Oracle Utilities Opower Load Shifting Cloud Service, Rate Coach

Load Shifting Rate Coach Product Overview

Latest Release
G11389-07
June 2025

Oracle Utilities Opower Load Shifting Cloud Service, Rate Coach Load Shifting Rate Coach Product Overview, Latest Release

G11389-07

Primary Authors: (primary author), (primary author)

Contributing Authors: (contributing author), (contributing author)

Contributors: (contributor), (contributor)

Contents

6 Contact Your Delivery Team

1

Getting Started

The Load Shifting Cloud Service, Rate Coach provides multiple features that facilitate peak hour and demand reduction and educate customers about electric plans with Time of Use (TOU) or demand rates. These features deliver load shifting insights to customers that educate them about how they are using electricity, and provide them with recommendations on how to shift or reduce their electric use in order to save money. By educating customers about their plans, these insights help customers reduce their spending and lower their monthly bills.

The Load Shifting Cloud Service, Rate Coach focuses on helping customers with interval data save money on their electric plans by providing them with insights specific to their rate plans. Customers with TOU electric plans are encouraged to shift their usage to off-peak hours. Customers with demand rate electric plans are encouraged to lower their demand. Utilities use TOU and demand rate plans to recover their costs, integrate distributed energy resources, and create a more equitable grid.

In a TOU plan, electricity costs fluctuate depending on the time of day, and how the utility defines peak, partial-peak, and off-peak hours. For example, peak hours might be defined as weekdays between 1:00 PM and 7:00 PM from May through September.

In a demand rate plan, customers typically have peak periods and pricing that are similar to a TOU plan, but they also incur a demand charge for their highest hour of peak usage during the billing period.

The following components are available in this service:

- Load Shifting Rate Coach Emails which consist of the following features:
  - Time of Use Rate Coach Emails
  - Demand Rate Coach Emails
- Load Shifting Insights for High Bill Alert AMI Emails
- Inside Opower
- Customer Service Interface - Program Management

Additional Load Shifting Insights Available

These additional Load Shifting insights are available:

- **Digital Self Service - Energy Management Cloud Service:** Load Shifting insights are also available within the Data Browser and the Bill Comparison components of the Digital Self Service - Energy Management Cloud Service. These insights are available to customers with TOU energy plans. Utilities are not required to have the Load Shifting Cloud Service, Rate Coach to provide this information to their customers. See the Digital Self Service - Energy Management Cloud Service Overview for more information.
- **Energy Efficiency Cloud Service:** Load Shifting insights are also available in the Home Energy Report v2 and the Email Home Energy Report v2. For customers on a Time of Use rate plan, you can insert the Time of Use Daily Peak module into these communications to encourage utility customers to shift their energy usage to off-peak times. Utilities are not required to have the Load Shifting Cloud Service, Rate Coach to provide this information to their customers. See the Energy Efficiency Cloud Service Overview for more information.

For an overview of all cloud services available from Oracle Utilities, see the Oracle Energy and Water Cloud Service Descriptions online at Oracle Contracts - Cloud Service Descriptions.

Your utility might not have all of the products or features described in this document. Contact your Delivery Team if you have any questions.

2

Load Shifting Rate Coach Emails

The Load Shifting Cloud Service, Rate Coach includes the following email features:

- Time of Use Rate Coach Emails
- Demand Rate Coach Emails

Each of these features provides utility customers with a series of weekly emails. Each email is designed to encourage customers on time of use (TOU) rate plans to shift electricity to off-peak hours, or to encourage customers on demand rate plans to lower their demand charges. The emails include rate plan details, personalized energy use insights, and actionable tips to help customers reduce usage when electricity is most expensive, and save money on their energy bills.

Requirements and Limitations

The following data requirements and limitations apply to all utilities and customers using the Load Shifting Rate Coach programs. These requirements must be met for a utility and a customer to participate in the program.

Utility Requirements and Limitations

This list specifies the utility requirements and limitations:

- **Rate Modeling or Rate Engine Plus:** In order for the platform to support utility-specific rates, an intensive rates modeling and configuration process is necessary.
- **Required Cloud Service:** Oracle Utilities Opower Load Shifting, Rate Coach
- **Scale:** A maximum of 1 million emails a week to eligible customers.

Customer Requirements and Limitations

This list specifies the customer requirements and limitations:

- **Billing Frequency:** Monthly or bi-monthly.
- **Data Delivery Frequency:** Daily. Must be received within 48 hours from last data read.
- **Data Requirements:** Interval data (hourly or more granular).
  - **For TOU Rate Coach emails with hourly disaggregation**:There are additional AMI data requirements to show advanced insights such as appliance-level disaggregation. Contact your Delivery Team for more information.
- **Data History:**
  - **For TOU Rate Coach emails:** Interval data for the last two weeks, billing data for the last 12 months, and AMI data to the beginning of the current billing cycle. Note that the Hourly Usage module has additional data history requirements.
  - **For Demand Rate Coach emails:** One full week of AMI data on the demand rate plan. The Monthly Demand Report email requires one month of billing data, and the Demand Value Comparison module requires two months of billing and AMI data, as it compares the current period to the previous period.

- **Data Coverage:** Oracle must receive read coverage for the period included in the email. The period duration can vary from 5 to 7 days (for weekly emails), as it depends on the utility's peak hour intervals. This product does not differentiate between estimated and non-estimated reads. Both types of reads are supported. At least 75% of possible reads for the current billing cycle (including estimated reads) is required to calculate the bill forecast.
- **Fuel Type:** Electric-only or dual fuel. Note that these emails cover **only** the electric portion of the customer's bill and usage.
- **Meter Type:** The customer must have a smart meter.
- **Customer Type:** The customer must be residential.
- **Rate Plan:** The customer must be on a time of use rate plan to receive the TOU Rate Coach emails, or on a TOU plus demand rate plan to receive the Demand Rate Coach emails.
- **Multiple Service Points:** Not currently supported.
- **Zero Usage**: In the case when a customer hasn't used any electricity during the week, several checks are completed to determine whether to hide modules:
  - **Introduction Email**: If the Hourly Usage module has 0 usages, the module is excluded from the Introduction Email.
  - **Weekly Email**: If the Weekly Comparison module has 0 usages, the weekly email is not sent. If the Hourly Usage module has 0 usages, the module is excluded but the Weekly Email is sent.
  - **Peak Usage Summary Email**: If the Hourly Usage module has 0 usages, the module is excluded from the Peak Usage Summary Email.
  - **Emails Including the Season Transition Module**: If the Weekly Coach Email or the Peak Usage Summary Email includes a Season Transition module, and the Weekly Comparison module has 0 usages, the Weekly Comparison module is excluded from the communication. If the Hourly Usage module has 0 usages, the module is exclude from the communication.

Customer Experience: TOU Rate Coach Emails

Customers who participate in the TOU Rate Coach email program receive one of the following email types each week:

- Introduction emails
- Weekly Coach emails
- Peak Usage Summary emails or Post-Bill Report emails

Which combination of emails a customer receives depends on which TOU Rate Coach email experience they are selected for, as follows.

Standard Time of Use Rate Coach Email Experience: The standard Time of Use Rate Coach email experience provides utility customers with a series of weekly emails designed to encourage customers on TOU rate plans to shift electricity to off-peak hours. The standard Time of Use Rate Coach email experience includes:

- Introduction Email
- Weekly Coach Email
- Peak Usage Summary Email

Time of Use Rate Coach Email Peak Disaggregation Experience: The peak disaggregation experience includes several modules designed to educate customers about their energy use during the peak hours and which appliances were used most during peak hours. The peak disaggregation experience includes:

- Introduction Email
- Weekly Coach Email with Peak Period Dissaggregation
- Post-Bill Report Email

Each email is comprised of individual modules. Some of these modules are used in both the TOU Rate Coach emails and the Demand Rate Coach emails. Additionally, the Easy Open module, which is included in the Proactive Alerts Cloud Service, can also be included in Rate Coach emails.

> **Note**
>
> Oracle recommends using the default order of the modules, as the emails were designed to be read from top to bottom, to provide the reader with an easy-to-understand message about their energy use. The default order of the modules for each email is listed in the following topics.

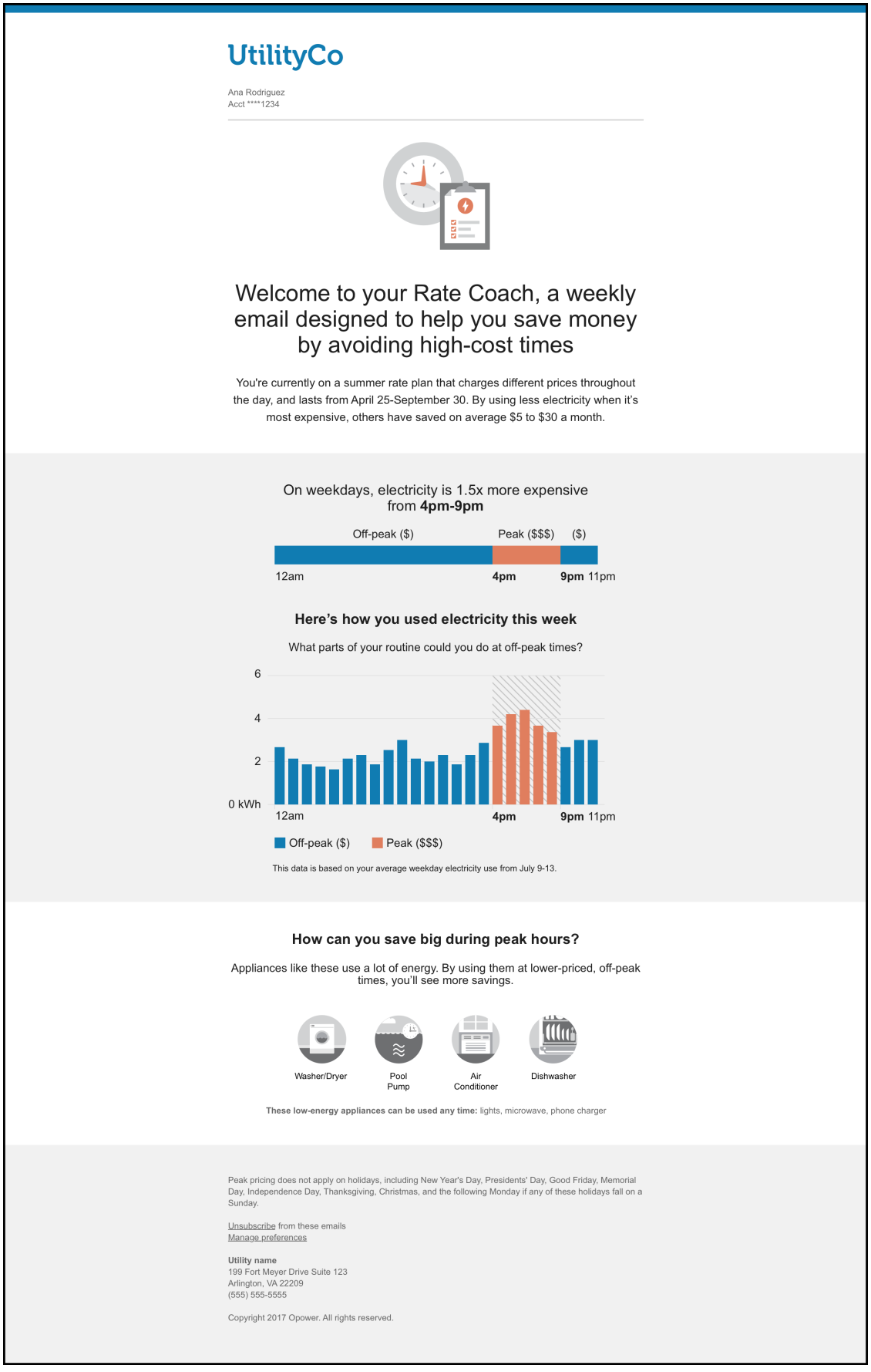
Introduction Emails

The Introduction email is the first weekly email customers receive as part of the program. This email is designed to welcome customers to the program, provide peak hour energy use insights, and offer tips on how to reduce energy use during peak hours. The email also encourages customers to use less during peak hours by including information about the average savings of other utility customers who have shifted their use to off-peak hours.

The Introduction email contains the following modules, in the order listed:

- Email Header and Subject Lines Module
- Welcome Message Module
- TOU 101 Module
- Hourly Usage Module
- Big Appliances Module
- Easy Open Module (optional)
- Email Footer Module

Figure 2-1 Introduction Email



Weekly Coach Emails

The Weekly Coach email is delivered to customers at the end of each week. It provides peak hour energy use insights as well as a comparison between peak hour electricity spending during the current week and the previous week. Customers begin receiving the Weekly Coach email after they receive their Introduction email, and do not receive the Weekly Coach email in weeks when they receive the Peak Usage Summary email or Post-Bill Report Email.

The Weekly Coach email experience varies depending on whether or not the customer was selected for the peak disaggregation experience.

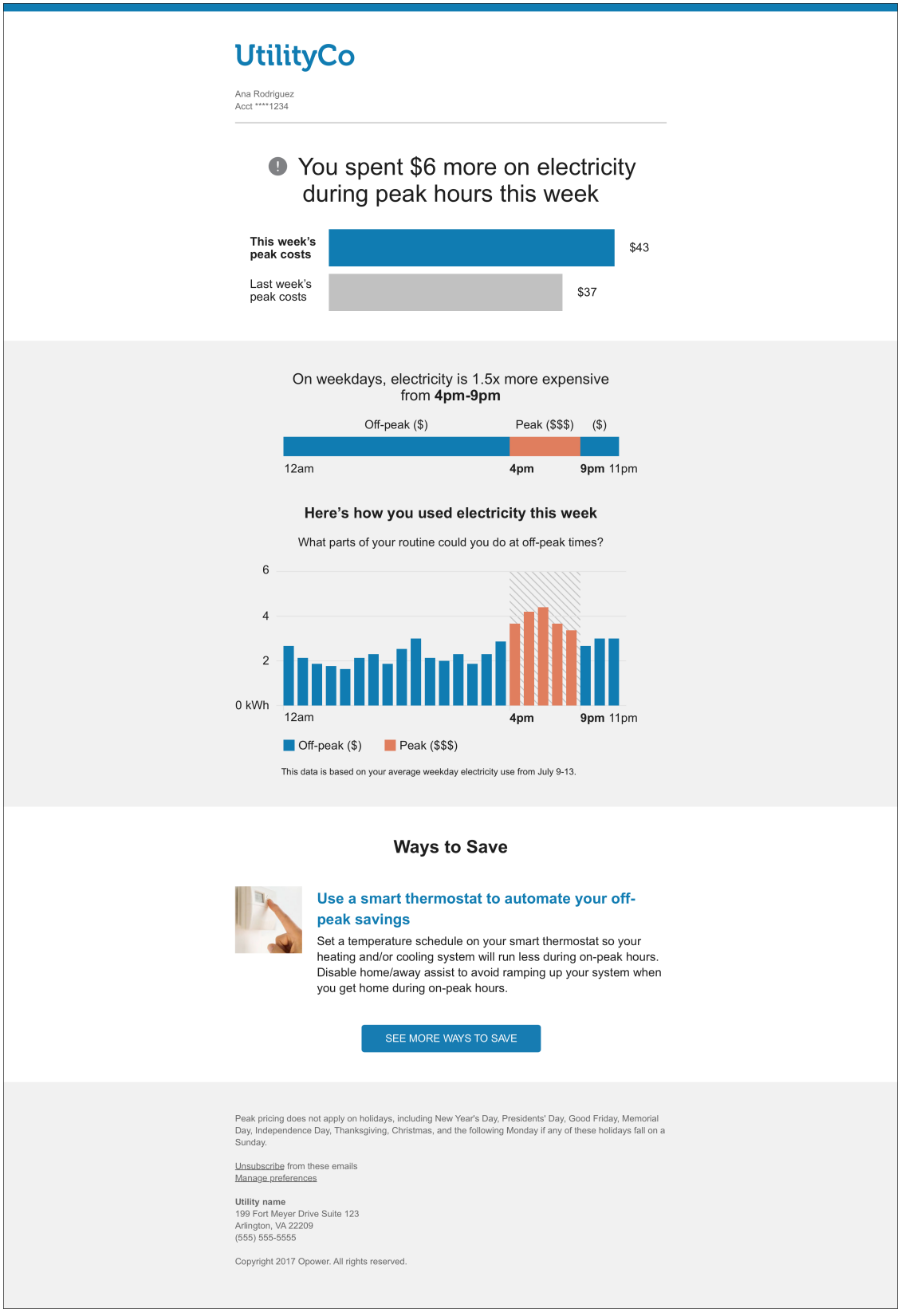
Weekly Coach Email

The Weekly Coach email provides peak hour energy use insights as well as a comparison between peak hour electricity spending during the current week and the previous week for customers without peak period disaggregation.

The Weekly Coach emails contain the following modules, in the order listed:

- Email Header and Subject Lines Modules
- Season Transition Module (Included during seasonal transition periods only.)
- Weekly Comparison Module
- TOU 101 Module
- Hourly Usage Module
- Tips Module
- Easy Open Module (optional)
- Email Footer Module

Figure 2-2 Weekly Email



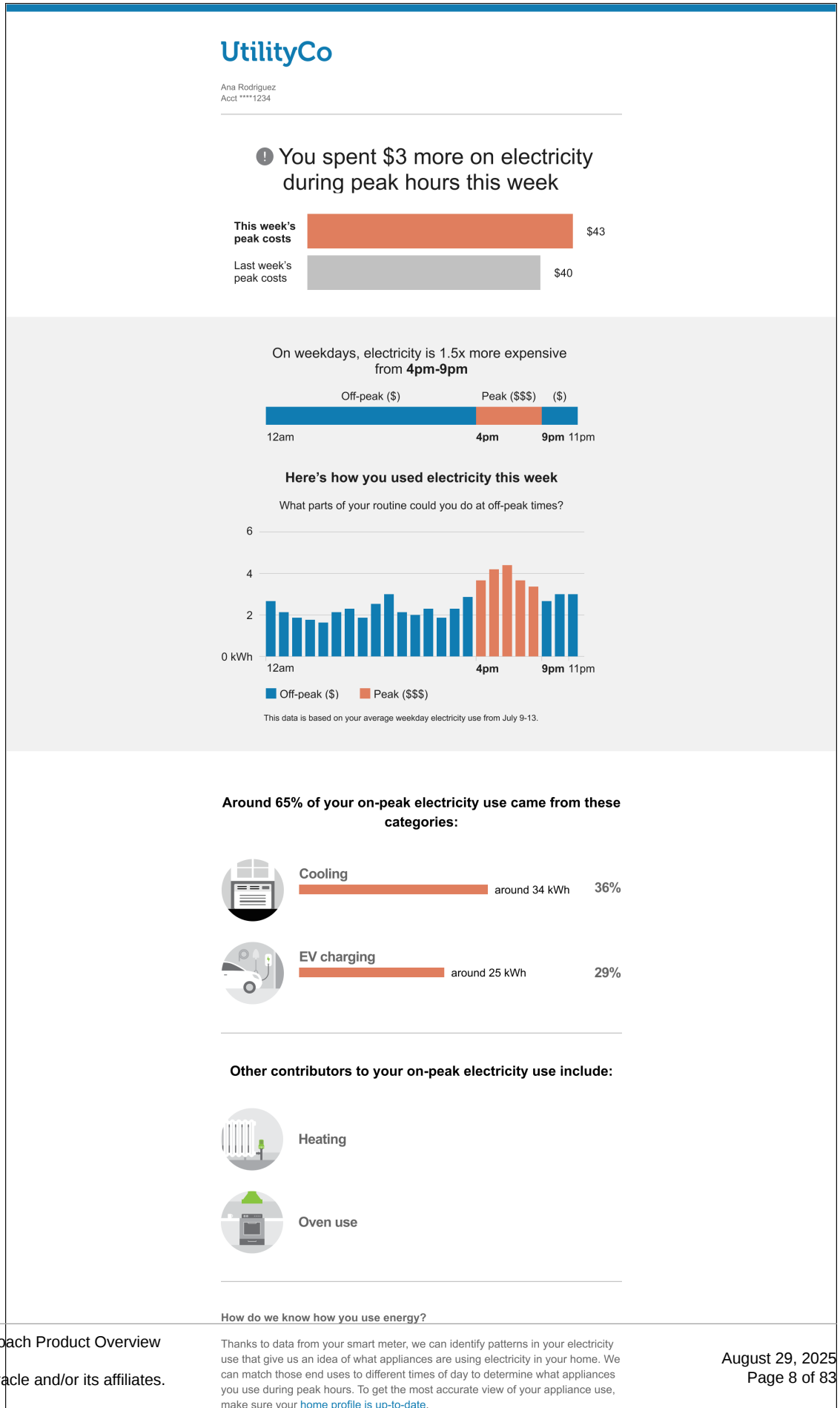
Weekly Coach Email with Peak Period Disaggregation

The Weekly Coach email with peak period disaggregation is sent to customers selected for the peak disaggregation experience. The email provides peak hour energy use insights, a comparison between peak hour electricity spending during the current week and the previous week, and a breakdown of up to three appliances that were used during peak hours.

