incentives focused on Smart Water Heater Controller</li> </ul>

		<ul style="list-style-type: none"> <li>Assessment</li> <li>Smart Thermostat direct install</li> </ul>	
Small and Medium Business Offerings	<ul style="list-style-type: none"> <li>Automated Demand Response</li> <li>Business Energy Checkup</li> <li>Energy Management Systems Assessment</li> <li>Enhanced In-Season Support for Peak Day Pricing</li> <li>On-Bill Financing</li> <li>Share My Data</li> <li>Stream My Data</li> </ul>	<ul style="list-style-type: none"> <li>Bill Forecast Alert</li> </ul>	<ul style="list-style-type: none"> <li>Circuit Level Load Monitoring</li> <li>Energy Management System Pay for Performance</li> <li>Managed Energy Services</li> <li>On-Bill Financing</li> </ul>
Potential Product Bundles <sup>19</sup>	<p><b>Residential</b></p> <ul style="list-style-type: none"> <li>SmartAC™ + SmartRate*</li> </ul> <p><b>Low Income</b></p> <ul style="list-style-type: none"> <li>Weatherization + Share My Data*</li> </ul> <p><b>SMB</b></p> <ul style="list-style-type: none"> <li>Automated Demand Response + Peak Day Pricing Enhanced In-Season Support</li> </ul>	<ul style="list-style-type: none"> <li>Potential Residential bundle Customer Driven Weatherization + Nest Seasonal Savings Assessment</li> <li>Potential Low Income bundle</li> </ul> <p>Direct Install for Weatherization + Bill Forecast Alert*</p> <ul style="list-style-type: none"> <li>Potential SMB bundle</li> <li>Connected Savings SmartThermostat + Time of Use Management App</li> </ul>	<ul style="list-style-type: none"> <li>Potential Residential bundle Web Based Mobile App + Automated Demand Response</li> <li>Potential Low Income bundle</li> </ul> <p>Product Bundle + Mobile App*</p> <ul style="list-style-type: none"> <li>Potential SMB bundle</li> </ul>

Figure 5. Table of marketing activity in line with Products roadmap.

\*Solutions applicable to low income customers.

## I. Metrics & Key Performance Indicators (KPIs)

PG&E will evaluate the marketing of each EMT solution offered throughout the customer journey by utilizing key marketing metrics to evaluate progress against goals and year-over-year results. Correspondingly, KPIs at the tactical level are set to enable optimizations to the marketing mix during and post-campaign. PG&E defines a metric as a numeric value used to assess performance of goals, while KPIs are a directional, tactical measure against that goal.

<sup>19</sup> Potential bundle listed are examples and may change due to timing feasibility and availability of product offerings.

To demonstrate the metrics and associated KPIs for the AB793 products, PG&E has provided matrices in Attachment D for residential and low income customers and for small and medium business customers. Both of the matrices are organized based on when the product is expected to be offered within in each of the three steps of the customer journey.

Each matrix includes the following information for each of the AB793 products:

- Product name, the energy management technology category, a brief description of the product, product objectives and product goals.
- The marketing objectives and marketing goals which are aligned with and work towards achieving the programs goals and objectives.
- The marketing success criteria based on the goal for that product. The success criteria are based on both utility industry benchmarks and internal historical benchmarks.
- The top marketing tactics and the associated KPIs for those tactics. Tactics have unique KPIs depending on the objective and function of that particular channel. For example, PG&E uses open and click-through rates (CTR) to determine the effectiveness of emails and cost per click metrics for search engine marketing (SEM).

To illustrate, the Home Energy Check-Up (HEC) marketing metrics and KPIs are developed after the product team defines their qualitative objectives and quantitative goals. In this case, the HEC product objective is two-fold: help customers understand their energy usage in an effort to motivate them to take action and provide energy efficiency tips for households so they can understand actions that will help them manage their energy use. The product goal is then developed based on this objective, taking into account industry and historic PG&E benchmarks. For HEC, the product goal is to complete 50,000 check-ups in 2016. With these product goals and objectives, marketing develops the corresponding qualitative objectives and quantitative goals. HEC's marketing objectives are to build awareness and increase participation, while the marketing goals are consistent with supporting the completion of 50,000 check-ups.

Importantly, marketing establishes success criteria for tracking and measuring success to goal. In the case of HEC, the success criteria are: the number of completed check-ups, the customer satisfaction survey results, and the post-campaign analytics which will allow marketing to determine the best performing tactics. To meet the marketing objectives, which in the case of HEC is building awareness and increasing participation, specific tactics are selected and their associated KPIs. For HEC, the leading tactics are television advertising, digital outreach and email communications and the KPIs are: impressions served (for television), landing page visits (for digital outreach) and click-through and open rates (for email). Since the HEC campaign is in market year-round, the KPIs and the success metrics are assessed monthly and budgets and tactics are optimized to ensure efficient and effective marketing. This process applies to each of the EMTs, and is detailed in the accompanying residential metrics matrix in Attachment D.

**J. Success Criteria and Measurement**

The overall approach to measuring effectiveness of PG&E’s marketing plan includes measuring the general impact on awareness of EMTs, the successful adoption of specific solutions, as well as impact of specific marketing channels and tactics. These metrics will be instrumental in evaluating PG&E’s yearly progress against the marketing plan, and inform the design of subsequent objectives.

