



# **Bidgely Home Energy Audits and Report (HEAR) Program Implementation Plan**

Feb 17, 2023

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## A. Program Overview

The purpose of SDG&E Behavioral program is for customers to modify usage-based and equipment-based behaviors in ways that reduce energy use. The program will also encourage demand shifting and peak conservation. The mechanisms for changing these behaviors are increasing customer awareness and understanding of their energy use while providing relevant tips and program offers.

The program will leverage comparative energy use reports delivered to residential customers by U.S. Mail, email, web portal or any combination of the three channels to achieve greater customer awareness and energy savings. It will include innovative solutions that also deliver cost-effective energy savings that will contribute to SDG&E's overall portfolio and support in achieving related CPUC-adopted portfolio goals and sector metrics.

## B. Program Budget and Savings Information

Table 1: Budget and Savings

<b>Program Name:</b> Home Energy Audits and Reports Program				
<b>Program ID number:</b> SDGE4040				
<b>Energy Efficiency Program Budget:</b> \$12,045,618*				
<b>Demand Response Implementation Budget:</b> \$3,362,858**				
<b>Market Sector/Segment:</b> Residential				
<b>Program Type:</b> Resource				
<b>Market Channels:</b> Behavioral, Randomized Control Trial (RCT)				
First Year Annualized Deliverable	2023	2024	2025	Total
Net kWh Savings	49,785,387	55,552,103	53,052,259	158,389,749
Net kW Reduction	11,025	12,302	11,749	335,076
Net Therm Savings	787,061	911,833	888,333	2,587,227
Gross kWh Reduction	TBD	TBD	TBD	TBD
Gross kW Reduction	TBD	TBD	TBD	TBD
Gross Therm Reduction	TBD	TBD	TBD	TBD
Total System Benefits	\$12,526,560	\$10,160,108	\$9,277,602	\$31,964,270
Program TRC Ratio	3.33	2.39	2.44	2.72
Program PAC Ration	TBD	TBD	TBD	TBD

\*Includes \$100,000 Startup costs in 2023 for EE

\*\*Includes \$100,000 Startup costs in 2023 for DR

## C. Program Implementation Plan Narrative

### 1. Program Description

The SDG&E Home Energy Audits and Reports (HEAR) energy efficiency program, offers behavior intervention strategies to residential participants to achieve short-term energy and budget savings that can persist and produce long-term behavior change and energy savings. This is achieved by fostering participant engagement, ensuring participant satisfaction, and providing energy education and upgrades through regular and participant-specific touchpoints in the form of paper and digital Home Energy Reports (HERs) and a web-based education portal.

Behavioral programs are required to employ comparative energy usage and disclosure, ex-post measurement, and experimental design. In the residential sector, randomly selected customers receive their usage feedback via paper and email reports leveraging their usage data. This program includes the use of normative or comparative information, personalized communication about the customers' energy usage, and any other demographic factors.

#### Program Goals

The SDG&E HEAR Program offers timely, insightful alerts for residential customers to encourage behavioral changes that lead to energy savings. These reports are both paper and digital to maximize savings.

SDG&E will provide a downstream program that selects eligible customers and assigns them to a treatment group to receive HERs at regular intervals to encourage energy- and money-saving behavioral changes or to act as a control group for the study. The program's treatment group will receive a series of HERs as well as access to a web portal where they can learn about additional savings potential.

Customers will be enrolled in the program in compliance with the evaluation, measurement, and verification (EM&V) plan filed with the California Public Utilities Commission (CPUC). The program will monitor participant eligibility on an ongoing basis, removing participants who no longer wish to participate or otherwise become ineligible to participate.

The SDG&E Behavioral Program goals are to:

- Establish a cost-effective residential behavioral program to educate participants on their energy consumption behavior and motivate them to save energy and money over the short- and long-term
- Validate participant savings using Randomized Control Trial (RCT) to measure savings

### 2. Program Delivery and Customer Service

The contractor will perform the program on behalf of the Program:

Table 2: Communication Channels

Communication Channels	Cadence/Frequency
Paper HER	Approximately 4x per year paper reports sent to the customer’s residential address on file detailing: detailed energy usage and personalized savings tips. Includes monthly cycle and seasonal reports.
Digital HER	2+ emails per billing cycle per fuel type, for assigned Residential Behavioral treatment waves: <ul style="list-style-type: none"> <li>• A monthly summary with an itemized energy bill</li> <li>• A similar home comparison sent midway through the billing cycle</li> <li>• Two Seasonal emails (Summer and Winter)</li> </ul>
BDR Alert	Start of Event Email: A start of event notification of Demand Response Event at the day/time of event promoting energy saving and shift behavior that will enable customers to reduce demand within specified time period
Web portal	A utility-branded, mobile-responsive web portal that contains a broad set of features to serve customer needs: <ul style="list-style-type: none"> <li>• Web Dashboard</li> <li>• Appliance Itemization, Recommendations, Self-Service Online Survey, Similar Homes Comparison.</li> <li>• Home Profile Survey</li> <li>• Preferences Page</li> </ul>
CARE - CSR Portal	A call center solution that includes: <ul style="list-style-type: none"> <li>• Alerts Enrollment</li> <li>• Co-browsing</li> <li>• Engagement View</li> </ul>
Metrics Dashboard	<ul style="list-style-type: none"> <li>• Metric Dashboard provides online access to relevant metrics generated by Web Browser</li> </ul>

The following table details each component of the participant experience and associated benefits.