The Weekly Coach email with weekly peak period disaggregation contains these modules, in the order listed:

- Email Header and Subject Lines Modules
- Season Transition Module (Included during seasonal transition periods only.)
- Weekly Comparison Module
- TOU 101 Module
- Hourly Usage Module
- Weekly Peak Period Disaggregation Module
- Tips Module
- Easy Open Module (optional)
- Email Footer Module

Figure 2-3 Weekly Email with Disaggregation



Peak Usage Summary Emails

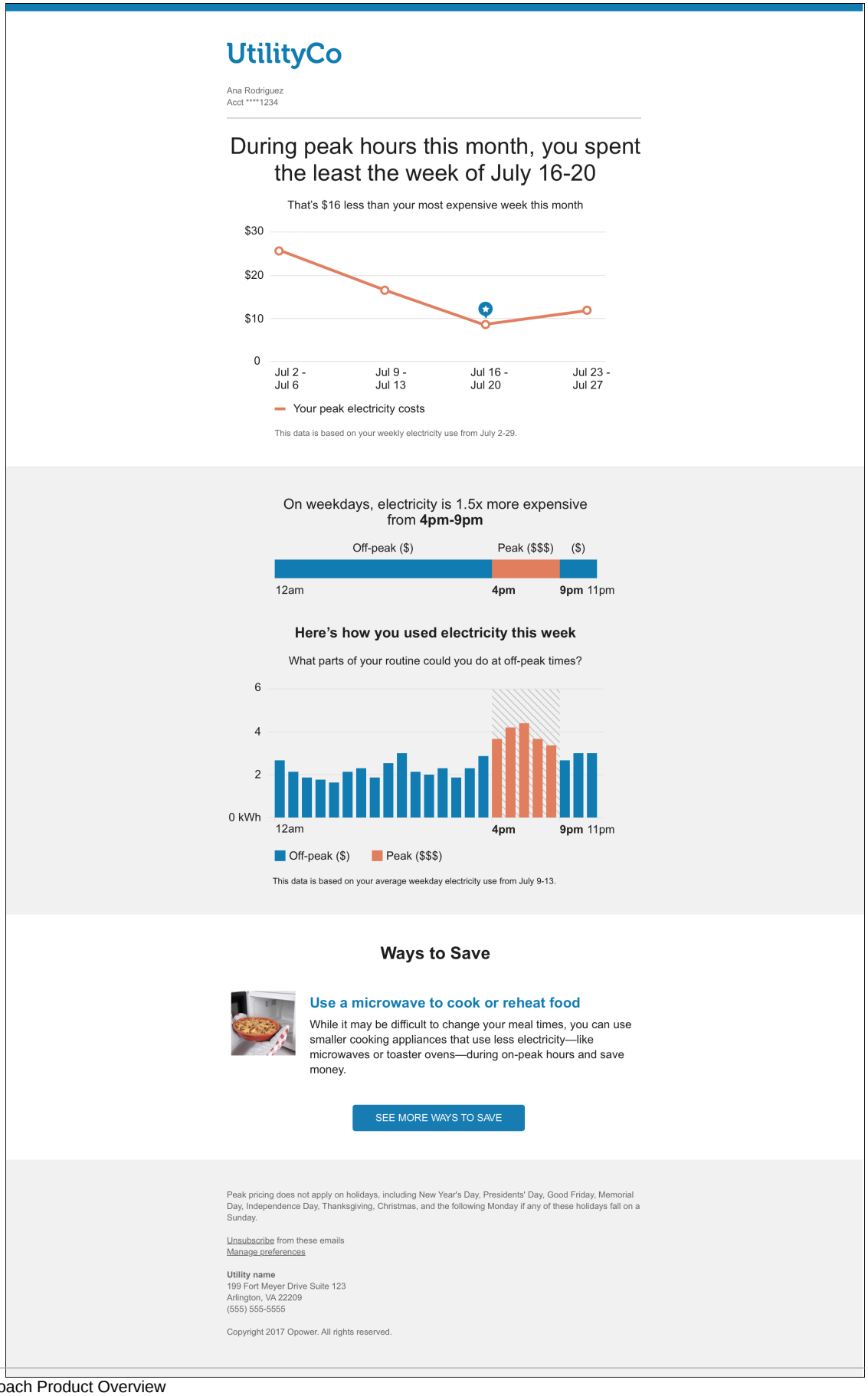
The Peak Usage Summary email is delivered every four weeks to customers participating in the standard TOU Rate Coach email experience. The Peak Usage Summary email includes details about how the customer's electricity costs during peak hours changed throughout the month. It also lists the week during which peak hour electricity costs were lowest, and highlights the cost difference between this week and the week during which peak hour electricity costs were highest.

> **Note**
>
> Customers selected for the peak disaggregation experience receive the Post-Bill Report email instead of a Peak Usage Summary email.

The Peak Usage Summary emails contain these modules:

- Email Header and Subject Lines Modules
- Season Transition Module (Included during seasonal transition periods only.)
- Peak Usage Summary Module
- TOU 101 Module
- Hourly Usage Module
- Tips Module
- Easy Open Module (optional)
- Load Shifting Collective Benefit Module
- Email Footer Module

Figure 2-4 Peak Usage Summary Emails



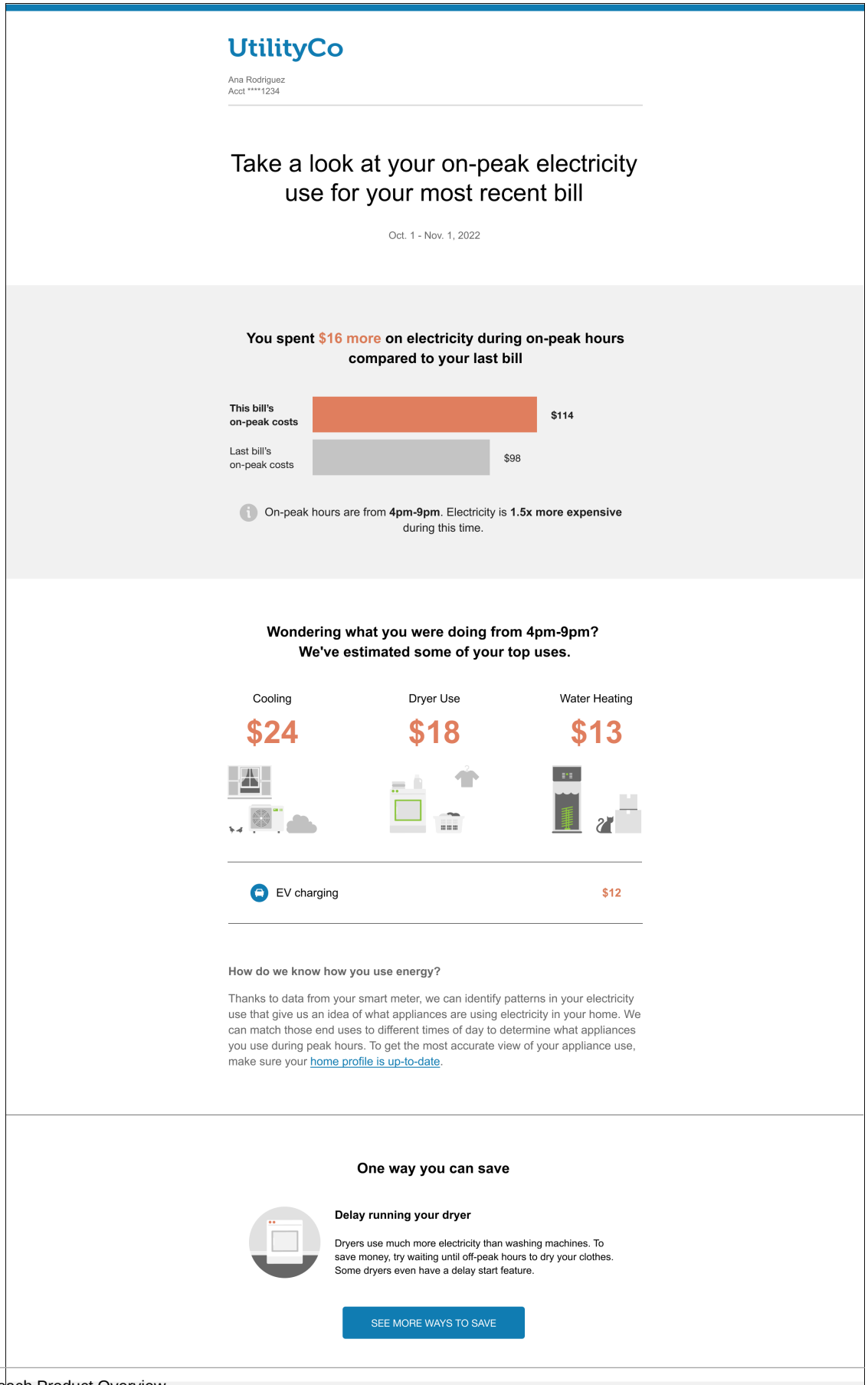
Post-Bill Report Emails

The Post-Bill Report is delivered to customers selected for the peak disaggregation experience in place of the Peak Usage Summary email each month. The report helps customers understand which appliances they are using during peak hours, and how that usage contributes to their energy charges under a TOU rate plan. It includes a comparison of peak usage or costs between the customer's most recent bill and previous bill, a peak period disaggregation module, and a tip.

By default, the Post-Bill Report emails contain these modules, in the order listed:

- Email Header and Subject Lines Modules
- Post-Bill Report Header Module
- Post-Bill Bill Comparison Module
- Post-Bill Peak Period Disaggregation Module
- Tips Module
- Load Shifting Collective Benefit Module
- Email Footer Module

Figure 2-5 Post-Bill Report Email



Customer Experience: Demand Rate Coach Emails

The Demand Rate Coach emails are intended to:

- Increase satisfaction and comprehension for utility customers on demand rate plan.
- Reduce electricity usage during peak hours.
- Reduce demand charges for utility customers.
- Reduce calls to the utility's call center from customers with demand rate plans.
- Increase customer retention on demand rate plans.

Customers receive one of the following Demand Rate Coach emails each week:

- Introduction emails
- Weekly Coach emails
- Monthly Demand Report emails

Each email is comprised of individual modules. Some of these modules are used in both the TOU Rate Coach emails and the Demand Rate Coach emails.

Additionally, the Easy Open Module, which is included in the Proactive Alerts Cloud Service, can also be included in Rate Coach emails.

> **Note**
>
> Oracle recommends using the default order of the modules, as the emails were designed to be read from top to bottom, to provide the reader with an easy-to-understand message about their energy use. The default order of the modules for each email is listed in the following topics.

Introduction Emails

The first email customers receive as part of the Demand Rate Coach program is the Introduction email. The Introduction email is designed to welcome customers with Demand rate plans to the program, and to provide peak hour energy use insights. The message offers tips on how to reduce energy use during peak hours and how to decrease demand charges. The email also encourages customers to use less during peak hours by including information about the average savings of other utility customers who have shifted their use to off-peak hours.

By default, the Introduction email contains these modules, in the order listed:

- Email Header and Subject Lines Modules
- Demand Introduction Module
- Demand 101 Module
- Hourly Usage Module
- Demand Education Module
- Demand Big Appliances Module
- Easy Open Module (optional)
- Email Footer Module

Figure 2-6 Introduction Email (Part 1)

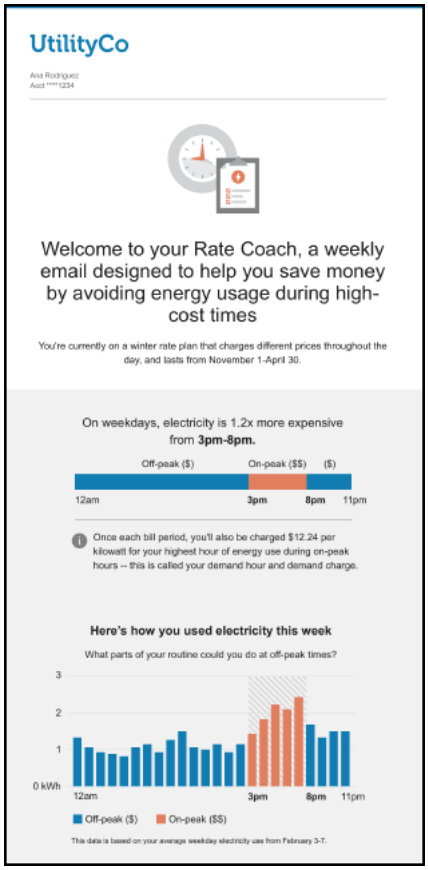
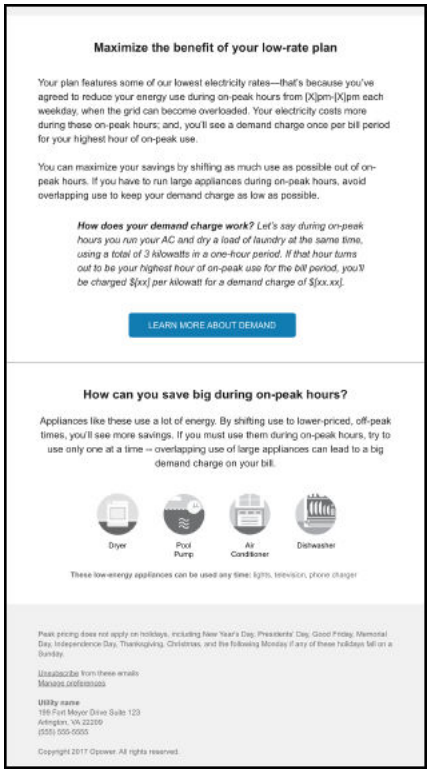


Figure 2-7 Introduction Email (Part 2)



Weekly Coach Emails

The Weekly Coach email is delivered to customers each week as part of the Demand Rate Coach email program. It provides peak hour and demand energy use insights as well as a comparison between peak hour electricity spending during the current week and the previous week. Customers begin receiving the Weekly Coach email after they receive their Introduction email, and do not receive the Weekly Coach email in weeks when they receive the Monthly Demand Report email.

By default, the Weekly Coach emails contain these modules, in the order listed:

- Email Header and Subject Lines Modules
- Weekly Comparison Module
- Demand 101 Module
- Hourly Usage Module
- Demand Tracker Module
- Tips Module
- Easy Open Module (optional)
- Email Footer Module

Figure 2-8 Weekly Email (Part 1)

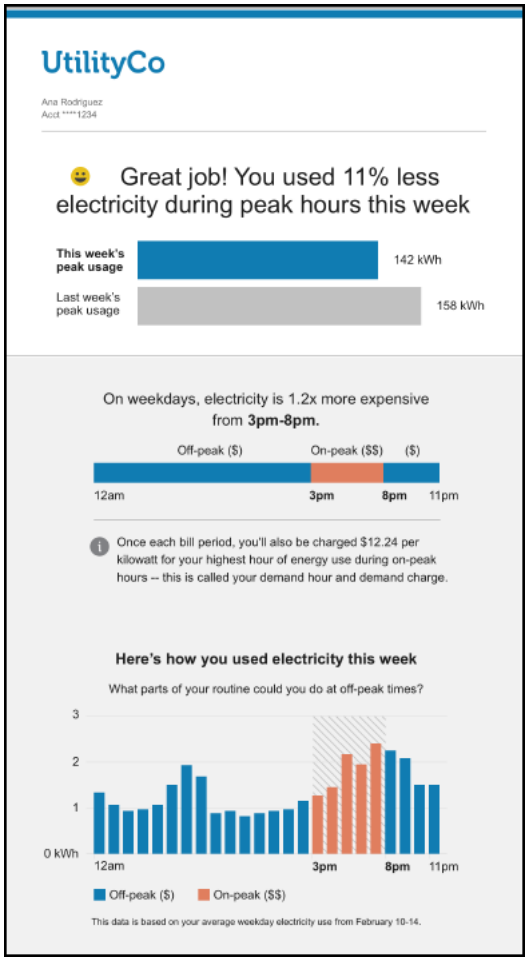
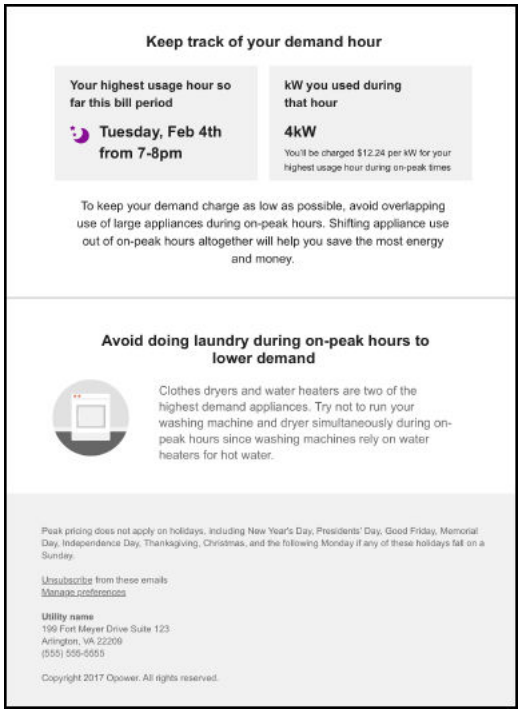


Figure 2-9 Weekly Email (Part 2)



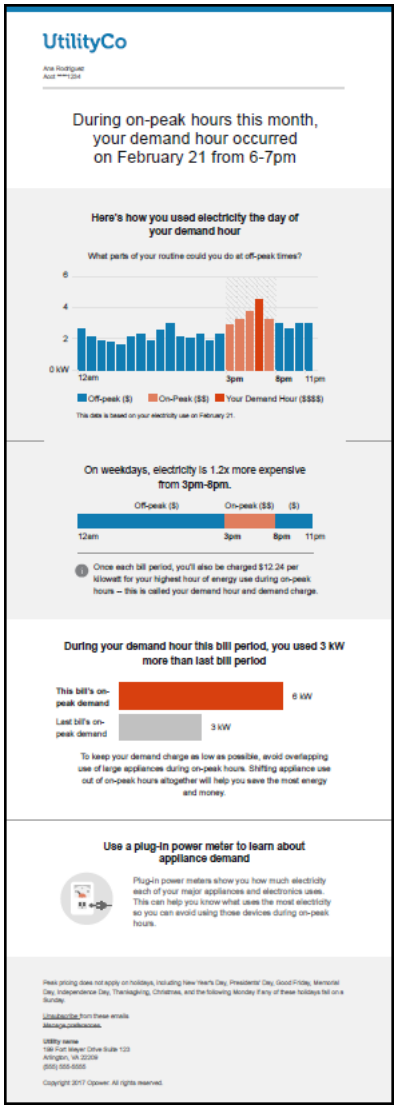
Monthly Demand Report Emails

The Monthly Demand Report email is delivered to customers every month, just after they receive their bill. This email is designed to help a customer reduce bill shock, and to help them understand demand charges. It includes details about when the customer's demand hour occurred during the month, shows how electricity was used on that day, and provides information about how the demand charge is calculated. It also compares the demand hour from the current bill to the demand hour from the previous bill, and provides tips about how the customer can save money and energy.