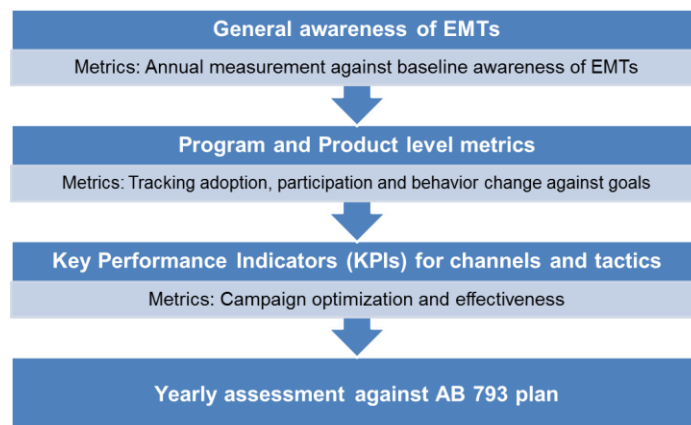


Figure 6. Illustration of marketing metrics.



PG&E evaluates strategies and tactics, and then optimizes based on lessons learned in real time so that subsequent campaigns benefit from the lessons learned analysis. Rather than relying only on a year-end evaluation period, or one annual report on effectiveness, this approach encourages a more nimble turnaround on campaign evaluation for each program and much more rapid tactical adjustment to optimize results. Campaigns are also assessed on a holistic level to understand the effectiveness of multi-touch (frequency) and multi-channel (reach) marketing along the customer journey. This enables PG&E to efficiently adjust budgets towards best performing channels and tactics. Tracking campaign results against the program goals further determines the overall effectiveness of campaigns.

To measure general customer awareness of EMTs, PG&E conducted a survey in Q4 2016 to determine the baseline of initial awareness of EMTs and the familiarity of specific EMT solutions. This baseline is being used to evaluate the change in the customers' level of awareness and education of EMT solutions on a yearly basis.

PG&E conducted further market research in 2016 to better understand the customer decision making process at different steps of the EMT customer journey, identify opportunities to influence EMT adoption, and to investigate the appeal of potential solution bundles. This involved both quantitative and qualitative research in order to gather rich insights informing the 2017 and 2018 marketing strategies and tactics.

#### **K. Marketing Planning Approach for Products Currently in Development**

As new EMT solutions are developed, including those that align with AB793, PG&E will incorporate them into the ongoing marketing efforts. The following timeline (Figure 7) visually depicts the marketing planning process. The purpose of this timeline is to illustrate an approximate length of time for how long each step would take.

Development Timeline													In Market & Optimize	Post campaign analytics
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12			
Cont'd Product Dev														
Market Research (new products)														
			Targeting											
			Strategic Planning & Metrics Development											
						Tactical Planning								
						Creative Development								

Figure 7. General go-to-market timeline for a new solution.

To provide more insight into the marketing planning approach, PG&E has included additional details below into each stage of the marketing planning process:

### Market Research

With any new solution going to market, market research is a vital first step. Depending on the objective of the research and the timing permitted, appropriate qualitative and quantitative methodologies are explored to uncover insights to refine the target market, inform the marketing strategies, and identify appropriate and effective tactics. This level of research may not be necessary if secondary research exists to fill in the gaps or for extension of existing products where the information is already known. Baseline awareness studies are also conducted at this point prior to the launch of a new campaign to understand lift in awareness or change in perception that the campaign may create over time. Depending on the scope of the research, this can take about one to two months.

### Targeting

Once the market research is complete, PG&E uses insights to inform targeting to reach the right customers. Targeting takes into account product requirements, such as geography, customer behavior data such as personas or business cohorts, mindsets, and third-party data such as rent versus own.

### Strategic Planning

The strategic planning stage then looks to understand the best methods for reaching the target and when it is ideal to reach them. Opportunities to integrate with other marketing efforts are explored to create greater efficiencies and make it easier for

the customer to understand the relationship between various offerings. Metrics are established by aligning marketing goals with product related goals. Strategic planning timing can vary depending on the complexity of the product that is being launched.

### Tactical Planning

The tactical planning process utilizes the information in the strategic plan to align the target with marketing tactics that are most relevant to the audience and have the greatest level of reach. KPI's are created to evaluate the success of proposed tactics and optimized accordingly. Again, timing is dependent on the complexity of the new offering.

### Creative Development

Once the marketing plan has been approved, the creative development process is kicked off with the creation of the creative brief. The brief is a tool used to discuss the objectives of the creative with our agencies and as guide posts for evaluating concepts before launch to ensure delivery on the intended messaging.

### Go- to- Market

Once a campaign goes into market the duration of the campaign can vary depending on the budget, goals, product sales cycles and seasonality. Campaigns are optimized in market as performance data is analyzed, based upon channels, tactics and messaging.

