PG&E Voice Automation Technology for Load Management Study

1. Overview

The PG&E started to default residential customers to TOU rates in April 2021. Therefore, PG&E will expand the existing tools and technologies offered on its website to help customers understand new time varying rates. The objective of this DRET study is to leverage residential voice assistant technology (such as Amazon Alexa) to educate residential customers on energy usage and bill forecasts, rates, TOU automation/optimization, and notification of utility events.

Customer engagement through Voice Assistants require the customer to have access to Amazon Alexa via speakers, display, and/or mobile app. Information is collected and processed from PG&E's internal rate engine and Share My Data (SMD) to a third-party system. The customer would then interact with a third-party system (Energy Expert) through their smart speakers, smart display, and mobile devices. The Energy Expert will advise the customers to optimize their energy use based on the customer's rate schedule. In addition, the app will provide customer notification such as Smart Days and PSPS events.

This study has two phases. Phase 1 of this program will target 5-10 employees (combination of PG&E employees and friends of PG&E employees). Phase 2 will target up to 200 customers.

2. Collaboration

The DRET team is partnering with the internal customer care Pricing Pilot and Marketing teams to develop frequently asked questions (FAQs) that relate to TOU and load management. PG&E hired a third party to develop a smart speaker application (a voice automation skill named Energy Expert) for this study.

3. Results/Status

The DRET team completed performing small scale User Acceptance Test on the Energy Expert skill. Below is list of sample questions that were supported by the Energy Expert skill in Phase I:

- What's my bill? (As of yesterday)
- What's my energy usage? (As of yesterday)
- What is my current rate?
- What other rates are available?
- Am I on the right rate?
- What's a good time for to run appliances?
- When are prices the lowest? (For both Smart Rate and non-SR customers

4. Next Steps

The DRET team worked with Amazon to leverage the notification function for Smart Days and PSPS and successfully completed Phase 1 of the study. This study offered the Energy Expert App to residential customers through the Apple app stores and have enrolled close to 230 participants as of the 4th quarter of 2022. The report for this study will be finalized by the 2nd quarter of 2023.