By default, the Monthly Demand Report emails contain these modules, in the order listed:

- Email Header and Subject Lines Modules
- Demand Report Header Module
- Demand Day Usage Module
- Demand 101 Module
- Demand Value Comparison Module
- Tips Module
- Easy Open Module (optional)
- Email Footer Module

Figure 2-10 Monthly Demand Report Email



Enrollment

Customers can be enrolled to receive Load Shifting Rate Coach emails through an opt-out program. In an opt-out program, customers are automatically enrolled as long as they meet the eligibility criteria, and they can unsubscribe at any time.

Delivery Rate Coach Emails

Load Shifting Rate Coach emails are regularly scheduled communications. The rules that govern delivery of these emails include:

Waking Hours: Messages must be delivered during waking hours (between 9 a.m. and 6 p.m.) in a utility-specific delivery window. You cannot choose the specific time to send.

Weekdays: Messages must be delivered only on business days (Monday-Friday). They cannot be delivered on weekends.

Weekly Cycle: Weekly cycles begin on Monday at 12:00:00 AM (midnight) and end on Sunday at 11:59:59 PM. This is consistent with how people typically think about weekly events, and allows customers to better analyze their weekday usage compared to their weekend usage. The email is sent as close to the end of the weekly cycle as possible, depending upon when the AMI data becomes available. Weekly cycles and billing cycles are independent of one another. A weekly cycle may contain the end of one billing cycle and the beginning of another.

> **Note**
>
> Emails are not sent any later than 96 hours, or four days, after the end of the weekly cycle. For example, if the weekly cycle covers Monday morning through Sunday night, an email will not be sent later than the following Thursday night. This expiration parameter can be configured for each utility. Emails are not sent to customers whose data is either unavailable or does not become available until after the expiration.

Delivery Frequency: Ideally, customers will receive their weekly email shortly after the end of a weekly cycle. This is typically 2-4 days after the data is received by the utility. During the first week, customers receive the Introduction email. Every fourth week, the Peak Usage Summary or Post Bill Report email is delivered to TOU customers, and the Monthly Demand Report email is delivered to demand rate customers. During all other weeks, customers receive the weekly email. Note that customers cannot opt out of one type of Rate Coach email without also opting out of all Rate Coach emails.

Blackout Periods: Blackout periods are a span of time (usually a certain week or day) during which clients do not want us to send email communications to their customers. Blackout periods are not supported for these emails.

Emails and Attachments: Email content is delivered directly in the email message with no attachments. This makes it more convenient for customers to quickly view the information, and it makes the emails less likely to be blocked by spam filters.

Providing Customer Support

Customer Service Representatives can do the following in the Oracle Utilities Opower Customer Service Interface (CSI) to assist with customer inquiries related to Load Shifting Rate Coach emails:

- Review copies of Load Shifting Rate Coach communications sent to customers

See Supporting Load Shifting Rate Coach for additional information.

Load Shifting Rate Coach Email Modules

Load Shifting Rate Coach emails are made of up individual modules. This section describes the modules used in each of the emails.

Note that the Easy Open Module, which is included in the Proactive Alerts Cloud Service, can also be included in Rate Coach email communications.

The following modules are available:

Big Appliances Module

Demand 101 Module

Demand Big Appliances Module

Big Appliances Module

This module educates customers about which appliances use the most electricity, and which are low-usage appliances. This information enables customers to understand how they can shift the usage of their appliances to save money during peak hours.

User Experience

This module includes the following components:

Heading: This statement tells customers that the information in this module will help them save money during peak hours.

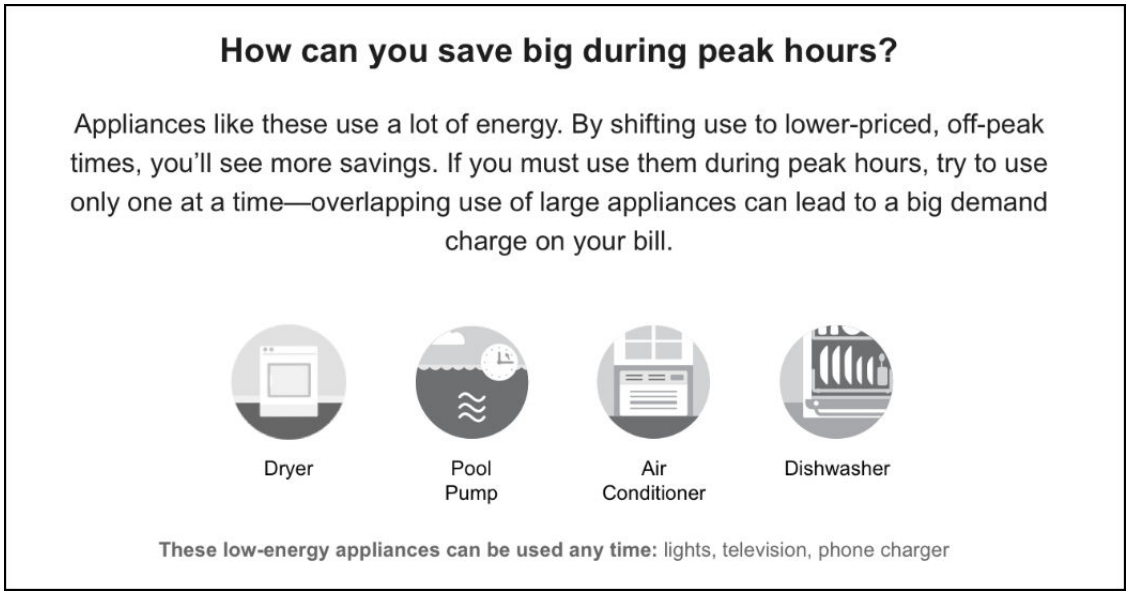
High-Energy Insight Statement: This statement tells customers that big appliances typically use the most energy, and that they can save money by using these high-usage appliances during off-peak hours. The statement is followed by graphics of these large appliances with labels:

- Washer/Dryer
- Pool Pump
- Air Conditioner

- Dishwasher

Low-Usage Insight Statement: This statement tells customers which appliances are low-usage, and can be used at any time.

Figure 2-11 Big Appliances Module



User Experience Variations

This module has no user experience variations.

Demand 101 Module

The Demand 101 module is used to educate customers about how their demand charge is calculated. The Demand 101 module provides customers with information such as:

- How much more expensive peak prices are than o□-peak prices.
- The hours during which electricity is most expensive.
- A visual timeline that displays o□-peak, partial-peak, and peak hours.
- An explanation of how the demand charge is calculated.

Requirements

This section discusses the customer requirements.

Category	Description
Data History	AMI data for the last two weeks.
Data Coverage	Demand rate plan data should be available for the week covered by the report.

User Experience

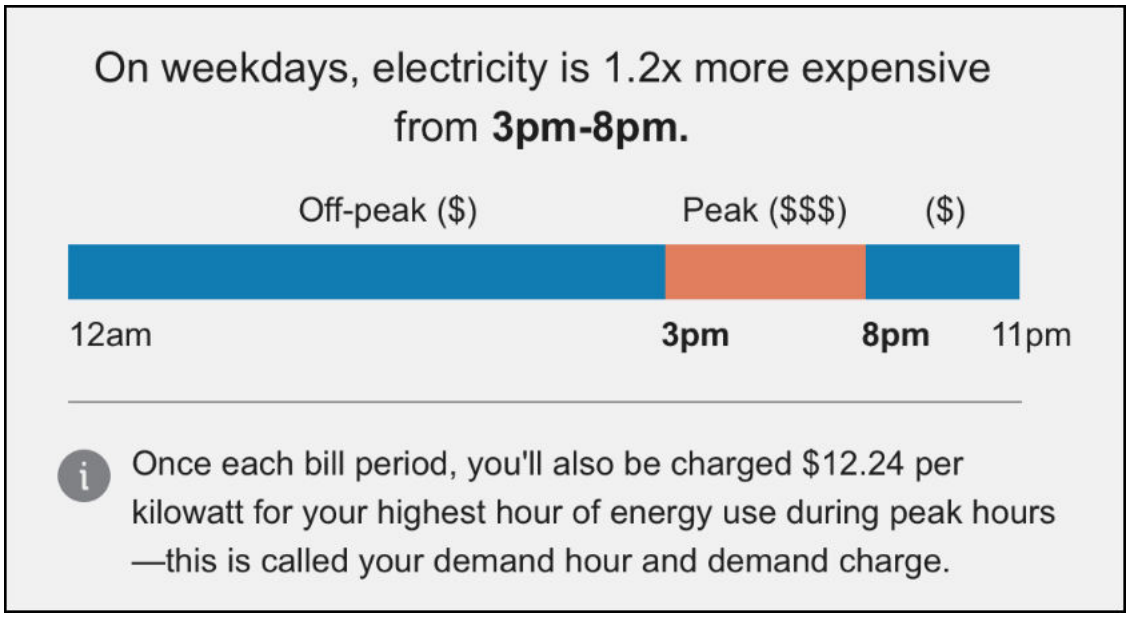
This module includes the following components:

Peak Hours Insight Statement: An insight statement at the top of the module identifies the peak hours, and provides information about how much more expensive energy use is during those hours. For example, "Electricity is 1.2x more expensive from 3pm-8pm."

Peak Hours Sliding Scale: The module includes a sliding scale that highlights the hours during the day when the customer's electricity is most expensive based on their rate plan. It is designed to inform customers when their electricity use will contribute most significantly to a higher energy bill.

Demand Charge Statement: Below the scale is a statement that explains the demand charge the customer receives each bill period. For example, "Once each bill period, you'll also be charged $12.24 per kilowatt for your highest hour of energy use during peak hours – this is called your demand hour and demand charge."

Figure 2-12 Demand 101 Module



User Experience Variations

This module has no user experience variations.

Demand Big Appliances Module

The Demand Big Appliance module educates customers about which appliances use the most electricity, and which are low-usage appliances. This information enables customers to understand how they can shift the usage of their appliances to reduce their energy use during peak hours. The module also lets customers know that they should avoid using multiple big appliances at the same time during peak hours to help reduce demand charges. The module includes illustrations of high-use appliances, including:

- Dryer
- Pool Pump
- Air Conditioner
- Dishwasher

User Experience

This module includes the following components:

Heading: The heading tells customers that the information in this module will help them save money during peak hours. The standard heading statement is, "How can you save big during peak hours?"

High-Energy Insight Statement: This statement tells customers which appliances typically use the most energy. The standard statement is, "Appliances like these use a lot of energy. By shifting use to lower-priced, off-peak times, you'll see more savings. If you must use them during peak hours, try to use only one at a time – overlapping use of large appliances can lead to a big demand charge on your bill."

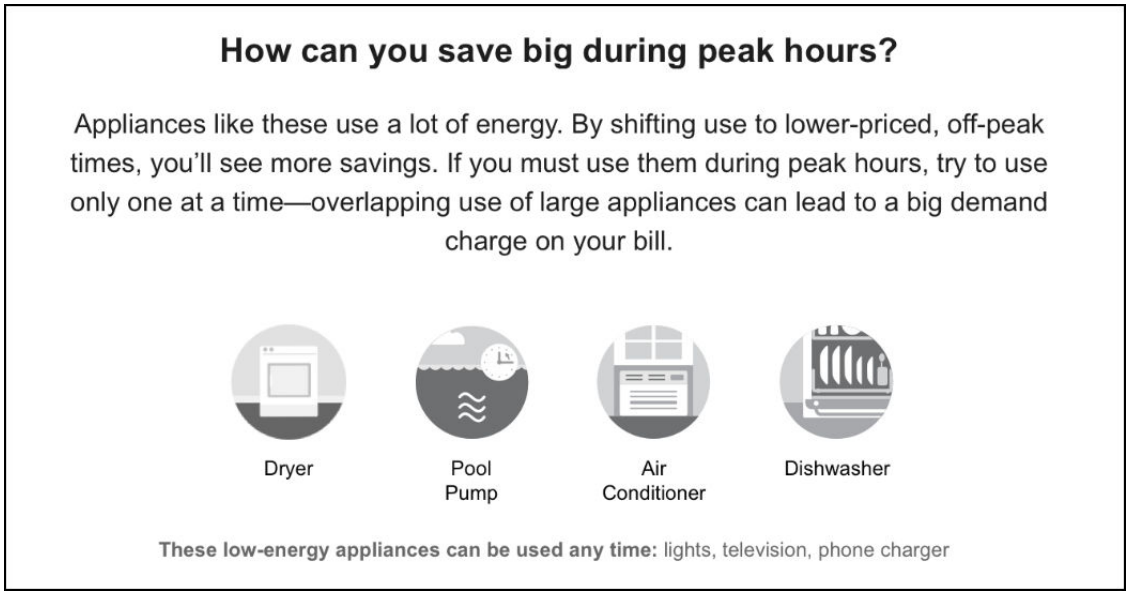
Appliance Graphics: This section lists graphics with labels for each included appliance. By default, the module displays the following graphics:

- Dryer
- Pool Pump
- Air Conditioner
- Dishwasher

Low-Usage Insight Statement: This statement tells customers which appliances are low-usage, and can be used at any time. The standard statement is, "These low-energy appliances can be used any time: lights, microwave, phone charger"

To see how this module fits into the overall user experience, see Design and Configuration: Demand Rate Coach Emails.

Figure 2-13 Demand Big Appliances Module



User Experience Variations

This module has no user experience variations.

Demand Day Usage Module

The Demand Day Usage module educates customers about how much energy they use during peak hours on the day in which their demand hour occurred. The module encourages them to shift tasks to off-peak hours to lower their demand and save money.

User Experience

This module includes the following components:

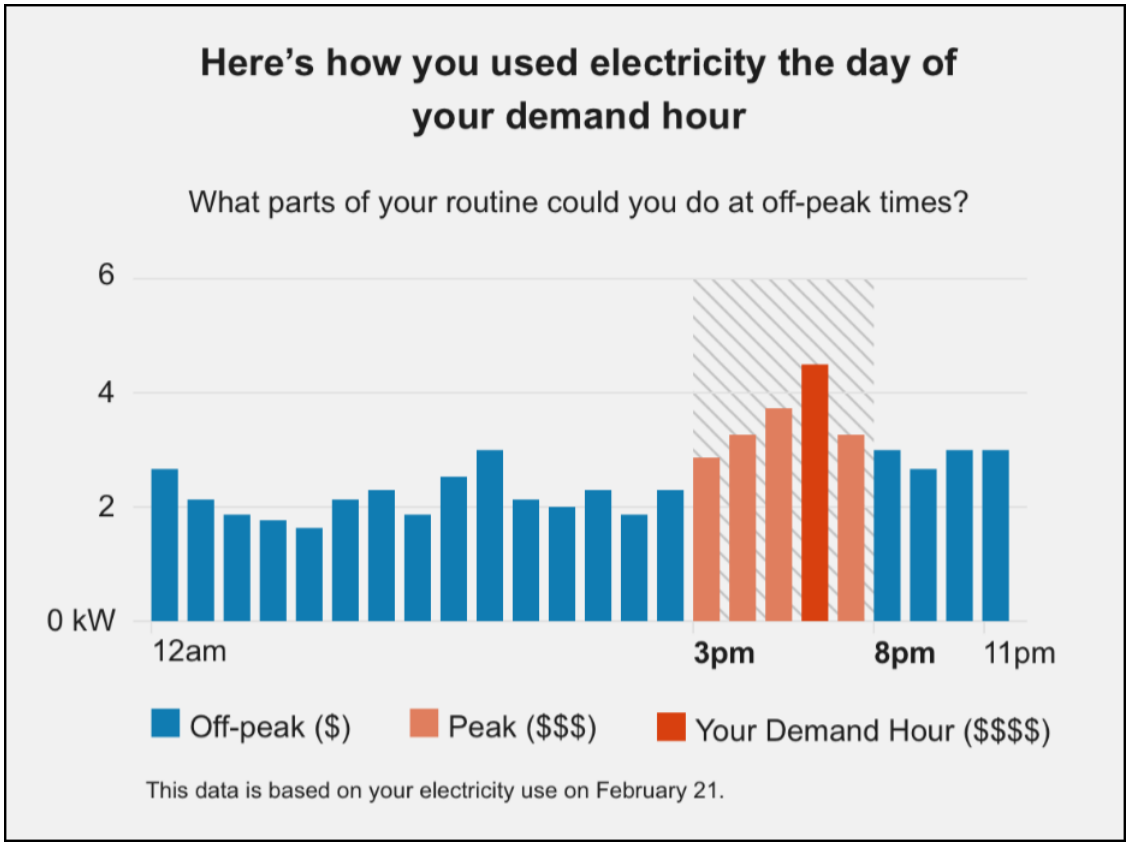
Heading and Introduction Statement: The Demand Day Usage module includes an introduction statement that tells the customer that the graph depicts how they used energy on the day during which their demand hour occurred. Below this statement is a question that asks them what parts of their routine they can do during off-peak hours, which encourages them to shift tasks to lower-cost times of the day.

Hourly Usage Bar Chart: The module includes a chart of the customer's hourly electricity demand during the day on which their demand hour occurred. The chart highlights peak hours and the specific demand hour, to draw attention to how the customer's average electricity usage during peak hours compares to their off-peak usage.

Date Range Statement: A statement below the chart identifies the dates the graph is based on. For example, "This data is based on your electricity use on February 21." Optionally, you can add the bill period start and bill period end dates to the end of the statement. For example, the last sentence might read "Bill period start: Feb 1, bill period end: Feb 28."

This image shows an example of the Demand Day Usage module:

Figure 2-14 Demand Day Usage Module



User Experience Variations

This module has no user experience variations.

Demand Education Module

The Demand Education module was designed with two specific goals in mind:

- To help customers better understand their demand rate plan.
- To provide an example of how a demand charge works.

This module helps customers better understand the benefits associated with demand rates, and how their demand charge is calculated.

User Experience

This module includes the following components:

Heading: The heading tells customers how they can maximize their savings on a time of use with demand rate plan. The default heading is "Maximize the benefit of your <plan name> plan", where the name of the plan is configurable.

Education Statement: This statement explains the details of the customer's rate plan, and educates them bout their peak times, their demand rates, and how their demand charge is calculated. The default statement is:

Your plan features some of our lowest electricity rates–that's because you've agreed to reduce your energy use during peak hours from <Xpm-Xpm> each weekday, when the grid can become overloaded. Your electricity costs more during these peak hours; and, you'll see a demand charge once per bill period for your highest hour of peak use.

You can maximize your savings by shifting as much use as possible out of peak hours. If you have to run large appliances during peak hours, avoid overlapping use to keep your demand charge as low as possible.