### Analysis

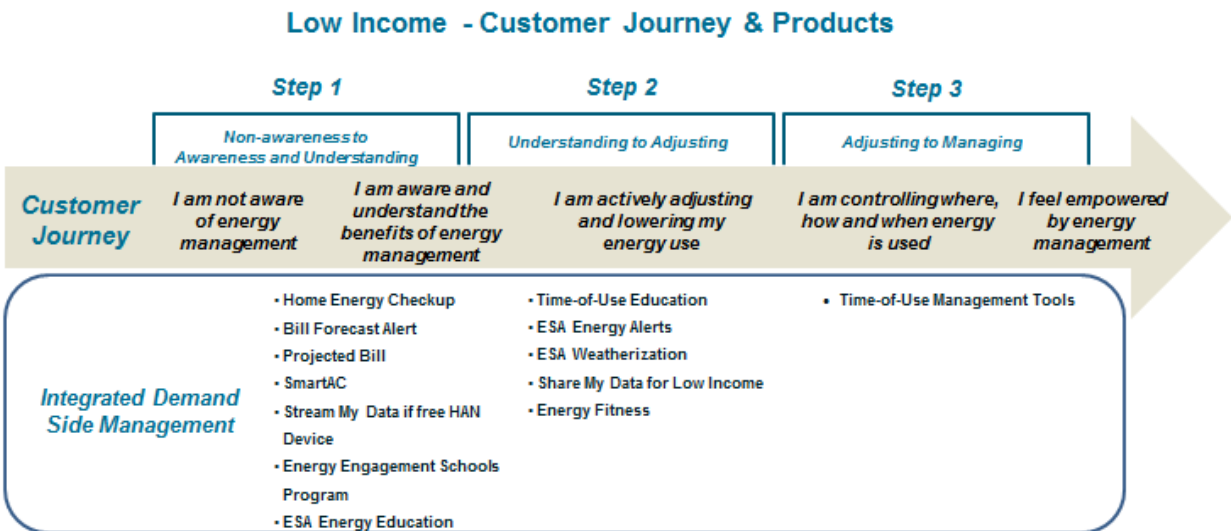
PG&E measures the success of marketing efforts based both on the campaign analytics and overall effectiveness. Once the campaign has concluded, PG&E evaluates strategies and tactics, and then optimizes based on lessons learned in real time so that subsequent campaigns can be designed more effectively. Rather than relying on a year-end evaluation period, or one annual report on effectiveness, this approach encourages a more nimble turnaround on campaign evaluation for each program and much more rapid tactical adjustment to optimize results. PG&E utilizes and

tracks the marketing efforts against the year-end results to determine the overall effectiveness of campaigns. The success of each campaign itself is also evaluated against the marketing goals, for example percent increase in enrollments for a particular solution versus the previous year’s result, or versus pilot results. PG&E then optimizes campaigns for greatest level of performance and adjusts spending to align with campaign effectiveness.

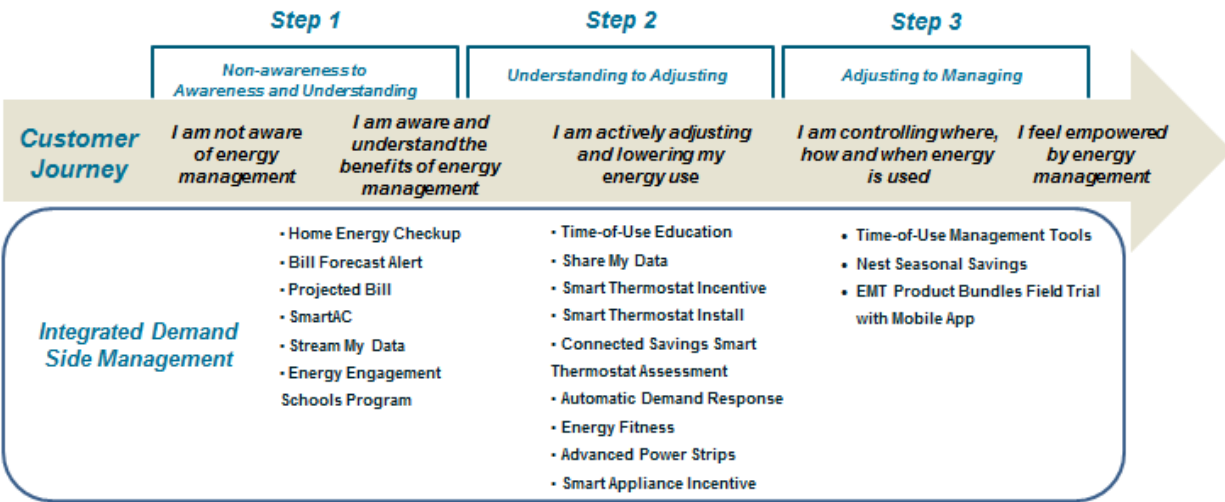
## L. Customer Energy Management Journey Maps

With the customer energy management journey as a central focus, PG&E has identified specific solutions that will be beneficial to the customer at certain milestones. The following (Figure 8) is an illustration of integrating AB 793 compliant offers with other PG&E offers that support the customers in an environment of changing rates.

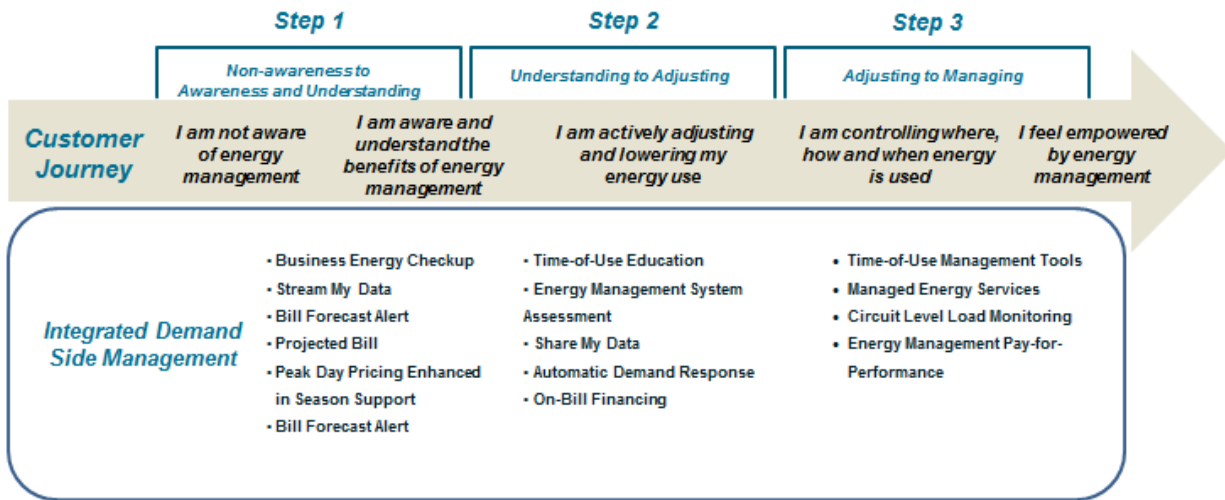
Figure 8. Customer Energy Management Journey Maps