Table 3: Program Components and Benefits

Component	Description	Benefits
Similar Home Comparison (SHC)	Performed at a whole-home and appliance level, including SHC for EV for similar homes	Drive energy savings through social benchmarking
Appliance Itemization	Energy Bill Itemization for customers	Customers can see where their energy dollars go
Personalized Recommendations	Highly personalized recommendations engine driven by energy itemization, home profile, ease of use, savings impact, season, type, and ownership of the home	Drive energy savings by empowering customers with a curated set of actionable recommendations with the highest savings impact; Drive interest and adoption of targeted offers

### 3. Program Design and Best Practices

Table 4: Program Specifications

#	Area	Scope
1	No. of Customers	Approximately 946,329 treatment customers, on average per year Customers opting out will be replaced by new treatment customers.
2	Report Layouts and Frequency	<p>Paper HER Reports can be provided approximately 4x annually to all eligible customers with 2 different types of layouts, focusing on different time scopes:</p> <ul style="list-style-type: none"> <li>• Monthly Report, including information about the last billing cycle’s consumption.</li> <li>• Seasonal Report, including information about the upcoming season and how the user’s consumption compared in the same season last year.</li> </ul> <p>Digital HER Alerts will be provided to eligible customers up to a maximum of 6x monthly focusing on Peer Comparison, Monthly Summary and Time-bound energy insights (weekly/seasonal).</p> <p>Report Layouts may also be influenced by some specific customer traits, which Bidgely can derive through its analytics and include as part of the</p>

		<p>customer’s Energy Profile. For example, the layout for Monthly Report can be displayed with specific content sections which pertain to users who are currently on a Time-of-use Rate Plan.</p> <p>The frequency at which these reports are mailed to customers is optimized by Bidgely to seasonal energy consumption patterns of the selected treatment group and geography. The sequence of layouts across a 12-month journey is configurable (for example a sequence could be: Monthly-Seasonal-Monthly Seasonal).</p>
3	Customer Selection	SDG&E’s program-eligible participants will be used to build a treatment group; program participants will be chosen in compliance with the EM&V Plan and approved CPUC requirements
4	Channel	Paper reports to all designated treatment paper wave customers in addition to email reports for those same customers with registered email addresses available.
5	EM&V	Monthly and annual savings estimates for kWh, Therms, kW, and Total System Benefits (TSB) (starting in 2024) and SDG&E will validate savings numbers independently at the conclusion of each contracted year. SDG&E and Bidgely will work collaboratively on EM&V methodologies to possibly claim energy savings for the Universal Audit Tool (UAT) and other ways to claim additional savings in measure package developments.
6	Reporting	Bidgely will provide information as outlined below in the metrics section and the attached M&V plan.
7	Data Integration	Customer enrollment data, historical and daily raw data (15 / 30 / 60 min), billing data and appliance data.

**Digital HER**

Digital reports will be sent to customers identified for this program that have a valid email address on file and are enrolled in the digital HER program option.

Participants will receive alerts and notifications that are timed to users’ billing cycles. These digital touchpoints will be optimized for relevancy and timing to best suit the participant by providing a clear next best action for the participant, increasing the likelihood of the participant adopting the energy-

saving tip or signing up for a promoted program. This facilitates a more interactive and engaging relationship with the participant, leading to higher satisfaction and program participation.

The following table describes the types of alerts and notifications customers will receive under the digital HER program option.

Table 5: Alerts and Notifications

Alert Type	Description
Welcome Email	A one-off email made of static text and images to welcome customers to their new program or service and ensure positive reinforcement post consent and manage customers'
Go-digital Email	The Go-Digital email is sent to customers who are being treated with HER Paper Reports as part of Behavioral Energy Efficiency programs. The email is sent to customers after they have subscribed to Digital Alerts.
Monthly Summary	Sent early (e.g., day 6) in a billing cycle, summarizing usage from the previous cycle, including an itemization of spending and relevant saving recommendations, as well as program/product offers that align with a customer's given usage profile.
Similar Home Comparison	Sent midway (e.g., day 12) into the billing cycle, displaying usage as compared to similar homes and relevant saving tips, as well as program/product offers
Seasonal Emails	Emails sent before the start of the summer and winter seasons
BDR Alert	Start of Event Email: A start of event notification of demand response event requests the day/time of event promoting energy saving and shift behavior that will enable customers to reduce demand within specified time period

### Web Portal

Behavioral Program participants will also have access to a suite of online solutions through a digital platform and web dashboard.