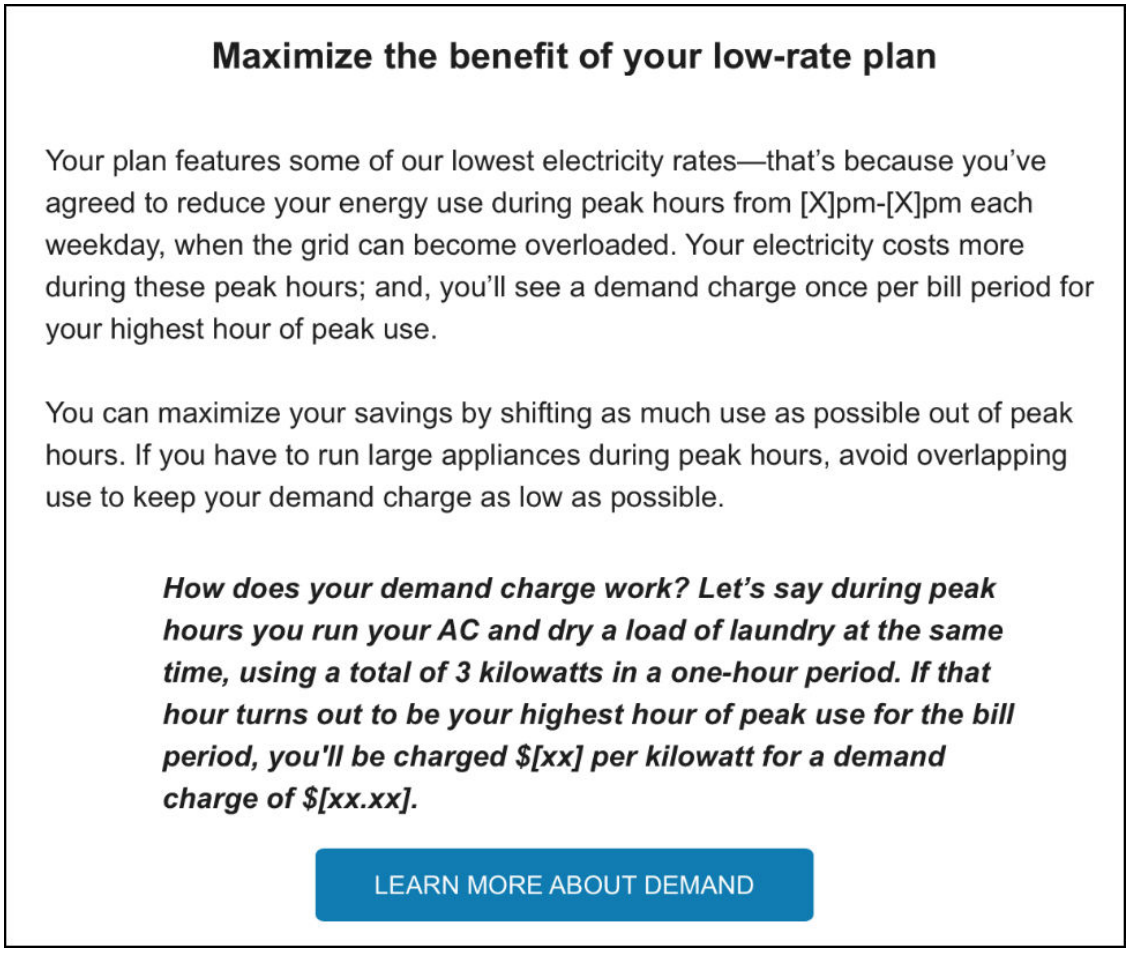
Demand Charge Explanation: This section provides specific information about how the demand charge is calculated each bill period. The per kilowatt charge and the calculated demand charge totals are dynamically calculated based on the rate plan details. The default statement reads:

How does your demand charge work? Lets say during peak hours you run your AC and dry a load of laundry at the same time, using a total of 3 kilowatts in a one-hour period. If that hour turns out to be your highest hour of peak use for the bill period, you'll be charged $<XX> per kilowatt for a demand charge of $<xx.xx>.

Learn More About Demand Button: When clicked, this button directs customers to a utility website that provides explanatory information about their rate plan.

This image shows an example of the Demand Education module:

Figure 2-15 Demand Education Module



User Experience Variations

This module has no user experience variations.

Demand Introduction Module

The Demand Introduction module introduces customers to the Demand Rate Coach email program.

User Experience

This module includes the following components:

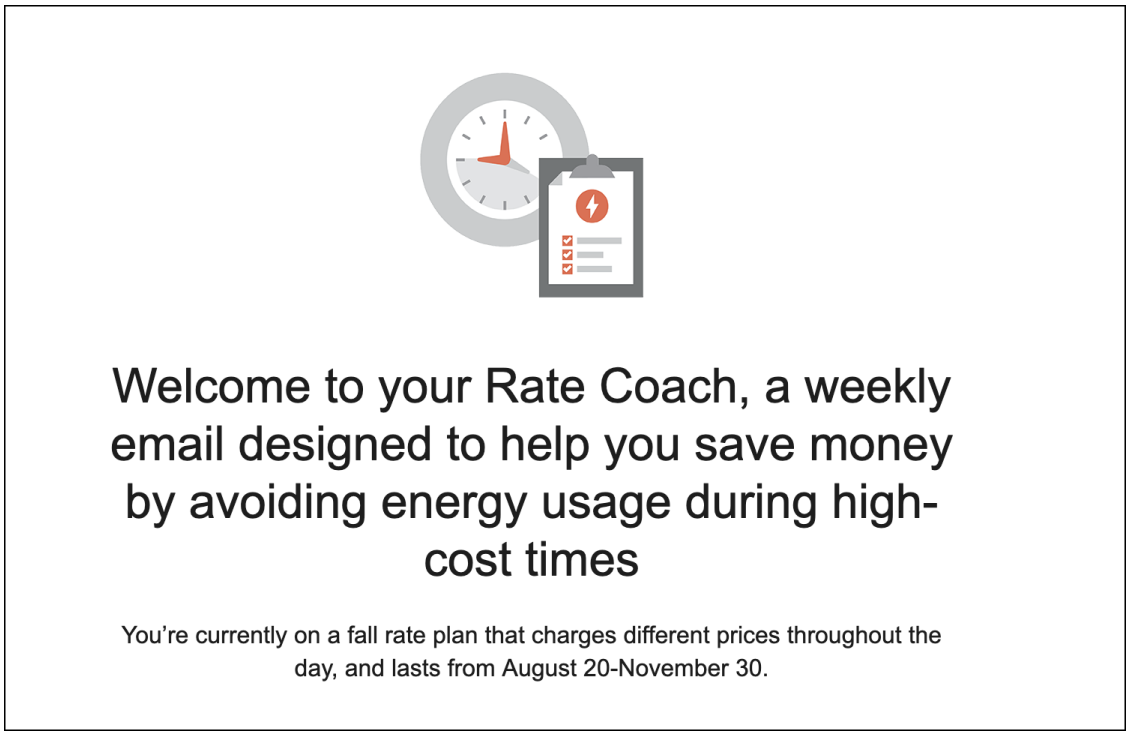
Image: The welcome image appears just below the header.

Welcome Message: The welcome message appears below the image and introduces customers to the Demand Rate Coach email program. The message is designed to encourage customers to use less during peak hours.

Insight Statement: The insight statement describes the customer's rate plan, and explains how prices change throughout the day.

This image shows an example of the Demand Introduction module:

Figure 2-16 Demand Introduction Module



User Experience Variations

This module has no user experience variations.

Demand Report Header Module

The Demand Report Header module notifies customers of when their demand hour occurred during the current month. This module is included only in the Demand Report email, and appears at the top, below the standard email header.

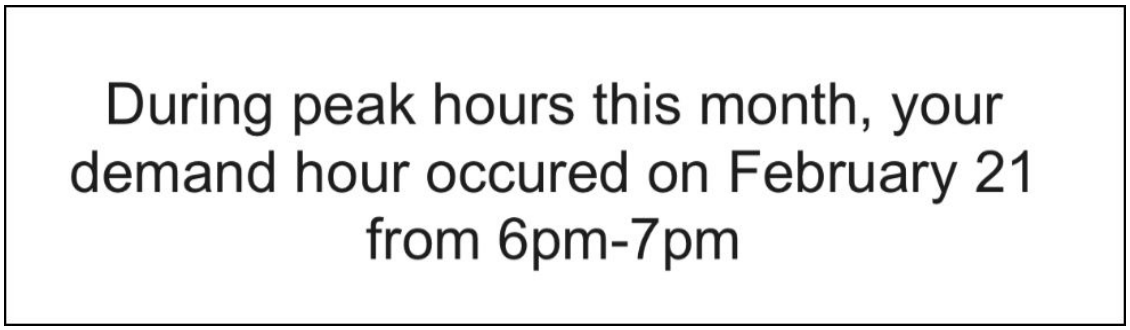
User Experience

This module includes the following components:

Demand Hour Insight Statement: The entire module consists of an insight statement that notifies customers of their demand hour during the month. By default, the statement reads, "During peak hours this month, your demand hour occurred on <Date> from <Xpm-Xpm>".

This image shows an example of the Demand Report Header module:

Figure 2-17 Demand Report Header Module



User Experience Variations

This module has no user experience variations.

Demand Tracker Module

The Demand Tracker module informs customers about the demand charge that will be included in their current billing period. Note the module does not identify the highest hour for the current week, but rather shows the highest demand hour during the current bill period. This hour might not have occurred in the current week. If the customer's demand charge has increased during the current week, the module notifies the customer that their demand charge increased during the current bill period.

This module also provides savings insights that help customers understand how shifting the use of high-energy appliances to off-peak hours can help them save money.

User Experience

This module includes the following components:

Module Header: The header tells the customer that this module will help them keep track of their demand hour. The default heading reads, "Keep track of your highest usage hour".

Demand Hour Box: The box on the left tells the customer when their demand hour occurred in the current bill period. For example, "Your highest usage hour so far this bill period". The

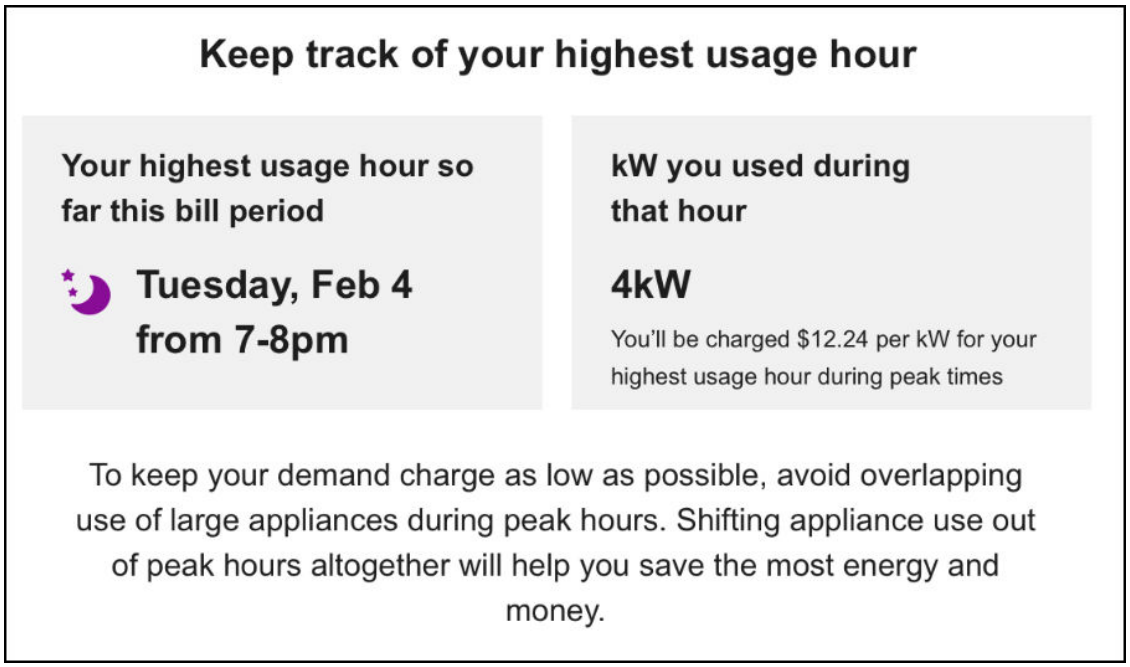
statement is followed by the date and time of the demand hour. For example, "Tuesday, Feb 4 from 7-8pm".

Demand Charge Box: The box on the right explains how the demand charge is calculated. This box tells the customer how many kilowatts they used during their demand hour, and provides information about the demand charge per kW during that hour. The first statement in the box reads, "kW used during that hour", followed by the actual number of kW used. For example, "4kW". Below the usage number is a statement that provides details about the price per kW during that demand hour. For example, "You'll be charged $12.24 per kW for your highest usage hour during peak times." The price is pulled from the utility's rate plan.

Savings Statement: Below the boxes is a statement that tells customers how they can save energy and money related to their demand charge. For example, "To keep your demand charges as low as possible, avoid overlapping use of large appliances during on-peak hours. Shifting appliance use out of on-peak hours altogether will help you save the most energy and money." Optionally, you can add the bill period start and bill period end dates to the end of the statement. For example, the last sentence might read "Bill period start: Feb 1, bill period end: Feb 28."

This image shows an example of the Demand Tracker module:

Figure 2-18 Demand Tracker Module



User Experience Variations

This topic covers the variations that can occur in this module.

New Demand Hour This Week

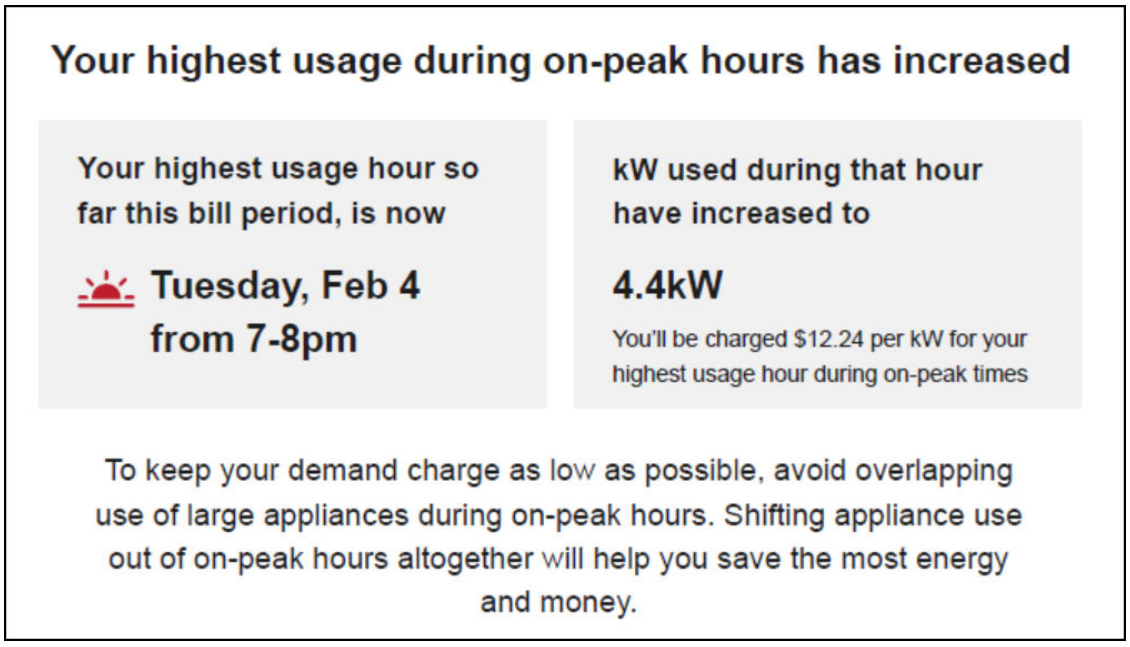
If the customer surpasses their highest demand in the current bill period, the module changes as follows to identify that the highest hour usage has increased since the last weekly email:

Heading: The heading changes to, "Your highest usage during peak hours has increased".

Demand Hour Box: The text in this box changes to, "Your highest usage hour so far this bill period is now".

Demand Charge Box: The ext in this box changes to, "kW used during that hour have increased to".

Figure 2-19 New Demand Hour



Demand Value Comparison Module

The Demand Value Comparison module compares the customer's billed demand in the current bill period to their billed demand in the previous bill period, and provides varying feedback based on how the customer's usage in the current period compares to the previous period.

User Experience

This module includes the following components:

Insight Statement: An insight message above the graph varies based on how the customer's billing demand in the current period compares to the previous period. For example, if the customer used more energy during their demand hour this period than they did last period, the default message reads, "During your demand hour this bill period, you used <X> kW more than last bill period." The insight message changes based on the customer's usage comparison during peak hours. The system uses a threshold of 0.1 KW to determine whether the customer used more/less than the previous period. For example, if the customer uses .05 KW more or less than the previous period, the statement would read that they used about the same as last period.

Bar Graph: The Demand Value Comparison module includes a horizontal bar graph that compares the customer's billing demand in the current period to their billing demand during the previous bill period.

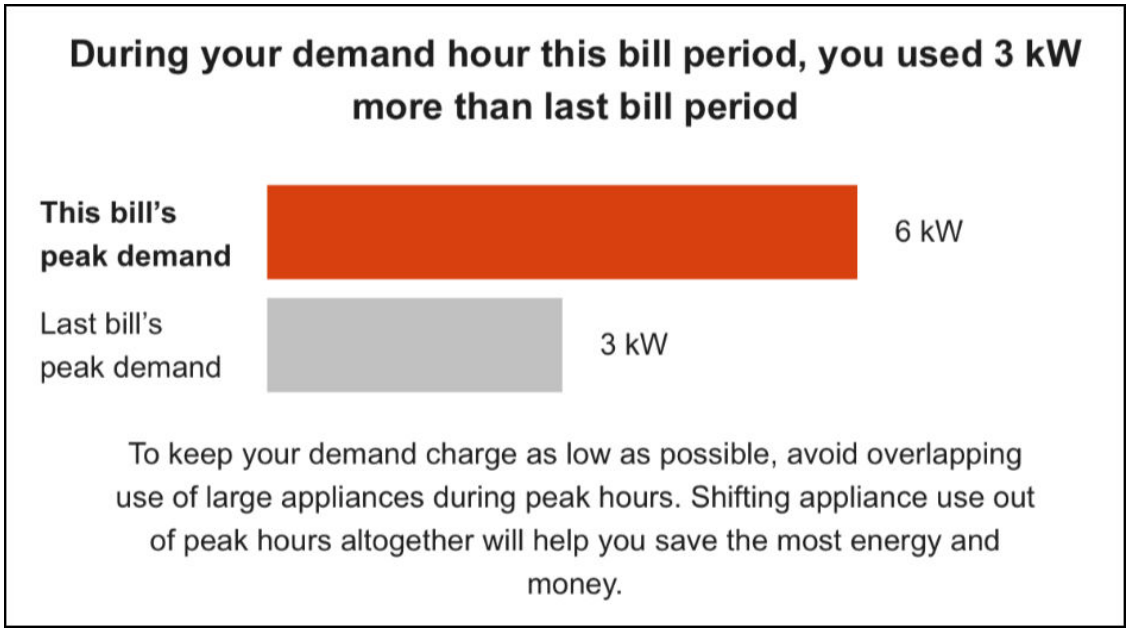
Bar Graph Labels: Each of the bars in the graph contains a label that identifies whether the bar displays data from this period or the previous period. The default text for each bar is:

- This bill's <peak period name> demand
- Last Bill's <peak period name> demand

Explanatory Statement: Below the graph, an explanatory statement helps clarify how users can lower their demand charge. The default statement reads, "To keep your demand charge as low as possible, avoid overlapping usage of large appliances during peak hours. Shifting appliance use out of peak hours altogether will help you save the most energy and money."

This image shows an example of the Demand Value Comparison module:

Figure 2-20 Demand Value Comparison Module



User Experience Variations

This section discusses how the module can vary.

Customer Used Less This Period

If a customer used less energy during their demand hour this period than they did during the previous period, the module displays the following:

Insight Statement: During your demand hour this bill period, you used <X> kW less than last bill period.

Customer Used About The Same This Period

If a customer used about the same during their demand hour as they did the previous period, the module displays the following:

Insight Statement: During your demand hour this bill period, you used <X> kW, the same as the last bill period.

Email Header Module and Subject Lines

These modules deliver high-level information to the customer and introduces users to their BLS Coach emails. These modules are used in both the TOU Rate Coach and the Demand Rate Coach emails.

User Experience

The Header module includes the following components:

Subject Line: The subject lines are designed to engage customers. An example of a subject line is, "Michael, you spent less on electricity during peak hours last week (Sep 17 - Sep 23)".

Subject lines change based on the following criteria:

- Which email the customer receives.
- Whether the email contains cost or usage data.
- Whether the customer spent more or less for the covered time period.

Header Component: The header includes a logo provided by the utility.

This image shows an example of the header:

Figure 2-21 Email Header Module

User Experience Variations

This section describes user experience variations in the Subject Line module.

Subject Line Variations for TOU Rate Coach Emails

The subject lines for each TOU Rate Coach user experience are listed below.