## Residential - Customer Journey & Products



## Small and Medium Business - Customer Journey & Products



**Attachment D**  
**PG&E's Product Offer Matrix & Timeline**

## AB793 - Residential Matrix\*

Regulatory Timing Commitment	Potential Low Income Offer	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
Step 1 in Residential Customer Journey: Non-Awareness to Awareness and Understanding												
Current	Yes	<b>Home Energy Check-Up</b>	•Software, service	•A 5 minute online questionnaire. Based on responses, customers receive a custom energy assessment including how much energy they use, where they use it and tips for how to use less and lower their bill.	•Help customers understand their energy usage • Provide energy efficiently tips for households	•60,000 completed check-ups	•Build awareness •Increase participation	•60,000 completed check-ups	•Number of check-ups completed •Customer satisfaction survey results •Post-campaign analytics to find best performing tactics	•Search engine marketing •Digital •Email	•Impressions served •Landing page visits • Click through and open rates	•Year Round
Current	Yes	<b>Bill Forecast Alert</b>	•Software, service	•Notifications estimating bill impact to help customers predict and manage their monthly energy consumption	•Create 'no-surprises' billing experience •Give customers free tools to support proactive management of their energy usage and bills.	•Numeric goal TBD •Customers set bill targets to get alert when forecasted to exceed set target. •Promotes proactive management of energy bills	•Build awareness •Increase participation	•TBD new enrollments	•Measure increase in use of energy alerts v. previous year •Post-campaign analytics to find best performing tactics	•Direct Mail •Web •Email	• Vanity URLs •Landing page visits • Click through and open rates	•Year Round
Current	Yes	<b>Projected Bill</b>	•Software, service	•Online self-serve estimate of end of month bill to provide predictability and help customers plan how to manage their bill	•Create 'no-surprises' billing experience	•Numeric goal TBD •Forecast customers' end-of-period bills to support proactive management of their energy bills	•Build awareness •Increase participation	•Numeric goal TBD • Inclusion in overall customer engagement communications	•Measure increase in use of bill forecasts v. previous year •Post-campaign analytics to find best performing tactics	•Direct Mail •Web •Email	• Vanity URLs •Landing page visits • Click through and open rates	•Year Round

Regulatory Timing Commitment	Potential Low Income Offer	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
Current	Potentially if third party could subsidize the cost of \$100 device	<b>Stream My Data</b>	•Service	•Platform to connect real time customer data with third party devices to help customers understand when and how they are using energy.	•Provide customers with real-time visibility into their energy usage data, empowering them to make better energy efficiency and cost-saving decisions.	Numerical Goal: 25% Increase number of active devices, thus decreased overall energy consumption among participants, and decreased DR load impacts or on-peak load reductions among participants	•Build awareness •Increase participation	•Numeric goal TBD	•Number of leads •Number of customer enrollments • Customer satisfaction survey results	•Direct Mail •Web •Email	• Vanity URLs •Landing page visits • Click through and open rates	•Year Round
Current	Yes	<b>Smart AC</b>	•Product with accompanying service	•\$50 incentive for cycling air conditioners during peak demand days	•Maintain 97 MW load reduction	•Enroll 11,000 new customers	•Build awareness •Increase participation	•Drive acquisition of 8,100 new customers	•Measure increase in rate of enrollment v. previous year •Customer satisfaction survey •Post-campaign analytics to find best performing tactics	•Direct Mail •Digital •Email	• Vanity URLs •Landing page visits • Click through and open rates	•Summer
2017	Yes	<b>Energy Engagement Schools Program</b>	•Service under development	Study to determine the "spillover effect" that the classroom programs have on household energy behaviors	• To evaluate energy-conservation behaviors including acquisition, use and maintenance of energy management technologies	N/A	N/A - Marketing support not required for this initiative	N/A - Marketing support not required for this initiative	N/A - Marketing support not required for this initiative	N/A - Marketing support not required for this initiative	N/A - Marketing support not required for this initiative	2017-2018 school year