The consumer web portal provides an advanced online service to customers about their energy usage. The tool provides different types of “energy Insights” computed by Bidgely for the consumer. These insights include features such as Appliance Itemization, Recommendations, Self-Service Online Survey, and Similar Homes Comparison. The specific set of features presented to each customer depends on:



- the customer type (Residential)
- the fuel type (electricity, gas, Dual Fuel)
- the meter type (AMI)

Access to the Consumer Web Portal by consumers via SDG&E’s consumer-facing website will utilize COMPANY’s existing Single Sign On (SSO) solution.

Customers with Dual Fuel service can access Bidgely’s Web Dashboards for different commodities (Electricity + Gas, Electricity, Gas). The Dual Fuel option allows the user to navigate to the proper Dashboard from a centralized access screen and to switch between the different Fuels at any point in time.

The Home Energy Audit tool (Online Survey) includes questions pre-configured that enable refinement of the personalization customers to see and allows the utility to gather key customer data unique to its service territory. This data includes:

- **Home profile data** not already acquired through utility and 3rd-party data sets such as the age of home, type of home, levels of insulation, etc.;
- **Appliance profile data** not already identified through the Bidgely’s disaggregation, such as the age of appliances and specific appliance types (example below);
- **Occupancy profile data** such as the number of occupants and whether they rent or own.

The preferences page of the portal gives customers full control of the notifications they receive, the channel of the notifications, and the specific contact information at which they receive communications.

### Market Barriers and Solutions

The Behavioral Program focuses on data analysis to itemize energy bills and generate recommendations that target behavioral change and motivate participants to save energy. The primary market barrier for the residential customer sector is a lack of information or awareness about end use and how their behavior impacts their energy usage. Proactive delivery of this information to participants via HERs is intended to address this gap while testing various methods of education delivery and serve as a cost-effective way to achieve savings. This and other barriers addressed by the Behavioral Program are listed below.

Barrier	Solution
Difficulty providing personalized end-use data and recommendations	Regular digital reports that include energy consumption and saving potential
Lack of information/awareness of end-use consumption	Energy disaggregation tool identifies key energy consumers in the home
Lack of understanding of comparative performance over time	HER compares participant’s consumption to similar homes

Personalized assessments are resource intensive and time-consuming	Program tools allow home energy use disaggregation digitally, eliminating the need for and cost of an in-home assessment
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SDG&E will also use the Bidgely’s state-of-the-art energy consumption analysis tool to provide participant education to make energy-saving changes in their homes. By using only meter-based energy consumption data (no in-home devices or any additional hardware) the Behavioral Program software will detect the presence and estimate the energy usage of several different appliance categories. The adoption of this tool can not only increase energy savings but can also drive targeted demand response programs and achieve more efficient grid optimization. It enables the personalized experience that consumers have come to expect.

#### 4. Innovation

This program brings a diverse range of solution design innovations to SDG&E’s current Residential Behavioral Program:

- Patented true disaggregation: Using only energy usage data, without any hardware beyond the meter, Bidgely’s Artificial Intelligence (AI) platform generates detailed information for different appliance categories. We enrich this with weather data, premise data, demographic data, and digital interaction data to develop the world’s most accurate and actionable consumer energy insights. These AI-driven insights include detailed appliance attributes and usage characteristics, appliances’ fuel types, digital engagement behaviors, and a multitude of customer attributes that our platform identifies, all derived from actual customer behavior;
- Hyper-personalization: The implementer’s platform continuously identifies the optimal energy insights and recommended actions for each customer at a given point in time, delivering combinations of unique insights and actions that we call “next best interactions” (NBIs). A string of NBIs, delivered over time through the customer’s preferred channels, is what we refer to as a hyper-personalized customer journey;
- Lazy login web: Implementer’s digital engagement includes personalized mobile-responsive web pages accessible with a single click (lazy log-in) from the emails

#### 5. Metrics

Provided are the metrics that will be used to track program progress:

- Program Performance
  - Savings to Goal (kWh, kW, therms)
  - Total System Benefit (TSB) to begin in 2024
  - Behavioral Demand Response (BDR) Participation
- Compliance
  - Reporting Accuracy
- Marketing

- Open Rate
- Customer Satisfaction
  - Likes vs Dis-Likes

## **6. Programs claiming to-code savings**

This is not applicable for this program.

## **7. Pilots**

No pilots will be performed in conjunction with this program.

## **8. WE&T**

This is not applicable.

## **9. Workforce Standards**

This is not applicable.

## **10. Disadvantaged Worker Plan**

This is not applicable.

## **D. Supporting Documents (attach in PDF format)**

### **1. Program Manuals and Program Rules**

The Behavioral Program does not have a manual because it does not require eligibility to participate or to claim savings. See Program design excerpts.

### **2. Program Logic Model**



Program Logic  
Model.pdf

### **3. Process Flow Chart**



Process Flow  
Chart.pdf

### **4. Incentive Tables, Workpapers, Software Tools**



Software  
Components.pdf

### **5. Quantitative Program Targets**

TBD

### **6. Program Diagram**

TBD

### **7. Evaluation, Measurement, and Verification (EM&V)**



Measurement and  
Verification (M&V) P

## 8. Normalized Metered Energy Consumption (NMEC):

Not Applicable

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