Email Type	Usage Variation	Cost Variation
TOU Rate Coach Introduction Email	Hi <first name>, welcome to your weekly Rate Coach	Hi <first name>, welcome to your weekly Rate Coach
TOU Rate Coach Weekly Email and TOU Rate Coach Weekly Email with Peak Period Disaggregation Customer Spends Less	<first name>, you used less electricity during peak hours last week <date range>	<first name>, you spent less on electricity during peak hours last week <date range>

Email Type	Usage Variation	Cost Variation
TOU Rate Coach Weekly Email and TOU Rate Coach Weekly Email with Peak Period Disaggregation Customer Spends More	<first name>, you used more electricity during peak hours last week <first name>, <date range>	<first name>, you spent more on electricity during peak hours last week <date range>
TOU Rate Coach Weekly Email and TOU Rate Coach Weekly Email with Peak Period Disaggregation Customer Spends About The Same	<first name>, you used about the same amount of electricity during peak hours last week <date range>	<first name>, you spent about the same on electricity during peak hours last week <date range>
TOU Rate Coach Peak Usage Summary Email Default	Hi <first name>, you used the least amount of electricity during peak hours the week of <date range>	Hi <first name>, you spent the least amount of electricity during peak hours the week of <date range>
TOU Rate Coach Peak Usage Summary Email Flat Peak Usage	Hi <first name>, here's how you used electricity during peak hours the week of <date range>	Hi <first name>, here's how much you spent on electricity during peak hours the week of <date range>
TOU Rate Coach Post-Bill Report Email Customer used less/spent less than last bill period	Hi <first name>, you used less electricity during on-peak hours this bill period <date range, year>	Hi <first name>, you spent less on electricity during on-peak hours this bill period <date range, year>
TOU Rate Coach Post-Bill Report Email Customer used more/spent more than last bill period	Hi <first name>, you used more electricity during on-peak hours the week of <date range, year>	Hi <first name>, you spent more on electricity during on-peak hours the week of <date range, year>
TOU Rate Coach Post-Bill Report Email Customer used/spent about the same as last bill period	Hi <first name>, you used around the same amount of electricity during on-peak hours this bill period <date range, year>	Hi <first name>, you spent around the same amount of electricity during on-peak hours this bill period <date range, year>
TOU Rate Coach Pre Season Transition Email	Hi <first name>, your weekly Rate Coach has an update coming <date>	Hi <first name>, your weekly Rate Coach has an update coming <date>
TOU Rate Coach Post Season Transition Email	Hi <first name>, your weekly Rate Coach is here with new peak details	Hi <first name>, your weekly Rate Coach is here with new peak details

Subject Line Variations for Demand Rate Coach Emails

Default subject lines for the email that the customer receives, and to their specific experience. The subject lines for each Demand Rate Coach user experience are listed here:

Email Type	Usage Variation	Cost Variation
Demand Rate Coach Introduction Email	Hi <first name>, welcome to your weekly Demand Rate Coach	Hi <first name>, welcome to your weekly Demand Rate Coach
Demand Rate Coach Weekly Email Default	<first name>, it’s important to track your Demand Hour each week	<first name>, it’s important to track your Demand Hour each week

Email Type	Usage Variation	Cost Variation
Demand Rate Coach Weekly Email Demand Charge Increases	<first name>, your Demand Hour use went up	<first name>, your Demand Hour use went up
Monthly Demand Report Email	During your Demand Hour this month you used <XX>kW of electricity	During your Demand Hour this month you spent $<XX> on electricity

Email Footer Module

This module includes information that provides more context about the email, includes legal text, and enables users to unsubscribe from emails.

User Experience

This module includes the following components:

Holiday Statement: A statement that tells the customer that peak pricing does not apply to specified holidays. The list of holidays included can vary by utility customer.

Unsubscribe: A link to a page where customers can unsubscribe from TOU Coach Weekly emails. An unsubscribe link must appear due to CAN-SPAM regulations in the US and similar regulations abroad.

Note: Unsubscribing through the link provided in the email is permanent. Customers will never receive emails again and will be unable to opt back in at a later time. Opting out in this way also unsubscribes the customer from other Opower email communications, such as Weekly Energy Updates or email Peak Time Rebates. Also, note that unsubscribing through the email only unsubscribes the customer from email messages. It does not unsubscribe the customer from messages received through other channels, such as text or voice alerts.

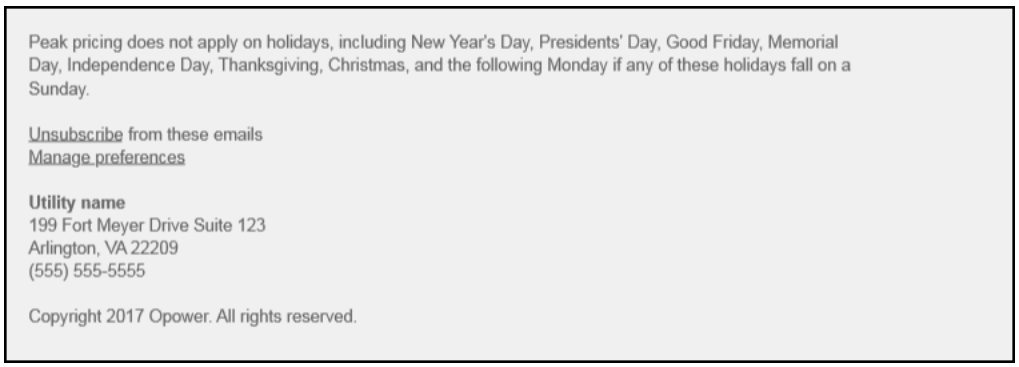
Manage Preferences: A link to the Web Portal page where a customer can edit their communication preferences.

Utility Contact Information: The utility's mailing address. The mailing address must appear due to CAN-SPAM regulations in the US and similar regulations abroad.

Legal Text: This is the copyright and any other legal text required by the utility and/or Oracle Utilities Opower.

This image shows an example of the footer:

Figure 2-22 Email Footer Module



User Experience Variations

This module has no user experience variations.

Hourly Usage Module

This module educates customers about how much electricity they use during peak hours and encourages them to shift tasks to off-peak hours to save money. The module supports partial-peak periods, multiple peak periods in a day, and weekday and weekend breakdowns.

Requirements and Limitations

This section discusses utility and customer requirements and limitations.

Customer Requirements

This table lists the customer requirements:

Category	Description
Data Requirements	AMI (hourly or more granular) data.
Data History	AMI data for the last 5 or 7 days, depending on whether the utility has peak hours on the weekends.
Data Coverage	The default requirement is: 50% read coverage for the week covered by the report. **Note** This product does not differentiate between estimated and non-estimated reads. Both types of reads are supported.

Limitations

These are the limitations:

- **Zero Usage**: If a customer hasn't used any electricity during the week, several checks are completed to determine whether to hide modules, or to fail the entire email communication. The checks are as follows:
  - **Introduction Email**: If the Hourly Usage module has 0 usages, exclude that module but send the communication.
  - **Weekly Email**: If the Weekly Comparison module has 0 usages, the communication is not sent. If the Hourly Usage module has 0 usages, the module is excluded from the communication.
  - **Peak Usage Summary Email**: If the Hourly Usage module has 0 usages, the module is excluded from the communication.
  - **Emails Including the Season Transition Module**: The Weekly Coach Email and the Peak Usage Summary Email can contain the Season Transition module. In cases where the emails include the pre-transition version of the module, if the Weekly Coach Email module has 0 usages, the module is excluded from the communication. If the Hourly Usage module has 0 usages, the module is excluded from the communication.

- **Rates with no on-peak period in a given season**: The module shows non-peak usage data when no on-peak time of use period is present. See the User Experience Variations.

User Experience

This module includes the following components:

Introduction Statement: This statement directs customers to the graph that depicts how they used energy this week. Below this statement is a question that asks them what parts of their routine they can do during off-peak hours, which encourages them to shift tasks to lower-cost times of the day.

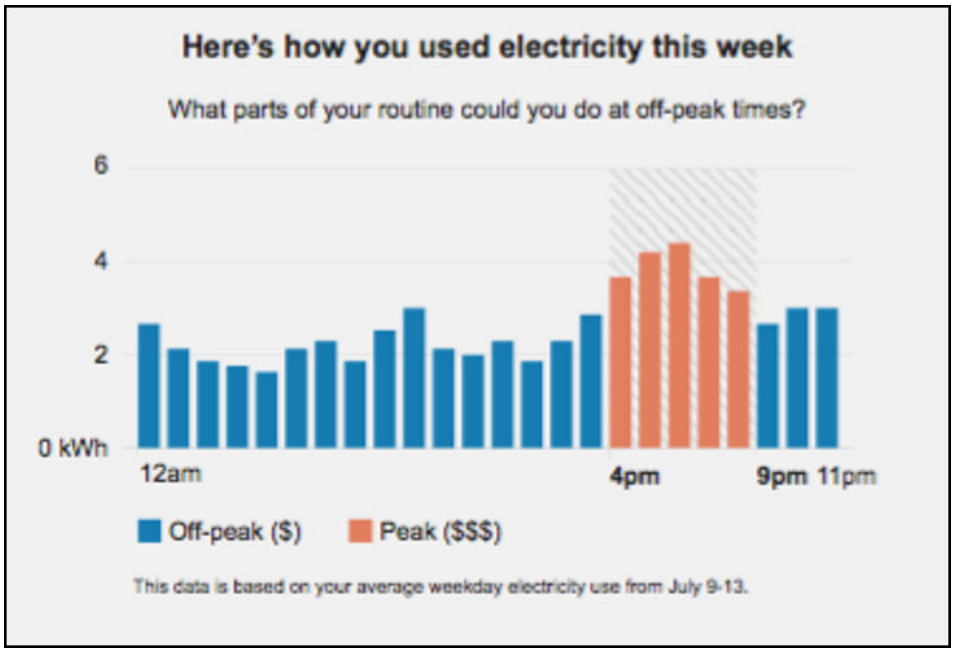
Hourly Usage Bar Chart: This component shows the customer's average hourly electricity costs during the previous week. The chart highlights peak hours to draw attention to how the customer's average electricity costs during peak hours compare to their average electricity costs during off-peak hours.

Date Range Statement: A statement below the chart identifies the dates used to determine the hourly average usage.

> **Note**
>
> This module was designed to be used in conjunction with the TOU 101 module.

This image shows an example of the Hourly Usage module:

Figure 2-23 Hourly Usage Module



User Experience Variations

This section discusses the user experience variations in the Hourly Usage module.

Partial Peak Periods

For utility companies with partial-peak periods, the module displays off-peak, partial-peak, and peak hours using different colors within the bar chart.

Multiple Peak Periods

For utility companies with multiple peak periods each day, the module displays all peak periods in the chart.

Weekday and Weekend Breakdowns with Different Pricing

If a customer's rate plan has different weekday and weekend pricing breakdowns, then the Hourly Usage and TOU 101 modules should be separated so that weekdays are discussed first (with the accompanying TOU 101 module sliding scale) and the weekend modules appear next. Note that this is only true if there are peak hours during both weekdays and weekends. See the "Weekday Only Peak Pricing" variation below for additional information.

Note that the introduction statement above the graph changes to reflect whether the chart is displaying weekday or weekend usage.

Weekday and Weekend Breakdowns with Same Pricing

If a customer's rate plan has peak hours on the weekdays and weekends, but the pricing scheme is the same during both the weekdays and weekends, then the TOU 101 module should only appear once, followed by two separate Hourly Usage modules that show the usage patterns of weekdays and weekends separately. Weekday and weekend usage patterns are typically consistently different. Separating them gives the customer an opportunity to better envision their behaviors.

Note that the introduction statement above the graph changes to reflect whether the chart is displaying weekday or weekend usage.

Weekday Only Peak Pricing

If a customer's rate plan only charges peak pricing on weekdays, then the email includes only one set of modules, where the Hourly Usage and TOU 101 modules for weekday peak pricing appear, and the introduction statement above the graph reflects weekday usage. No charts are displayed to show the weekend pricing, which does not include any peak periods.

Data Overlapping the Seasonal Transition Date

Costs cannot be calculated for this module if the seasonal transition occurs within the module look back period. The behavior of the module is impacted by whether or not the peak hours data has changed.

Peak hours have changed: If peak hours changed at the season transition, and the look-back period for a given module overlaps the season transition date, then the module fails and the individual module is not included in the Time of Use Coach email type. The report will still be sent with the remaining modules.

Peak hours have not changed: If the customer's peak hours have not changed, one the following variations occurs:

- If peak hours have not changed in a period that overlaps the seasonal transition, the seasonal transition module is shown in usage form.
- If peak hours have not changed in a period that overlaps the seasonal transition, *and non-peak data for other data changing modules in the report have changed during the season*

transition date, then all of the report modules are shown in usage form. Costs are not calculated or shown.

Load Shifting Collective Benefit Module

The Collective Benefit module provides customers with information about the collective impacts of their peak-use reduction or load shifting. The module provides a rotating series of information that is aimed at increasing customer motivation to decrease their peak usage without sacrificing customer satisfaction.

This module can be included in the Post-Bill Report or in the Peak Usage Summary email, and rotates between 6 different messages that can be selected and configured by the utility. There are 8 available messages for the utility to choose from. For information about these different variations, contact your Delivery Team.

Each selected message should run for approximately four weeks, ensuring it is included in each customer's Post-Bill Report or Peak Usage Summary email for the month. Then a new message is selected to run for approximately 4 weeks. This cadence typically allows for each of the 6 selected messages to be shown twice over the course of a year.

User Experience

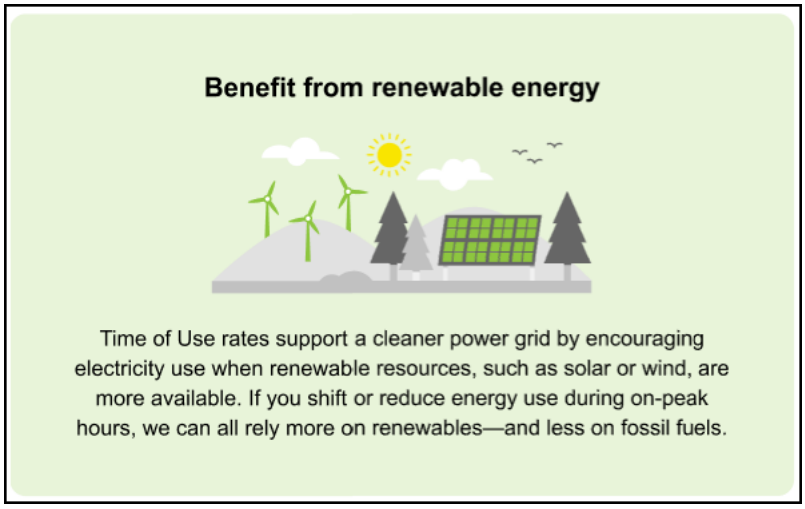
Each variation of the Collective Benefit module includes the following components. This example illustrates the renewable energy variation.

Header: The module header reads "Benefit from renewable energy".

Image: The image appears just below the header and depicts renewable energy resources such as solar and wind.

Insight Message: The insight message explains how shifting usage to off-peak hours can help to lower carbon emissions, and provides details about how other customers have shifted their usage, and the results of that shift. For example, "Time of Use rates support a cleaner power grid by encouraging electricity use when renewable resources, such as solar or wind, are more available. If you shift or reduce energy use during on-peak hours, we can all rely more on renewables - and less on fossil fuels."

Figure 2-24 Collective Benefit Module



Peak Usage Summary Module

This module educates customers about how their electricity costs during peak hours changed throughout the month. The module highlights the difference between the lowest peak usage week and the highest peak usage week over the previous four weeks. The module provides customers with a view of how they've progressed in changing their peak usage over the past four weeks, and displays data in dollar amounts, illustrating cost savings over time.

Requirements

This table lists the customer requirements.

Category	Description
Data History	AMI data for the last two weeks.
Data Coverage	The default requirement is 50 percent data coverage for the each week of a four weeks period. This product does not differentiate between estimated and non-estimated reads. Both types of reads are supported.

User Experience

This module includes the following components:

Heading: Above the graph, a heading identifies the weeks during which the customer used the least amount of energy.

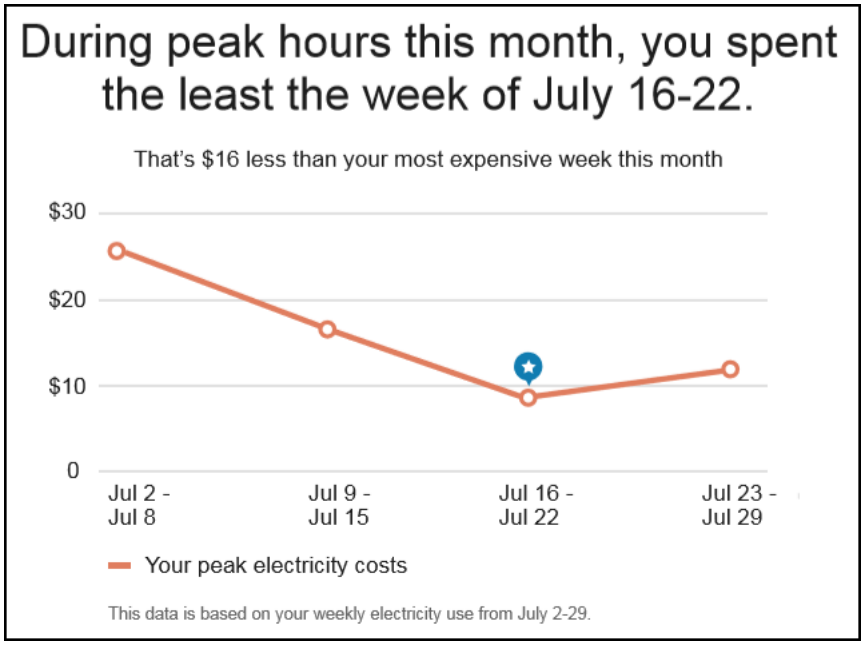
Insight Statement: A statement below the heading that describes the cost difference between the week with the lowest peak hour electricity costs and the week with the highest peak hour electricity costs.

Line Graph: This graph shows the customer's electricity costs during peak hours for each week of the previous four weeks, and includes a visual indicator on the data point for the week with the lowest peak hour cost. In cases where the lowest-cost week spans multiple weeks, no indicator is shown.

Date Range Statement: A statement below the graph identifies the dates used to determine the usage data for the chart. This is typically the last 4 weeks.

This image shows an example of the Peak Usage Summary module:

Figure 2-25 Peak Usage Summary Module



User Experience Variations

This section discusses the user experience variations in the Peak Usage Summary module.

Customer Has Multiple Lowest-Cost Weeks

If customers have two or three lowest-cost weeks, the module displays the following:

- **Heading:** During peak hours this month, you spent the least on [2/3] different weeks.
- **Line Graph:** The graph does not display a visual indicator to show the lowest-cost week.

Customer Has Multiple Lowest-Cost and Highest-Cost Weeks

If customers have multiple lowest-cost weeks and multiple highest-cost weeks, the Peak Usage Summary module displays the following:

- **Heading:** During peak hours this month, you spent the least on [2/3] different weeks.
- **Insight Statement:** That's [$X] less than your most expensive weeks.
- **Line Graph:** The graph does not display a visual indicator to show the lowest-cost week.

Customer Spends About the Same Each Week

If customers spend about the same during peak hours each week, the Peak Usage Summary module displays the following:

- **Heading:** During peak hours this month, you spent about the same each week.
- **Insight Statement:** You spent an average of [$X] those weeks.
- **Line Graph:** The graph does not display a visual indicator to show the lowest-cost week.

Usage Variation

If the email displays usage information instead of cost information, the module displays the following:

- **Heading:** The heading will vary as follows, based on usage trends:
  - During peak hours this month, you used the least the week of <date range>
  - During peak hours this month, you used the least during two different weeks
  - During peak hours this month, you used the least during three different weeks
  - During peak hours this month, you used about the same each week.
- **Insight Statement:** The insight statement tells the reader how much less they used during their lowest week(s). For example, "That's XX kWh less than your highest weeks this month". When usage is about the same during each week, the statement reads, "You used an average of XX kWh those weeks".
- **Line Graph:** The graph displays data in terms of kWh instead of costs.
- **Legend:** The legend reads "Your peak electricity usages".