Regulatory Timing Commitment	Potential Low Income Offer	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
<b>Step 2 in Residential Customer Journey: Understanding to Adjusting</b>												
Current	Yes	<b>Share My Data</b>	•Software, service	•Online platform delivering secure real time energy usage data to third party developers who need data to create energy management applications and to customers who want to stream their own energy usage data directly from PG&E	•Improve click-through system • Optimize and simplify enrollment • Support currently registered developers	• No quantitative goal for 2017	•Simplify enrollment form •Optimize online experience	• No quantitative goal for 2017	•Measure increase in landing page visits vs. 2015 baseline •Measure digital impressions served •Email TBD	•Web •Digital •Email	• Landing page visits •Vanity URLs • Click through and open rates	•Year Round
2017-18	No	<b>Smart Thermostat Incentive</b>	•Product	•Rebate intended to help customers adopt smart thermostats (Nest and Ecobee first rebates offered)	•Offer a rebate intended to assist customers in acquiring a smart thermostat	•For 2017 add 10,000 units • For 2018 add 15,000 units	•Build awareness •Increase participation	•Facilitate adoption of 10k units by end of 2017.	•Measure change in awareness and familiarity of smart thermostats •Measure incentive participation •Post-campaign analytics to find best performing tactics	•Web •Digital •Email	• Landing page visits •Vanity URLs • Click through and open rates	•Summer & Winter
2017	TBD	<b>Smart Thermostat Direct Install</b>	•Product	•Offered in a direct install Residential Third Party Program (Energy Fitness) to help customers adopt EE products.	•Offer a free smart thermostat to customers who would not normally be able to afford a smart thermostat in order to give them the opportunity to benefit from the energy savings.	•See Energy Fitness	•See Energy Fitness	•See Energy Fitness	•See Energy Fitness	•See Energy Fitness	•See Energy Fitness	•See Energy Fitness
2017	No	<b>Connected Savings Smart Thermostat Assessment</b>	•Software, service	•A free service that adjusts thermostat set points using hyperlocal weather data to optimize customer's energy use.	•Validate savings of weather optimization	•Test with 3,000 customers	•Build awareness •Increase participation	•Support 3,000 customers test	•Measure increase in rate of enrollment v. previous year •Customer satisfaction survey •Post-campaign analytics to find best performing tactics	•Web	• Landing page visits	•Trial launching Q4 2016, •Full program tentatively 2018 Summer

Regulatory Timing Commitment	Potential Low Income Offer	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
2017	No	<b>Automated Demand Response</b>	•Service	•Up to \$200 per kW incentive to leverage energy management technology of customer's choice and customized strategy to save energy on peak demand days or year round	•Enroll new participants •Increase ADR certified technology adoption	•Enroll 100 new residential customers •Up to 300kW load reduction	•Support the acquisition of new Residential applications starting at 10+	•Drive acquisition of new Residential applications starting at 10+	•Measure increase in rate of enrollment v. previous year •Customer satisfaction survey •Post-campaign analytics to find best performing tactics	•Web •Digital •Email	•Landing page visits •Vanity URLs •Click through and open rates	•Year Round
Current	Yes	<b>Energy Fitness</b>	•Product, service	•Direct install Residential Third Party Program to help customers adopt EE products.	•Facilitate penetration of targeted measures including Tier II advanced power strips and smart thermostat ; and provide energy education and recommendations to homes that have a significant opportunity to benefit from energy savings due to high energy use and inefficient homes.	•600 households with installed energy efficiency measures	•Awareness of program •Leverage 3rd party co-branding (RHA)	•Support installing energy efficiency measures in 600 households	•Measure increase in rate of enrollment v. previous year •Customer satisfaction survey •Post-campaign analytics to find best performing tactics	•Direct mail •Telephone outreach •Customized report	•Number of appointments confirmed •Number of calls inquiring about program •Number of customers that agreed to install measures after energy assessment is performed in the home	•Year Round
Current	Yes	<b>Advanced Power Strips (Direct Install)</b>	•Product, service	•Direct install Residential Third Party Program (Synergy) to help customers adopt EE products.	•Facilitate penetration of advanced power strips for mobile homes customers.	•250 units in 2017	•Build awareness •Increase participation	•Support installing energy efficiency measures in 250 households	•Measure increase in rate of enrollment v. previous year •Customer satisfaction survey •Post-campaign analytics to find best performing tactics	•Direct mail •Door to door •Telephone outreach •Web	•Number of installations from direct mail and door to door •Number of calls requesting installation •Landing page visits	•Year around
2017	No	<b>Advanced Power Strips</b>	•Product, service	•Tier 2 Advanced Power Strip devices	•Determine install and persistence rates for self-installation of Tier 2 Advanced Power Strip devices marketed and sold to customers via an online limited-time-offer approach	•1,000 units for persistence study	•Encourage adoption of Tier 2 Advanced Power Strips	•1,000 units purchased		•Email •Website landing page •Product insert	•Unique opens/clicks •Landing page visits •Vanity url visits	•June/July 2017

Regulatory Timing Commitment	Potential Low Income Offer	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
2017	No	<b>Smart Appliance Incentives</b>	•Specific product under consideration	•Rebate intended to accelerate market adoption	•Offer rebates to assist customers or retailers to acquire or carry connected appliances	•Numeric goal TBD	•Build awareness •Increase participation	•Numeric goal TBD •Facilitate adoption of pre-determined number of units by end of trial and field tests	•Measure change in awareness and familiarity of connected appliances •Measure incentive participation •Post-campaign analytics to find best performing tactics	•TBD	•TBD	•Lab tests and field trials starting in 2017
<b>Step 3 in Residential Customer Journey: Adjusting to Managing</b>												
2017	TBD	<b>Time-of-Use Management App</b>	•Software	•A free smart phone app that helps participants perform better on TOU rates	• Identify how customers use the app to manage energy use on TOU	• Offer product to 7,000 customers • App downloads	• Build awareness of the free tool	• Obtain a statistically significant sample size • Drive downloads	• Post-campaign analytics to identify best performing tactics	• Direct mail and email campaigns	• Open rate • Click-through rate • Downloads • Share My Data completions	•2017 field trial
2017	No	<b>Nest Seasonal Savings</b>	•Software, service	•A free service that adjusts thermostat set points to optimize customer's energy use.	•Validate savings of thermostat optimization	•Test with 30,000+ customers	•Build awareness •Increase participation	•Support testing with 30,000 customers.	•Measure increase in rate of enrollment v. pilot year •Post-campaign analytics to find best performing tactics	•Co-branding with details to come	•Co-branding with details to come	•Trial launching Q2 2017, •Full program tentatively 2018 Summer
2017	TBD	<b>EMT Product Bundles Field Trial with Mobile App</b>	Range of Connected Home products	Small scale field trial of EMT bundles combined with a Residential Mobile App that encourages energy conservation behaviors.	Assess potential of encouraging customers to use EMT bundles and Mobile App together to influence their energy usage	N/A	•Increase participation in field trial	• Numeric goal TBD	•Post-campaign analytics to find best performing tactics	•Email •Web	• Open rate • Click-through rate • Downloads	2017

NOTE: At this time, PG&E has not included information on Low Income metrics, as currently there is a Marketing and Outreach plan with associated metrics in development due to be filed with the CPUC by July 21, 2017.

