

SGIG Consumer Behavior Study Green Mountain Power *eEnergy Vermont*

Overview

Central Vermont Public Service, now Green Mountain Power (GMP), is a summer peaking investor-owned electric utility with ~250,000 customers in its service territory that covers most of Vermont. GMP is one of 20 utility participants in the Vermont SGIG project (named eEnergy Vermont) and one of two utilities performing consumer behavior studies. The GMP study evaluates customer acceptance and response to different time-based rates coupled with information feedback treatments under different transition strategies towards more time-based rates. The utility is targeting AMI-enabled residential customers in the Rutland area for participation in the study; a county with a slightly older and lower-income population than the rest of the state.

Consumer Behavior Study Features

Goals and Objectives— This study focuses primarily on the timing and magnitude of changes in residential customers’ peak demand due to exposure to either CPP or CPR. GMP is also interested in understanding customer preferences for different transition strategies towards more time-based rates.

Treatments of Interest— Rate treatments include the application of time-based rates and rebate designs. The utility is implementing a critical peak rebate that provides a payment to customers for reducing electric load during declared critical peak events, while the price charged by GMP for electricity consumed stays at the customers’ existing flat rate (Flat w/CPR). In addition, GMP is implementing a CPP rate design that slightly lowers the customers’ existing standard flat rate but augments it with a substantially higher price overlay during declared critical peak events (Flat w/ CPP). Both the Flat w/CPR and Flat w/ CPP rates are in effect year-round and critical peak events, which can be called on weekdays between the hours of 1 and 6 p.m., are declared based on wholesale market conditions, coincident with the ISO New England annual system peak, which has traditionally occurred in the summer.¹

Control/information technology treatments include the deployment of IHDs. This technology acts as a means for viewing site-level electricity consumption information but also provides the customer with notification of a declared critical event. All participating customers receive direct notification (e.g., email, text, voice message) of peak events, web portal access to interval meter data, customer support and a variety of education materials.

GMP rate levels (¢/kWh)

Period	Flat w/ CPP	Flat w/ CPR
Base	14.184	14.557
Critical Event	60.000	60.000

Experimental Design— The design for the pilot is a randomized controlled trial with denial of treatments for the control group and pre-recruitment assignment (see Figure 6). AMI-enabled customers in the Rutland, VT area who meet certain eligibility criteria are randomly assigned to either one of the two control groups (differing by customers’

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In order to ensure enough events are called to accommodate robust load impact estimates, GMP may declare critical peak events on days not expected to be coincident with the ISO New England annual system peak.

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awareness about the study and critical peak events) or one of the six treatment groups. In addition, there is one unaware control group of customers who were never contacted; this group consists of customers that might have qualified for the study (based on their rate category) but were not selected for recruitment into one of the other treatment or control cells. These customers, except those assigned to the unaware control group, receive an invitation to opt in to the study where participating customers could receive one of several treatments, with the understanding that this treatment is limited in supply, but are not notified of their assignment at this time. Customers who opt in are then screened and surveyed to ensure that they qualify to potentially receive a treatment. Those who do are then notified of their assignment to one of the treatment or control cells. Customers assigned to the Flat w/CPP treatment cell must opt-in (agree) to this rate change. Customers assigned to the Flat w/CPR treatment cell or one of the control cells are simply told of their assignment, and so may opt-out if they choose. The pilot transitions customers in two treatment groups from the Flat w/CPR in year one of the study (2012) to a Flat w/CPP rate design in year two (2013), while the remaining customers are exposed to their specific rate treatments for two full years (2012 and 2013).

Enrollment Incentives and Retention Activities—None

Sample Size Requirements—Sample size requirements are shown in the table below.

GMP Sample Size Requirements

Experimental Cell		No IHD	IHD
CPR in 2012 & 2013		390	195
CPR in 2012 & CPP in 2013		390	195
CPP in 2012 & 2013		390	195
Control	Unaware of study	1,200	n/a
	Aware of study	390	n/a
	Aware of events	390	n/a

Key Milestones

Key Milestones	Target Dates
Study begins	June 2012
Interim evaluation report submitted	June 2013
Study ends	May 2014
Final evaluation report submitted	November 2014

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