Data Overlapping the Seasonal Transition Date

Costs cannot be calculated for this module if the seasonal transition occurs within the module look back period. The behavior of the module is impacted by whether or not the peak hours data has changed.

Peak hours have changed: If peak hours changed at the season transition, and the look-back period for a given module overlaps the season transition date, then the module fails and the individual module is not included in the TOU Rate Coach email type. The report will still be sent with the remaining modules.

Peak hours have not changed: If the customer's peak hours have not changed, one the following variations occurs:

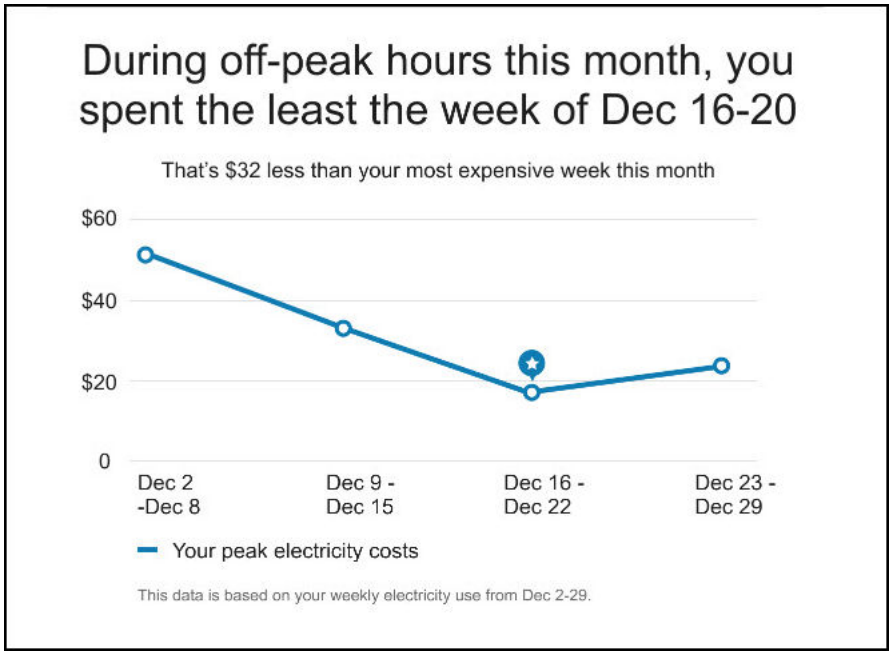
- If peak hours have not changed in a period that overlaps the seasonal transition, the seasonal transition module is shown in usage form.
- If peak hours have not changed in a period that overlaps the seasonal transition, *and non-peak data for other data changing modules in the report have changed during the season transition date*, then all of the report modules are shown in usage form. Costs are not calculated or shown.

Rates with Off-Peak and Partial-Peak Periods Only

The module automatically evaluates whether there is an on-peak period in the current rate plan. If there is no on-peak period in the current rate plan, the module will use part-peak data to show off-peak usage.

This variation is only applicable to the Weekly Comparison module and the Peak Usage Summary module. Disaggregation and bill period modules do not support an off-peak usage variation.

Figure 2-26 No On-Peak Periods



Post-Bill Report Bill Comparison Module

This module compares the customer's costs or usage during peak hours in the current bill period to their spending during peak hours in the previous bill. It provides feedback based on how the customer's costs in the current bill period compare to those of the previous bill.

Requirements and Limitations

This section discusses customer requirements and limitations.

Customer Requirements

This table lists the customer requirements:

Category	Description
Data Requirements	• AMI (hourly or more granular) data. • Customers must be eligible for the Hourly Disaggregation service.
Data History	AMI data for the last two weeks.
Data Coverage	50% read coverage for the bill covered by the report. 50% read coverage for the previous report. **Note** This product does not differentiate between estimated and non-estimated reads. Both types of reads are supported.

Limitations

These are the limitations:

- **Post-Bill Report Email Only**: This module is only available as part of the Post-Bill Report email.
- **Hourly Disaggregation Service**: Customers must be eligible for the Hourly Disaggregation service in order to receive this module as part of the Post-Bill Report email.

User Experience

This module includes the following components:

Insight Statement: The insight message above the bar graph tells the customer how their current energy cost compares to their previous bill. The insight statement varies depending on how much the customer spends during on peak hours, as follows:

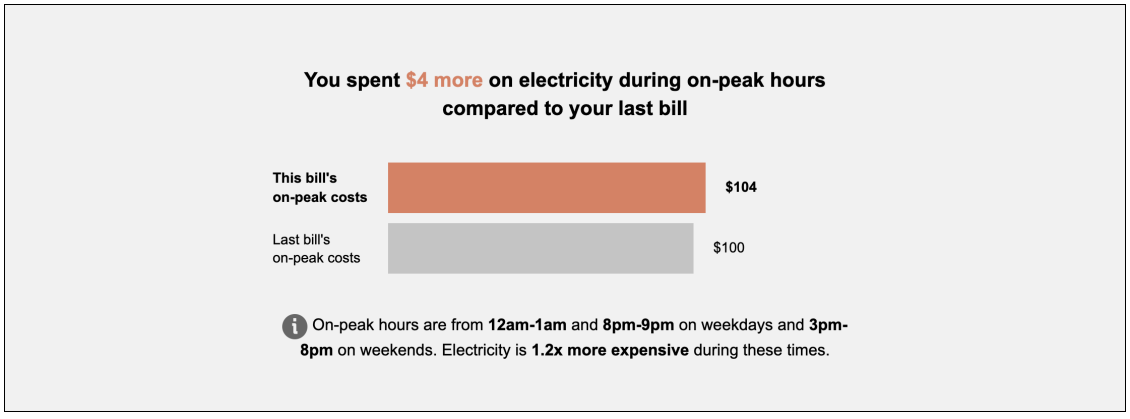
- **Less than on-peak hours for the previous bill**: You spent <$X> less on electricity during on-peak hours compared to your last bill."
- **More than on-peak hours for the previous bill**: "You spent <$X> more on electricity during on-peak hours compared to your last bill."
- **About the same amount as on-peak hours for the previous bill**: You spent about the same amount on electricity during on-peak hours compared to your last bill.

Bar Graph: The horizontal bar graph compares the customer's on-peak energy costs during the current bill to their spending during on-peak hours in previous bill.

Peak Hours Explainer Text: The explainer text defines on-peak hours and rates for the current bill period. The explainer message changes based on the on-peak hours and rates for the billing period.

This image shows an example of the Post-Bill Report Bill Comparison Module:

Figure 2-27 Post-Bill Report Bill Comparison Module



User Experience Variations

This section discusses the user experience variations in the Post-Bill Bill Comparison module.

Usage Variation

If the email is designed to display usage instead of cost, the module displays the following:

- **Insight Statement**: Depending on the usage, one of these insight statements is used:
  - **Used less electricity**: You used <XX% less> electricity during on-peak hours compared to your last bill.
  - **Used more electricity**: You used <XX% less> electricity during on-peak hours compared to your last bill.
  - **Used about the same electricity**: You used about the same amount of electricity during on-peak hours compared to your last bill.
- **Bar Labels**: The labels to the left of the graph read "This bill's on-peak usage" and "Last bills on-peak usage. " The labels to the right display the usage in kWh.

Peak Hours Explainer Text

The explainer message varies based on the on-peak data state, hours, and rates for the billing period.

- **Peak hours on weekdays only, one peak period**: On weekdays, on-peak hours are from <Xpm-Xpm>. Electricity is [XX] more expensive during this time.
- **Peak hours on weekdays only, two peak periods**: On weekdays, on-peak hours are from <Xam-Xam and Xpm-Xpm>. Electricity is <XX> more expensive during these times.
- **Peak hours same on all days, one peak period**: On-peak hours are from <Xpm-Xpm> Electricity is <X.X> more expensive during this time.
- **Peak hours same on all days, two peak periods**: On-peak hours are from <Xam-Xam and Xpm-Xpm> Electricity is <X.X> more expensive during these times.
- **Peak hours different on weekends and weekdays, one peak period each**: On-peak hours are from <Xpm-Xpm> on weekdays and <Xpm-Xpm> on weekends. Electricity is <X.X> more expensive during these times.
- **Peak hours different on weekends and weekdays, more than one peak period for each**: On-peak hours are from <Xam-Xam> and <Xpm-Xpm> on weekdays and <Xpm-Xpm> on weekends. Electricity is <X.X> more expensive during these times.

Previous Month's Data Unavailable

If data for the previous month's bill is not available, the module includes only the insight statement and explainer text.

Data Overlapping the Seasonal Transition Date

Costs cannot be calculated for this module if the seasonal transition occurs within the module look back period. The behavior of the module is impacted by whether or not the peak hours data has changed.

Peak hours have changed: If peak hours changed at the season transition, and the look-back period for a given module overlaps the season transition date, then the module fails and the individual module is not included in the TOU Rate Coach email type. The report will still be sent with the remaining modules.

Peak hours have not changed: If the customer's peak hours have not changed, one the following variations occurs:

- If peak hours have not changed in a period that overlaps the seasonal transition, the seasonal transition module is shown in usage form.
- If peak hours have not changed in a period that overlaps the seasonal transition, *and non-peak data for other data changing modules in the report have changed during the season transition date*, then all of the report modules are shown in usage form. Costs are not calculated or shown.

Post-Bill Report Header Module

This module encourages customers to learn more about their on-peak electricity use for their most recent bill period. This module is included only in the Post-Bill Report Email, and appears at the top of the report below the standard email header.

Requirements

This table discusses customer requirements.

Category	Description
Data Requirements	Hourly or more granular data.
Data History	Peak hours during the last bill period.
Data Coverage	50% AMI data coverage is necessary for peak hours during the last bill period.

User Experience

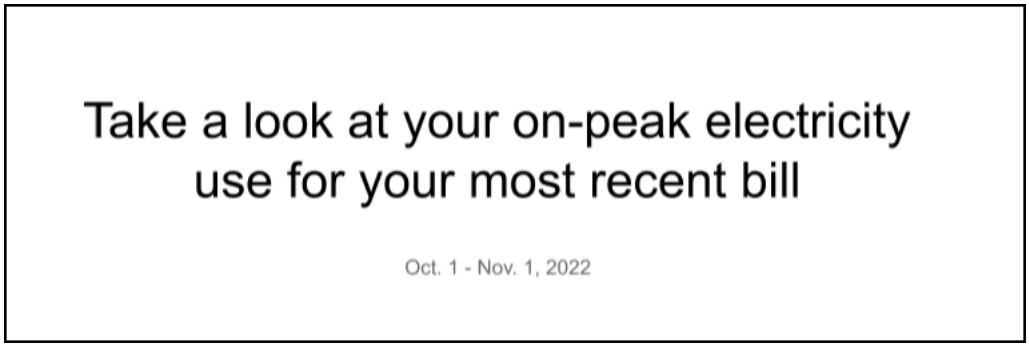
This module includes the following components:

Bill Usage Statement: A statement encouraging the customer to review the report to learn more about their on-peak electricity use for their most recent bill period. By default, the statement reads, "Take a look at your on-peak electricity use for your most recent bill."

Post-Bill Report Bill Period: The date range below the statement shows the bill period applicable to the Post-Bill Report email.

This image shows an example of the Post-Bill Report Header module:

Figure 2-28 Post-Bill Report Header Module



User Experience Variations

This module has no user experience variations.

Post-Bill Peak Period Disaggregation Module

This module provides customers with insights about what appliances they use the most during peak hours each month as part of their TOU Coach Post-Bill Report email. The disaggregation highlights up to six customer end uses to provide customers with a holistic view of their usage. End uses are split into quantified and unqantified groups based primarily on the detail with which we can provide information about the appliance use.

Quantified End Uses: Quantified categories include end uses that for which our disaggregation algorithms are able to provide an accurate estimate of how much of the appliance a customer was using during peak hours, and therefore, can be associated with a specific metric, such as kWh, percentage, or cost. The top three of these appliances are presented in the top portion of the disaggregation breakdown and accentuated with images. Possible quantified end uses include:

- Heating
- Cooling
- EV charging
- Dryer use
- Water heating

Unquantified End Uses: The unquantified section includes end use categories that we can successfully detect if a customer used them during peak but cannot provide an accurate estimate of how much of the appliance a customer was using during peak hours. These appliances are presented in the bottom portion of the disaggregation breakdown. Possible unquantified end uses include:

- Dishwasher use
- Oven use

Together, the qantified and unquantified groups provide the customer with a comprehensive picture of what contributes to their peak hour energy use. The disaggregation is followed by a call to action encouraging the customer to complete or update their Home Energy Analysis. The goal of this module is to raise the customer's awareness of which of their quantified and unquantified appliances contribute the most to on-peak energy use so that they can take action to save energy during on-peak billing periods.

This module is only available as part of the Post-Bill Report email.

Requirements and Limitations

This section discusses customer requirements and limitations.

Customer Requirements

This table lists the customer requirements and limitations:

Category	Description
Data Requirements	AMI (hourly or more granular) data .There are additional AMI data requirements to show advanced insights such as appliance-level disaggregation. Contact your Delivery Team for more information.
Data History	AMI data for at least one period.

Category	Description
Data Coverage	The customer must meet the default scored AMI data threshold and may not exceed the maximum number of missed AMI reads for the billing period. Contact your Delivery Team for more information.

Limitations

These are the limitations:

- **Hourly Disaggregation Service**: Customers must be eligible for the Hourly Disaggregation service in order to receive the Weekly Coach Email with Peak Period Disaggregation and Post-Bill Report email.
- **End use categories**: End use categories included in this module are limited to cooling, EV charging, water heating, and dryer use.
- **Seasonal Transition:** Costs cannot be calculated for this module if data period overlaps the seasonal transition date. See User Experience Variations.

User Experience

This module includes the following components:

Quantified Header: The quantified header introduces the customer to the first section of their disaggregation and prepares the customer to learn about their top uses during on-peak hours.

Quantified use category breakdown: The quantified use category breakdown displays up to three of the customer's top use categories during on-peak hours for the current bill period. Quantified appliances are ordered from highest to lowest usage amount. Possible quantified uses include:

- Heating
- Cooling
- EV charging
- Dryer use
- Water heating

Unquantified Header: The unquantified header draws the customer's attention to other uses that contributed to their usage.

Unquantified use categories: The second section of the breakdown displays up to three of the customer's unquantified contributors. Unquantified appliances include:

- Dishwasher use
- Oven use

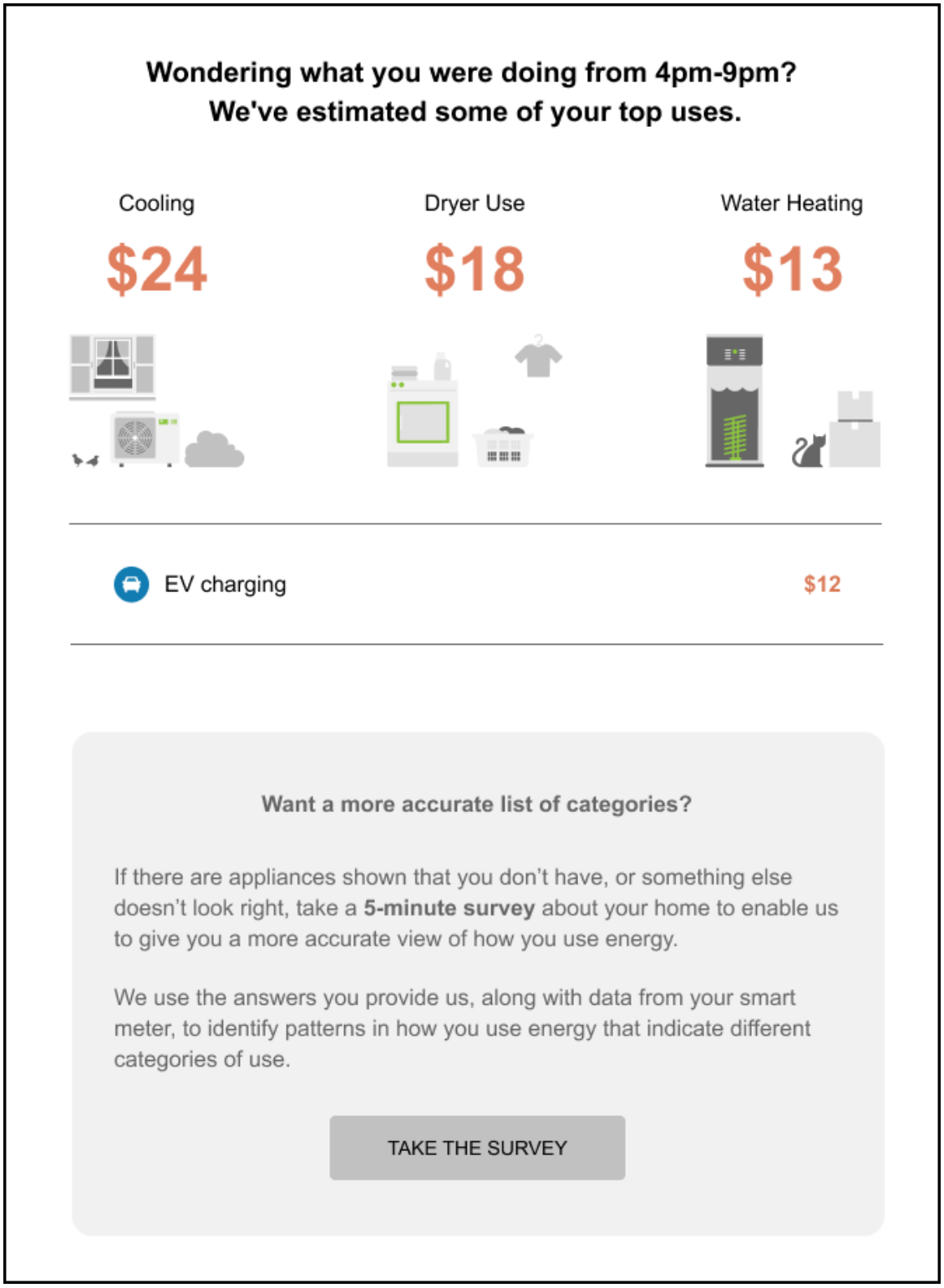
Home Energy Analysis call-to-action heading: The heading encourages customers to learn how they can get more accurate categories in their report.

Home Energy Analysis call-to-action body text: The call-to-action body text gives a short explanation of disaggregation and explains how completing the Home Energy Analysismproves their experience by making their report more accurate.

Home Energy Analysis call-to-action button: Customers can immediately access their Home Energy Analysis within their utility web portal by clicking the provided button.

This image shows an example of the module:

Figure 2-29 Post-Bill Report Peak Period Disaggregation Module



User Experience Variations

This section discusses the user experience variations in the Weekly Peak Period Disaggregation module.

Header

The header varies by the data state and number of appliances.

Quantified and unquantified category behaviors operate independently from each other, with the exception of instances where there are no quantified use categories to report.

Header Type	Cost or Usage	Property Name / Description	Usage
Quantified Header	Usage	Usage - multiple-quantified-categories	Around % of your on-peak electricity use came from these categories:
		Usage - one quantified category	Around % of your on-peak electricity use came from <category>
	Cost	Cost - multiple-quantified-categories	Around $ of your on-peak electricity costs came from these categories:
		Cost - one quantified category	Around $ of your on-peak electricity costs came from <category>
	Not applicable	No quantified category	Section is omitted from the report.
Unquantified Header	Not applicable	Quantified categories	Other contributors to your on-peak electricity use include:
	No quantified categories present	No quantified categories present	Contributors to your on-peak electricity use include:
	No unquantified categories	No unquantified categories	Section is omitted from the report.