\*Updated for 2nd Supplemental Filing 5/22/17

## AB793 - Small and Medium Business Matrix\*

Regulatory Timing Commitment	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
Step 1 in Small and Medium Business Customer Journey: Non-Awareness to Awareness and Understanding											
Current	<b>Business Energy Check Up</b>	•Service	<ul style="list-style-type: none"> <li>•A quick online custom energy assessment allowing customers to see how much energy they use, where they use it &amp; how to lower their bill</li> </ul>	<ul style="list-style-type: none"> <li>•Provide customers a self-service tool for an energy savings planning</li> <li>• Activate energy efficiency and cost savings efforts</li> </ul>	•500 audits	<ul style="list-style-type: none"> <li>• Increase in number of completed audits</li> <li>•Increase in number of landing page visits</li> </ul>	•Drive 500 audit completions	<ul style="list-style-type: none"> <li>•Measure increase in customer awareness and engagement</li> <li>•Customer satisfaction survey results</li> <li>•Post-campaign analytics to find best performing tactics</li> </ul>	<ul style="list-style-type: none"> <li>•Web</li> <li>•Email</li> <li>•Digital media</li> </ul>	<ul style="list-style-type: none"> <li>• Landing page visits</li> <li>• Click through and open rates</li> <li>• Number of emails captured</li> <li>• Number of new online accounts created</li> </ul>	Year Round
Current	<b>Bill Forecast Alert</b>	•Service	<ul style="list-style-type: none"> <li>•Customers can sign up to receive an email/phone/SMS notification of their forecasted bill amount if/when their forecasted bill exceeds a customer-defined threshold.</li> </ul>	<ul style="list-style-type: none"> <li>•Give customers a tool to manage their bill cost.</li> <li>•Provide customers a forecast of their bill (when the threshold is set at minimum)</li> <li>•Provide customers tool to avoid aberrant</li> </ul>	•500 energy alerts	<ul style="list-style-type: none"> <li>•Increase customer adoption of energy alerts</li> <li>•Support customers' proactive management of their energy bills</li> </ul>	<ul style="list-style-type: none"> <li>•Drive 350 new energy alerts with (stretch goal of 500)</li> <li>•Increase awareness of energy costs to avoid high bill surprises</li> </ul>	<ul style="list-style-type: none"> <li>•Measure increase in use of energy alerts v. previous year</li> <li>•Post-campaign analytics to find best performing tactics</li> </ul>	<ul style="list-style-type: none"> <li>•Direct Mail</li> <li>•Email</li> <li>•Web</li> </ul>	<ul style="list-style-type: none"> <li>•Direct mail forms completed</li> <li>•Landing page visits</li> <li>• Click through and open rates</li> </ul>	Year Round

Regulatory Timing Commitment	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
Current	<b>Stream My Data</b>	•Service	•Platform to connect real time customer data with third party devices to help customers understand when and how they are using energy.	Provide customers with real-time visibility into their energy usage data, empowering them to make better energy efficiency and cost-saving decisions.	•Numeric goal: 25% increase in number of active devices, thus decreased overall energy consumption among participants, and decreased DR load impacts or on-peak load reductions among participants)	•Drive Stream My Data enrollment •Increase customer engagement	•Numeric goal TBD • Increase customer enrollment vs. previous year • Improve customer satisfaction v. baseline	• Measure enrollment volume v. previous year • Measure lead volume v. previous year • Customer satisfaction survey results	•Digital •Email •Telemarketing	•Web conversions • Click through and open rates • Calls completed with customer enrollment	Year Round
Current	<b>Peak Day Pricing Enhanced In Season Support</b>	•Service	•Provides participating Peak Day Pricing customers with enhanced email, text and web based support during Event Season	•Drive better customer performance on Peak Day Pricing •Increase Peak Day Pricing Event Day load reduction vs. prior year	•10% increase in load reduction among SMBs v. previous year	•Support Event Day Action Plan engagement/management and event day load reduction	•Acquire 3.5% notification preferences from transitioning customers	•Event-day load curtailment •Web/email engagement •Social badging •SMS	•Direct Mail •Web/Email/SMS engagement	•Direct mail forms completed •Landing page visits • Click through and open rates • Number of SMS notifications	April - October (Q2 & Q3)
Current	<b>Projected Bill</b>	•Service	•Online self-serve estimate of end of month bill to provide predictability and help customers manage their bill	•Create 'no-surprises' billing experience	•Numeric goal TBD (will be around forecast customers' end-of-period bills to support proactive management of their energy bills)	•Acquire new customers	•Numeric goal TBD •Feature is included as an energy savings tip in general communications, but does not have a dedicated campaign	•Measure adoption of bill forecasts •Post-campaign analytics to find best performing tactics	•Direct Mail •Web •Email	•Direct mail forms completed •Landing page visits • Click through and open rates	Year Round