Call to Action

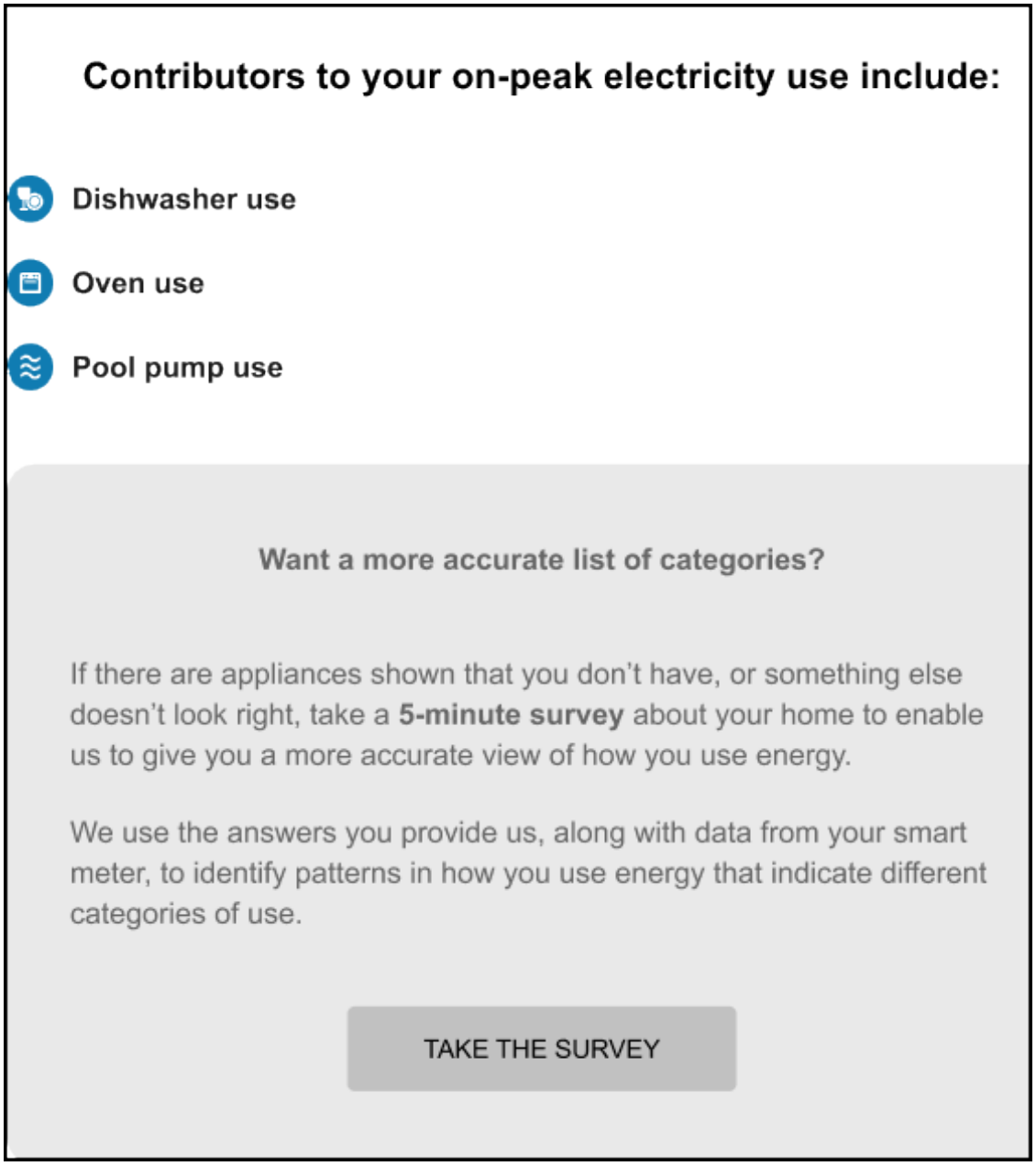
The call-to-action section varies depending on whether the customer has completed the Home Energy Analysis.

Home Energy Analysis Status	Heading	Body Text	Home Energy Analysis Link or Button
Incomplete	Want a more accurate list of categories?	If there are appliances shown that you don't have, or something else doesn't look right, take a 5-minute survey about your home to enable us to give you a more accurate view of how you use energy. We use the answers you provide us, along with data from your smart meter, to identify patterns in how you use energy that indicate different categories of use.	Button
Complete	How do we know how you use energy?	Thanks to data from your smart meter, we can identify patterns in your electricity use that give us an idea of what appliances are using electricity in your home. We can match those end uses to different times of day to determine what appliances you use during peak hours. To get the most accurate view of your appliance use, make sure your home profile is up-to-date.	Link

Zero Quantified Use Categories and One or More Unquantified Use Categories

If there are no quantified use categories, the quantified portion of the disaggregation breakdown is omitted from the report.

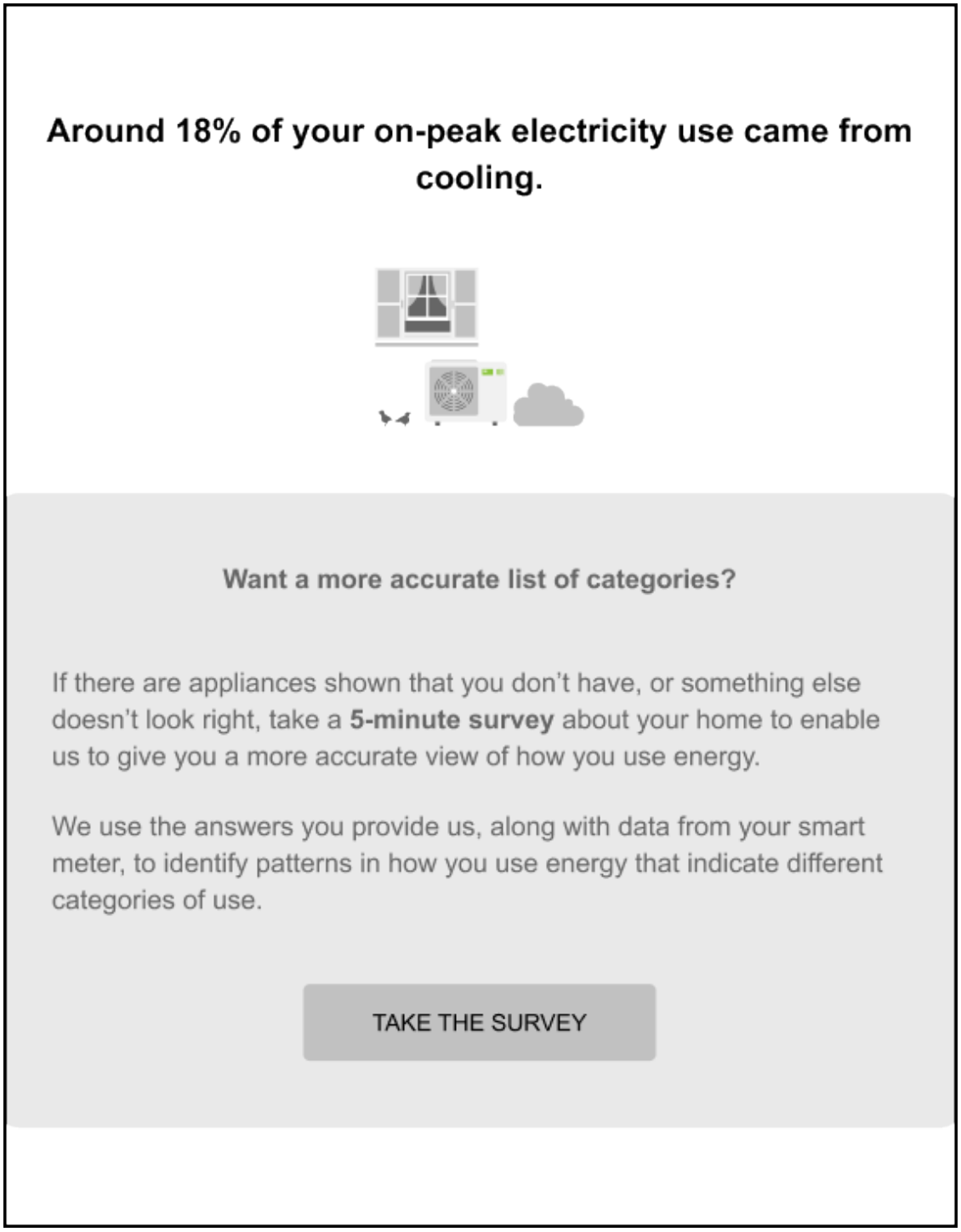
Figure 2-30 Zero Quantified Use Categories



One Quantified Use Category and Zero Unquantified Use Categories

If there is a single quantified use and there are no unquantified use categories, the quantified heading modifies to address the single data state, and the single quantified use is highlighted with a centered image. The unquantified portion of the disaggregation breakdown is omitted from the report.

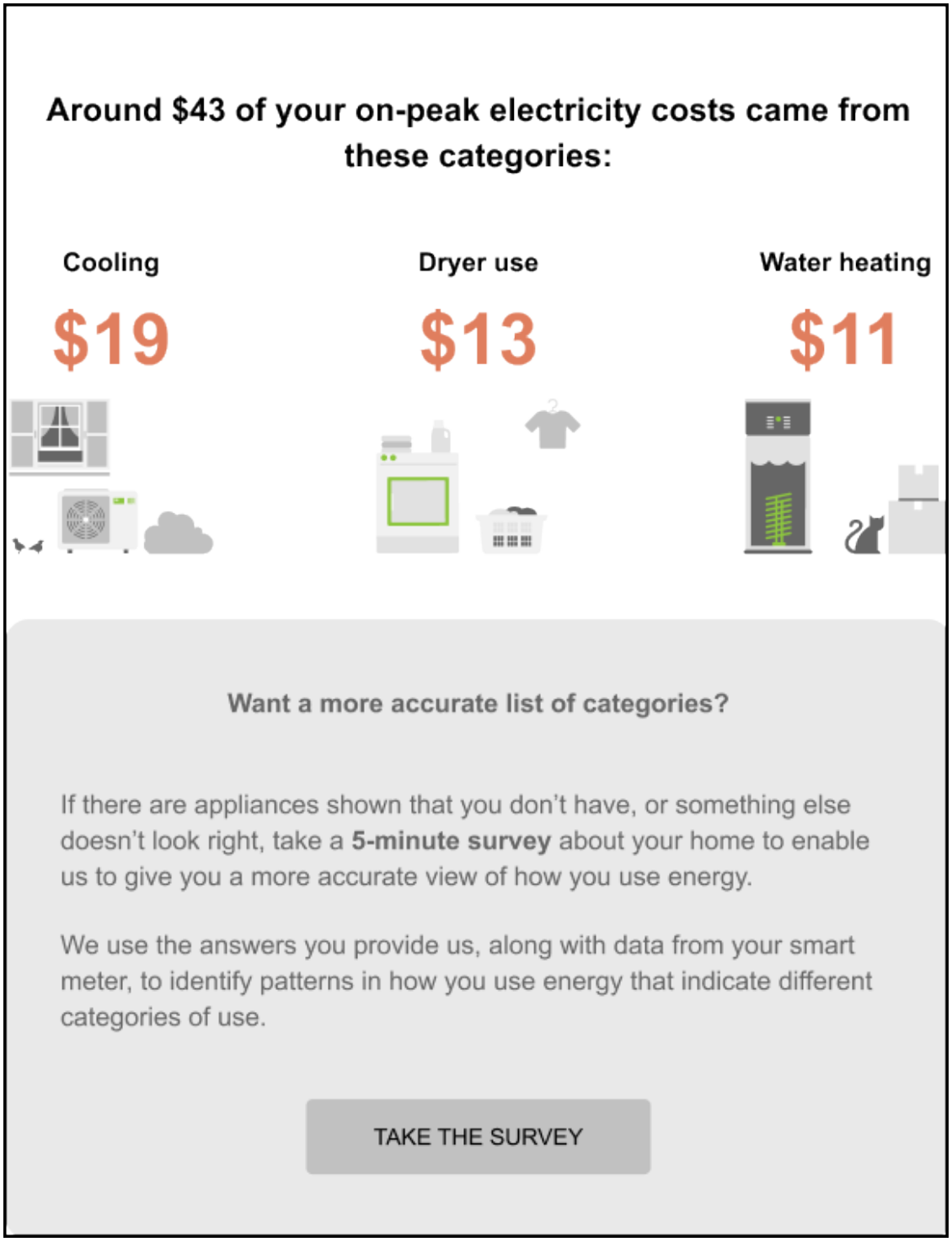
Figure 2-31 One Quantified Use Category



Two or More Quantified Use Categories and Zero Unquantified Use Categories

If there are multiple quantified use and there are no unquantified use categories, the unquantified portion of the disaggregation breakdown is omitted from the report.

Figure 2-32 2 or More Quantified Use Categories

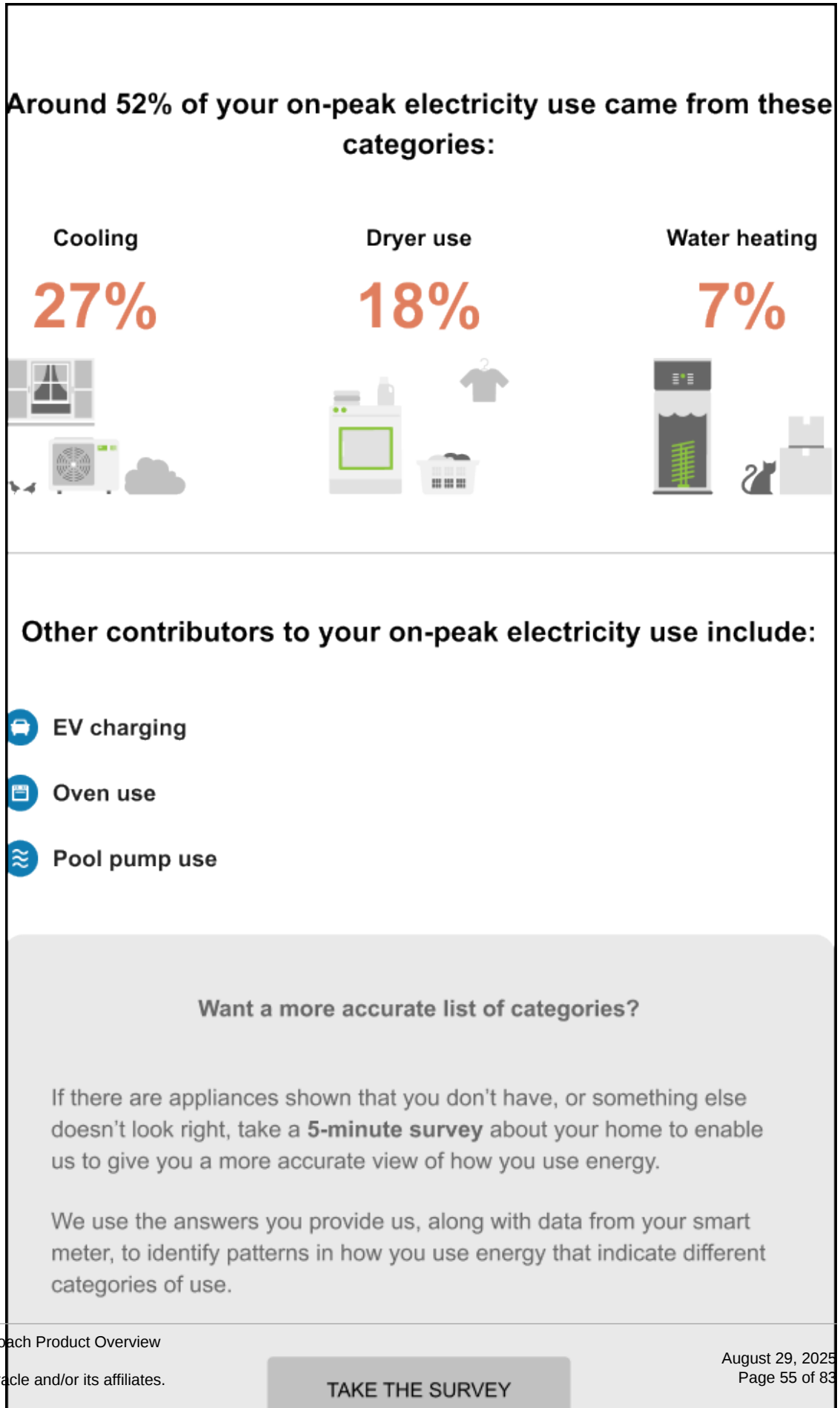


More Than Three Quantified Use Categories

If there are more than three quantified appliances available, the top three highest uses are listed in the quantified section. Any remaining quantified appliances are added to the alphabetical list of non-quantified uses. For example, EV charging will be listed in the

unquantified usage list for a client if it is the quantified appliance category for a customer with quantified appliance data for Cooling, Dryer Use, Water Heating, and EV Charging.

Figure 2-33 More Than 3 Quantified Use Categories



No Quantified or Unquantified Use Categories

If there are no appliances in both the quantified and unquantified sections, the module will be hidden. No fallback message is displayed.

Data Overlapping the Seasonal Transition Date

Costs cannot be calculated for this module if the seasonal transition occurs within the module look back period. The behavior of the module is impacted by whether or not the peak hours data has changed.

Peak hours have changed: If peak hours changed at the season transition, and the look-back period for a given module overlaps the season transition date, then the module fails and the individual module is not included in the Time of Use Coach email type. The report will still be sent with the remaining modules.

Peak hours have not changed: If the customer's peak hours have not changed, one the following variations occurs:

- If peak hours have not changed in a period that overlaps the seasonal transition, the seasonal transition module is shown in usage form.
- If peak hours have not changed in a period that overlaps the seasonal transition, *and non-peak data for other data changing modules in the report have changed during the season transition date*, then all of the report modules are shown in usage form. Costs are not calculated or shown.

Season Transition Module

The Season Transition module notifies customers when their peak to off-peak price ratios or peak hours are changing. This module is sent one week before the transition date, and again one week after the transition date, along with the regular cadence of the TOU Rate Coach emails. This module can be included in the Weekly Coach email or the Peak Usage Summary email, depending on the timing of the change.

Requirements and Limitations

This section discusses customer requirements and limitations.

Customer Requirements

This table lists the customer requirements:

Category	Description
Data History	AMI data for the last two weeks.

Category	Description
Data Coverage	50% read coverage for the week covered by the report. **Note** This product does not differentiate between estimated and non-estimated reads. Both types of reads are supported.

Limitations

The limitations are:

- **Zero Usage**: In the case when a customer hasn't used any electricity during the week, several checks are completed to determine whether to hide modules, or to fail the entire email communication.
  - **Weekly Email**: If the Weekly Comparison module has 0 usages, do not send the communication. If the Hourly Usage module has 0 usages, exclude that module but send the communication.
  - **Peak Usage Summary Email**: If the Hourly Usage module has 0 usages, exclude that module but send the communication. Users receive this email every 4 weeks and it has new information, so it's valuable to send.
  - **Emails Including the Season Transition Module**: The Weekly Coach Email and the Peak Usage Summary Email can contain the Season Transition module. In cases where the emails include the pre-transition version of the module, if the Weekly Comparison module has 0 usages, exclude that module but send the communication. If the Hourly Usage module has 0 usages, exclude that module but send the communication. User only has one opportunity to see the rate transition information, so it's valuable to send, even if other modules are excluded from the email.

User Experience

This section describes the user experience for pre-transition and post-transition states of the Season Transition module where both the peak hours and the peak price rations are changing.

Pre-Transition Module

This module includes the following components:

Delivery: This module is sent one week before the seasonal changes occur to the customer's TOU rate plan, and can be included in either the Weekly Coach or Peak Usage Summary emails.

Module Placement: When included in the Weekly Coach email, this module is placed above the Weekly Comparison module. When included in the Peak Usage Summary email, this module is placed above the Peak Usage Summary module.

Subject Line: The subject line for emails that include the pre-transition module is, "Hi [first name], your weekly Rate Coach has an update coming [date]."

Graphic: The module begins with a graphic. This graphic is used in all variations of this module.