**Step 2 in Small and Medium Business Customer Journey: Understanding to Adjusting**

Regulatory Timing Commitment	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
2017	<b>Energy Management System Assessment</b>	•Product	•EE hardware & software technology that monitors and controls one or more sub-systems (e.g. lighting, HVAC, etc.) to reduce energy consumption	•Ensure customers properly install and use EMS solutions to reduce energy consumption	•Provide 10 customers DIY/small contractor project technologies	•Support increased installations and use of EMS •Increase customer satisfaction with EMS	•Educate 100 customers on installing and using EMS solutions	•Measure increases in use and installation •Customer satisfaction survey •Post-campaign analytics to find best performing tactics	•Web	•Web conversions	•Year Round
Current	<b>Share My Data</b>	•Software, service	•Online platform delivering secure real time energy usage data to third party developers who need data to create energy management applications and to customers who want to stream their own energy usage data directly from PG&E	•Improve click-through system • Optimize and simplify enrollment • Support currently registered developers	• No quantitative goal for 2017	•Simplify enrollment form •Optimize online experience	• No quantitative goal for 2017	•Measure increase in landing page visits vs. 2015 baseline •Measure digital impressions served •Email TBD	•Web •Digital Media •Email	• Landing page visits •Web conversions • Click through and open rates	•Year Round
Current	<b>Automated Demand Response</b>	•Service, product	•Up to \$200 per kW incentive to leverage energy management technology of customer's choice and customized strategy to save energy on peak demand days or year round	•Enroll new participants •Increase ADR certified technology adoption	•Enroll 100-200 small and medium size customers •Through Ecova Managed Energy Program enroll an additional 80 SMB •Up to 300kW load reduction	•Support the acquisition of new SMB applications starting at 10+	•Drive acquisition of new SMB applications starting at 10+	•Measure increase in rate of enrollment v. previous year •Customer satisfaction survey •Post-campaign analytics to find best performing tactics	•Web •Digital •Email	• Landing page visits •Web conversions • Click through and open rates	•Year Round

Regulatory Timing Commitment	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
Current	<b>On-Bill Financing Alternative Pathway</b>	•Product	•Variant of the On-Bill Financing program that allows financing for energy conservation measures not receiving a rebate or incentive, including energy management systems	<ul style="list-style-type: none"> <li>• Enable customers' energy efficiency projects quickly and cost-effectively</li> <li>• Capture stranded potential energy savings in existing buildings</li> </ul>	<ul style="list-style-type: none"> <li>• 10 participating contractors in year 1</li> <li>• 25% of 2015 originated OBF loans</li> <li>• 5,140 MW Energy Savings</li> </ul>	<ul style="list-style-type: none"> <li>• Increase loan applications</li> <li>• Drive awareness and consideration of high-value OBF/product bundles</li> </ul>	<ul style="list-style-type: none"> <li>• Drive 150 loan applications</li> <li>• Increase EE project leads</li> </ul>	<ul style="list-style-type: none"> <li>• Measure increase in loan applications v. previous year's volume</li> <li>• Measure awareness of high-value OBF/product bundles</li> <li>• Post-campaign analytics to find best performing tactics</li> </ul>	<ul style="list-style-type: none"> <li>• Direct Mail</li> <li>• Web</li> <li>• Digital</li> <li>• Email</li> </ul>	<ul style="list-style-type: none"> <li>• Direct mail forms completed</li> <li>• Landing page visits</li> <li>• Web conversions</li> <li>• Click through and open rates</li> </ul>	•Year Round
<b>Step 3 in in Small and Medium Business Customer Journey: Adjusting to Managing</b>											
2017	<b>Managed Energy Services</b>	•Specific product under consideration	• Third party managed energy services through EMS-driven technologies	• Customer and contractor satisfaction with program	• Numeric goal TBD (will be around validated savings measured at the meter level)	• Participating customer and contractor perception of program	• Participant sample size goal TBD	• Post-campaign analytics to identify best performing tactics	<ul style="list-style-type: none"> <li>• Email</li> <li>• Direct Mail</li> <li>• Contractor call</li> </ul>	<ul style="list-style-type: none"> <li>• Open rate</li> <li>• Click-through rate</li> <li>• Program Enrollment</li> </ul>	•Q2 2017
2017	<b>Circuit Level Load Monitoring</b>	•Specific product under consideration	• Incentivized platform to enable customers to engage and manage their energy use by monitoring electrical use of building systems (e.g. lighting, HVAC, etc.)	• Engage customers to understand and manage their SMB food service energy use better	• Numeric goal TBD (will be around validated savings measured at the meter level)	• Participating customer and contractor perception of product value proposition	• Participant sample size goal TBD	• Post-campaign analytics to identify best performing tactics	<ul style="list-style-type: none"> <li>• Email</li> <li>• Direct Mail</li> <li>• Contractor call</li> </ul>	<ul style="list-style-type: none"> <li>• Open rate</li> <li>• Click-through rate</li> <li>• Program Enrollment</li> </ul>	•Q2 2017

Regulatory Timing Commitment	Product	EMT Type	Product Description	Product Objectives (Qualitative)	Product Goal (Quantitative)	Marketing Objectives (Qualitative)	Marketing Goal (Quantitative)	Marketing Success Criteria based on Marketing Goal	Top 3 Marketing Tactics	Top 3 Marketing KPI based on Tactics	In Market Timing
2017	<b>Energy Management System Pay for Performance</b>	• Specific product under consideration	• Meter-based savings that can directly correlate energy savings measures at the utility meter level on a pre/post basis, enabling pay for performance programs based on the correlated savings at the meter	• Customer and contractor satisfaction with program	• Numeric goal TBD (will be around validated savings measured at the meter level)	• Participating customer and contractor perception of program	• Participant sample size goal TBD	• Post-campaign analytics to identify best performing tactics	• Email • Direct Mail • Contractor call	• Open rate • Click-through rate • Program Enrollment	• Q2 2017



### AB793 Residential Timeline\*

Residential Timeline	2016		2017				2018			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Research</b>										
Baseline EMT awareness study - pre marketing wave										
Annual EMT awareness read - post marketing waves										
Qualitative Research										
<b>AB 793 Solutions 2016-2018</b>										
Home Energy Checkup										
Bill Forecast Alert										
Projected Bill										
Stream My Data										
Smart AC										
Energy Engagement from School Energy Education Programs										
Share My Data										
Smart Thermostat Incentive										
Smart Thermostat Direct Install*										
Connected Savings Smart Thermostat ET Assessment										
Automated Demand Response										
Energy Fitness* (Direct Install)										
Advanced Power Strips* (Direct Install)										
Advanced Power Strips Emerging Technologies Study										
Smart Appliance Incentives										
Time-of-use Management App										
Nest Seasonal Savings ET Assessment										
Product bundles Field Trial with Mobile App										

\*Updated for 2nd Supplemental Filing 5/22/17

LEGEND
Product Development / Refinement
Research Market / Customer
Strategy Plan and Targeting
Tactical Plan
Creative Development
In-Market & In-Market Optimization
Post-Campaign Analytics

<b>NOTES</b>
*Marketing plans for third parties are not included.
Timelines are estimated and subject to change.
At this time, PG&E has not included information on Low Income metrics, as currently there is a Marketing and Outreach plan with associated metrics in development due to be filed with the CPUC by July 21, 2017.

### AB793 Small and Medium Business Timelines\*

Small & Medium Business Timeline	2016		2017				2018			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Research</b>										
Baseline EMT awareness study - pre marketing wave										
Annual EMT awareness read - post marketing waves										
<b>AB 793 Solutions 2016-2018</b>										
Business Energy Checkup										
Stream My Data										
Peak Day Pricing Enhanced Event In-Season Support										
Bill Forecast-Alert										
Projected Bill										
Share My Data										
Automated Demand Response										
On-Bill Financing Alternative Pathway										
Managed Energy Services										
Circuit Level Load Monitoring										
Energy Management Systems (EMS) ET Assessment										
Energy Management System Pay for Performance										

\*Updated for 2nd Supplemental Filing

LEGEND
Product Development / Refinement
Research Market / Customer
Strategy Plan and Targeting
Tactical Plan
Creative Development / Optimization
In-Market & In-Market Optimization
Post-Campaign Analytics

## PG&E Gas and Electric Advice Filing List

AT&T	Don Pickett & Associates, Inc.	OnGrid Solar
Albion Power Company	Douglass & Liddell	Pacific Gas and Electric Company
Alcantar & Kahl LLP	Downey & Brand	Praxair
Anderson & Poole	Ellison Schneider & Harris LLP	Regulatory & Cogeneration Service, Inc.
Atlas ReFuel	Evaluation + Strategy for Social Innovation	SCD Energy Solutions
BART	G. A. Krause & Assoc.	SCE
Barkovich & Yap, Inc.	GenOn Energy Inc.	SDG&E and SoCalGas
Bartle Wells Associates	GenOn Energy, Inc.	SPURR
Braun Blaising McLaughlin & Smith, P.C.	Goodin, MacBride, Squeri, Schlotz & Ritchie	San Francisco Water Power and Sewer
Braun Blaising McLaughlin, P.C.	Green Charge Networks	Seattle City Light
CENERGY POWER	Green Power Institute	Sempra Energy (Socal Gas)
CPUC	Hanna & Morton	Sempra Utilities
California Cotton Ginners & Growers Assn	ICF	SoCalGas
California Energy Commission	International Power Technology	Southern California Edison Company
California Public Utilities Commission	Intestate Gas Services, Inc.	Southern California Gas Company (SoCalGas)
California State Association of Counties	Kelly Group	Spark Energy
Calpine	Ken Bohn Consulting	Sun Light & Power
Casner, Steve	Leviton Manufacturing Co., Inc.	Sunshine Design
Center for Biological Diversity	Linde	Tecogen, Inc.
City of Palo Alto	Los Angeles County Integrated Waste Management Task Force	TerraVerde Renewable Partners
City of San Jose	Los Angeles Dept of Water & Power	TerraVerde Renewable Partners, LLC
Clean Power	MRW & Associates	Tiger Natural Gas, Inc.
Clean Power Research	Manatt Phelps Phillips	TransCanada
Coast Economic Consulting	Marin Energy Authority	Troutman Sanders LLP
Commercial Energy	McKenna Long & Aldridge LLP	Utility Cost Management
Cool Earth Solar, Inc.	McKenzie & Associates	Utility Power Solutions
County of Tehama - Department of Public Works	Modesto Irrigation District	Utility Specialists
Crossborder Energy	Morgan Stanley	Verizon
Crown Road Energy, LLC	NLine Energy, Inc.	Water and Energy Consulting
Davis Wright Tremaine LLP	NRG Solar	Wellhead Electric Company
Day Carter Murphy	Nexant, Inc.	Western Manufactured Housing Communities Association (WMA)
Defense Energy Support Center	ORA	YEP Energy
Dept of General Services	Office of Ratepayer Advocates	Yelp Energy
Division of Ratepayer Advocates	Office of Ratepayer Advocates, Electricity Planning and Policy B	