Header: The default heading for the pre-transition module is, "Coming soon: changes to peak hours and pricing."

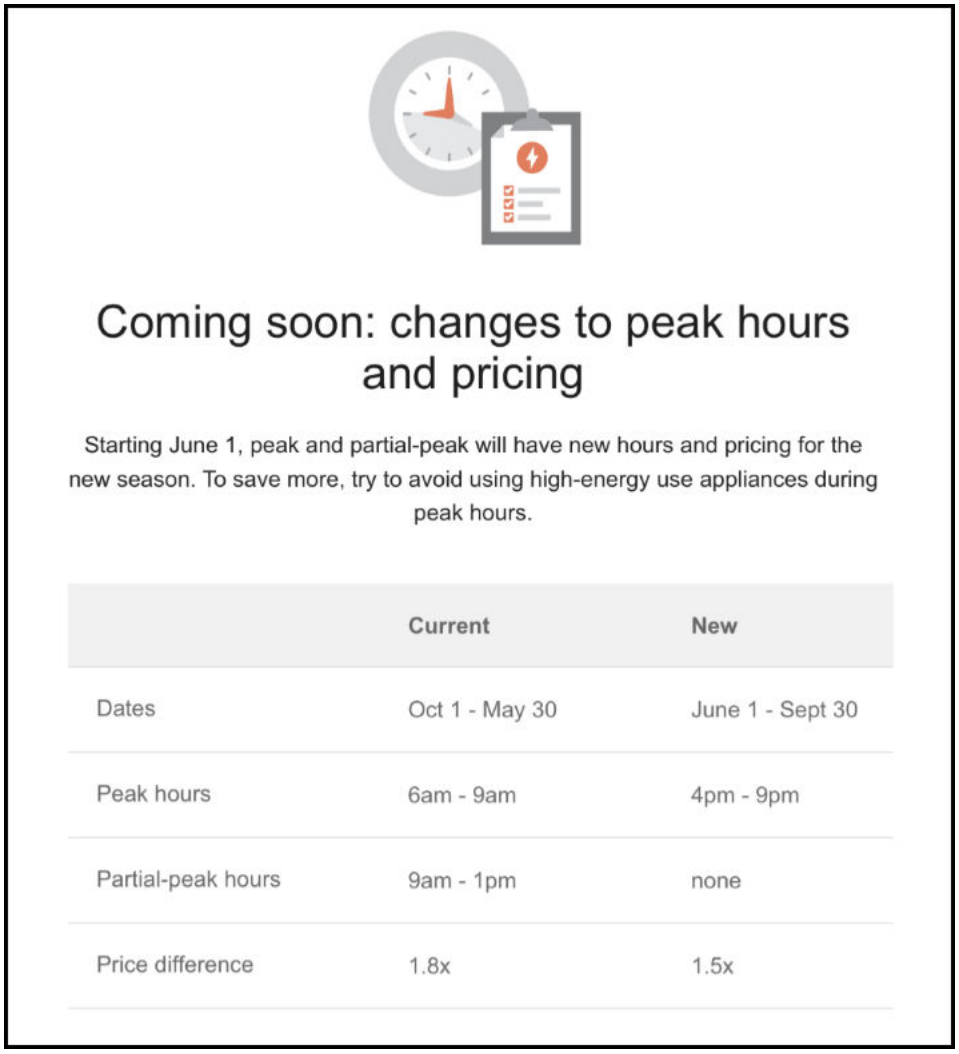
Insight Statement: An insight message below the header describes the upcoming change. When both peak price ratios and peak times are changing, the insight statement for the pre-transition module is, "Starting [date], peak hours and pricing will change for the new season. To save more, try to avoid using high-energy use appliances during peak hours."

Peak Details Table: This table displays the following information for both the current plan and the upcoming (new) plan:

- Dates the plan is in effect
- Peak hours
- Price difference ratio between peak and off-peak hours

This image shows an example of the module:

Figure 2-34 Season Transition Module - Pre-Transition



Post-Transition Module

This module includes the following components:

Delivery: This module is sent one week after the seasonal changes occur to the customer's TOU rate plan, and can be included in either the Weekly Coach or Peak Usage Summary emails.

Module Placement: When included in the Weekly Coach email, this module is placed just below the email header, and the Weekly Comparison module is intentionally hidden. When included in the Peak Usage Summary email, this module is placed just below the header, and the Peak Usage Summary and Hourly Usage modules are intentionally hidden. The emails are intentionally structured to focus on the transition details, and usage charts are hidden to reduce confusion and to accommodate transition days that might have occurred during the previous week.

Subject Line: The subject line for emails that include the post-transition module is, "Hi <first name>, your weekly Rate Coach is here with new peak details."

Graphic: The module begins with a graphic. This graphic is used in all variations of the module.

Header: The default heading for the post-transition module is, "Here are the new peak hours and pricing."

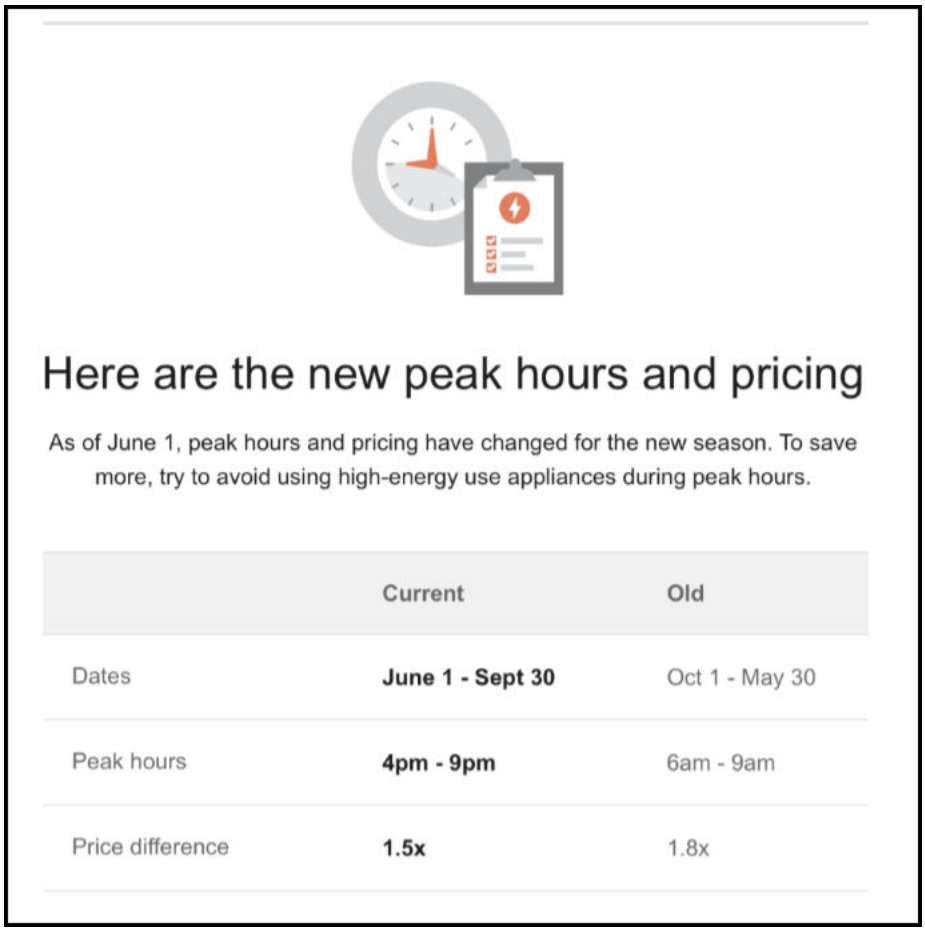
Insight Statement: An insight message below the header describes the change that was made. When both peak price ratios and peak times are changing, the insight statement for the post-transition module is, "As of <date>, peak hours and pricing have changed for the new season. To save more, try to avoid using high-energy use appliances during peak hours."

Peak Details Table: This table displays the following information for both the current plan and the old plan, and highlights the data in the current column to call attention to the new details:

- Dates the plan is in effect
- Peak hours
- Price ratio between peak and off-peak hours

This image shows an example of the module:

Figure 2-35 Seasonal Transition Module - Post-Transition



User Experience Variations

This section discusses the user experience variations in the Season Transition module.

Peak Hours Change but Price Ratios Stay the Same

When only the peak hours are changing, and the ratios are staying the same, several items in the pre-transition and post-transition modules vary.

Pre-transition variations:

- **Header:** The module header is, "Coming soon: changes to peak hours."
- **Insight Statement:** The insight statement is, "Starting [date], peak hours will change for the new season. To save more, try to avoid using high-energy use appliances during peak hours."
- **Peak Details Table:** The table does not include the price difference row.

Post-transition variations:

- **Header:** The module header is, "Here are the new peak hours."
- **Insight Statement:** "As of [date], peak hours have changed for the new season. To save more, try to avoid using high-energy use appliances during peak hours."
- **Peak Details Table:** The table does not include the price difference row.

Price Ratios Change but Peak Hours Stay the Same

When only the price ratios are changing, and the peak hours are staying the same, several items in the pre-transition and post-transition modules vary.

Pre-transition variations:

- **Header:** The module header is, "Coming soon: changes to peak pricing."
- **Insight Statement:** The insight statement is, "Starting [date], peak pricing will change for the new season. To save more, try to avoid using high-energy use appliances during peak hours."
- **Peak Details Table:** The table does not include the peak hours row.

Post-transition variations:

- **Header:** The module header is, "Here is the new peak pricing."
- **Insight Statement:** "As of [date], peak pricing has changed for the new season. To save more, try to avoid using high-energy use appliances during peak hours."
- **Peak Details Table:** The table does not include the peak hours row.

Peak and Partial-Peak Hours Change but Price Ratios Stay the Same

When only the peak and partial-peak hours are changing, and the price ratios are staying the same, several items in the pre-transition and post-transition modules vary.

Pre-transition variations:

- **Header:** The module header is, "Coming soon: changes to peak hours."
- **Insight Statement:** The insight statement is, "Starting [date], peak and partial-peak hours will change for the new season. To save more, try to avoid using high-energy use appliances during peak hours."
- **Peak Details Table:** The table includes a row for partial-peak hours and does not include the price difference row.

Post-transition variations:

- **Header:** The module header is, "Here are the new peak hours."
- **Insight Statement:** "As of [date], peak and partial-peak hours have changed for the new season. To save more, try to avoid using high-energy use appliances during peak hours."
- **Peak Details Table:** The table includes a row for partial-peak hours and does not include the price difference row.

Peak and Partial-Peak Hours and Price Ratios Change

When the peak and partial-peak hours are changing, and the price ratios are also changing, several items in the pre-transition and post-transition modules vary.

Pre-transition variations:

- **Header:** The module header is, "Coming soon: changes to peak hours and pricing."
- **Insight Statement:** The insight statement is, "Starting [date], peak and partial-peak hours will have new hours and pricing for the new season. To save more, try to avoid using high-energy use appliances during peak hours."
- **Peak Details Table:** The table includes a row for partial-peak hours.

Post-transition variations:

- **Header:** The module header is, "Here are the new peak hours and pricing."
- **Insight Statement:** "As of [date], peak and partial-peak hours have changed to new hours and pricing for the new season. To save more, try to avoid using high-energy use appliances during peak hours."
- **Peak Details Table:** The table includes a row for partial-peak hours.

TOU 101 Module

This module educates customers about when electricity is most expensive based on their TOU rate plan. The module provides customers with the following information:

- Whether electricity prices differ on weekdays and weekends
- How much more expensive peak prices are than o□-peak prices
- The hours during which electricity is most expensive
- A visual timeline that displays o□-peak, partial-peak, and peak hours

User Experience

This module includes the following components:

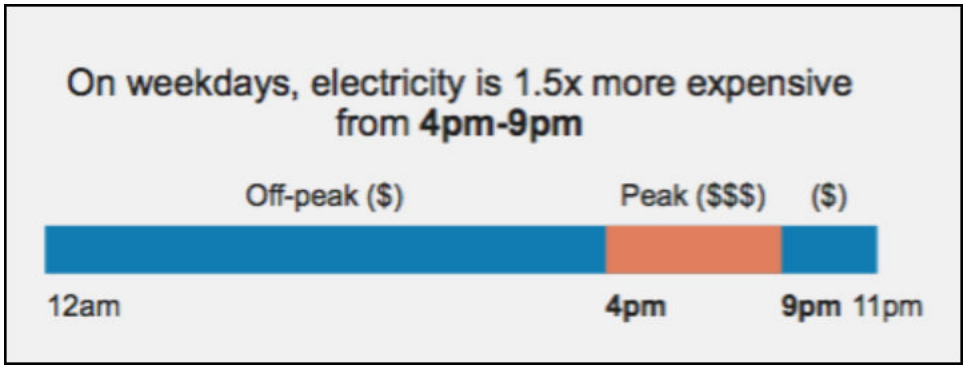
Insight Statement: A statement at the top of the module identifies the peak hours, and provides information about how much more expensive energy use is during those hours. For example, the statement might say that electricity is 1.5x more expensive during certain hours in the afternoon.

Peak Hours Sliding Scale: This component highlights the hours during the day when the customer's electricity is most expensive based on their TOU rate plan. It is designed to inform customers when their electricity use will contribute most significantly to a higher energy bill.

This module was designed to be used in conjunction with the Hourly Usage module.

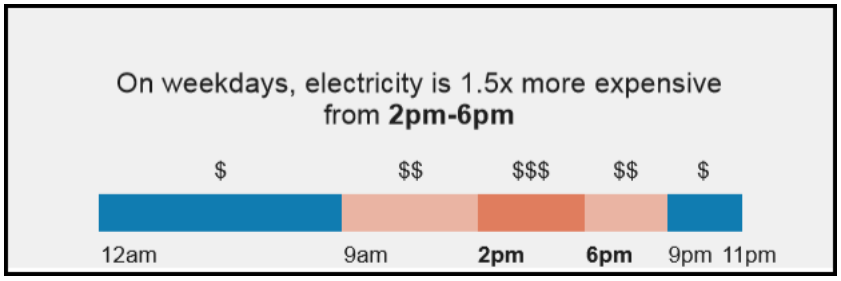
This image is an example using only peak and off-peak periods:

Figure 2-36 TOU 101 Module



This image shows an example using peak, partial-peak, and off-peak periods:

Figure 2-37 TOU 101 Module - Partial Peaks



User Experience Variations

This section discusses the user experience variations in the TOU 101 module.

Peak Hours Insight Statement

The Peak Hours insight statement varies based on the customer's rate plan and the type of days displayed in the timeline. The following table shows the insight statement variations for different scenarios:

Peak Hour Scenario	User Experience Example
Weekdays with a single peak period for plans with differing rates on weekdays and weekends.	On weekdays, electricity is 1.5x more expensive from <Xpm to Xpm>.
Weekdays with multiple peak periods for plans with differing rates on weekdays and weekends.	On weekdays, electricity is 1.5x more expensive from <Xam to Xpm> and <Xpm to Xpm>.
Weekend days with a single peak period for plans with differing rates on weekdays and weekends.	On weekends, electricity is 1.5x more expensive from <Xpm to Xpm>.
Weekend days with multiple peak periods for plans with differing rates on weekdays and weekends.	On weekdays, electricity is 1.5x more expensive from <Xam to Xpm> and <Xpm to Xpm>.
Any day for plans with a single peak period, and a pricing scheme that is the same on weekdays and weekends.	Electricity is 1.5x more expensive from <Xpm to Xpm>.

Peak Hour Scenario	User Experience Example
Any day for plans with multiple peak periods, and a pricing scheme that is the same on weekdays and weekends.	Electricity is 1.5x more expensive from <Xam to Xpm> and <Xpm to Xpm>.
Any of the above variations with tiered TOU rates.	The above statements are used, but the wording "up to" is included before the price ratio. For example: • Electricity is up to 1.5x more expensive from <Xpm to Xpm>. • On weekdays, electricity is up to 1.5x more expensive from <Xpm to Xpm> and <Xpm to Xpm>. Note that the tier with the highest price ratio is used when determining the price ratio in the statement.

Multiple Peak Periods

For utility customers with rate plans that include multiple peak periods, the timeline shows all peak periods using the same color.

Peak and Partial-Peak Periods

For utility customers with rate plans that include both peak and partial-peak periods, the timeline shows both periods using two different colors.

Weekday and Weekend Breakdowns with Different Pricing

If a customer’s rate plan has different weekday and weekend pricing breakdowns, then the Hourly Usage and TOU 101 modules must be separated so that weekdays are discussed first (with the accompanying TOU Coach Hourly Usage graph) and the weekend modules appear next.

Note that the insight statement above the timeline changes to reflect weekday and weekend use and includes the expense ratio for the specified day.

Weekday and Weekend Breakdowns with Same Pricing

If a customer’s rate plan has peak hours on the weekdays and weekends, but the pricing scheme is the same during both the weekdays and weekends, then the TOU 101 module should only appear once, followed by two separate Hourly Usage modules that show the usage patterns of weekdays and weekends separately. Weekday and weekend usage patterns are typically consistently different. Separating them gives the customer an opportunity to better envision their behaviors.

Tips Module

This module delivers energy savings tips to customers using dynamic personalized tips that are relevant to a customer's unique needs. The tips are automatically selected and prioritized based on each customer's attributes, continually refreshed with new information, and designed to cover a wide variety of energy-saving and financial investment categories. A Load Shifting tip library has been created with tips that help customers shift usage from peak to off-peak hours and reduce peak consumption.

Requirements

This table discusses customer requirements:

Category	Description
Data Coverage	The default requirements are: • 50% read coverage for the last two weeks. • 50% read coverage for the week covered by the report. • 50% read coverage for the highest day in the customer's last week. • 50% read coverage for the last day of the week. This product does not differentiate between estimated and non-estimated reads. Both types of reads are supported.

User Experience

This module includes the following components:

Tip Content: An individual tip includes a tip image, tip title, and tip summary. Clicking on an individual tip takes the customer to the public-facing tip details page on the Digital Self Service - Energy Management Web Portal.

Tip Image: This image is a visual representation of the action that the tip recommends. Customers can click on the title to view more detailed information about the tip.

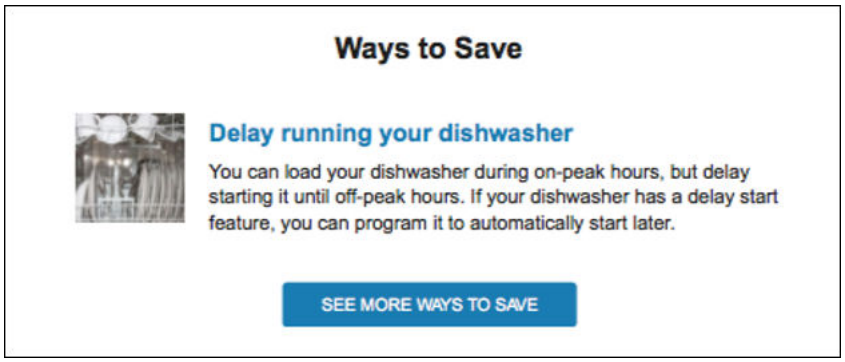
Tip Title: The title is a short sentence that summarizes the recommended action. Customers can click on the title to view more detailed information about the tip.

Tip Summary: The summary elaborates on the tip with more explanation about why using the tip is beneficial.

See more ways to save: When clicked, this link directs users to the Digital Self Service - Energy Management Ways to Save. Customers can see the public-facing version of this page even if they have not signed in.

This image shows an example of the Tips module:

Figure 2-38 Tips Module



User Experience Variations

This module has no user experience variations.

Weekly Comparison Module

This module compares the customer's electricity costs during peak hours in the current week to their spending during peak hours in the previous week, and provides varying feedback based on how the customer's costs in the week compare to those of the previous week.

Requirements and Limitations

This section discusses customer requirements and limitations.

Customer Requirements

This table lists the customer requirements:

Category	Description
Data Requirements	AMI (hourly or more granular) data.
Data History	AMI data for the last two weeks.
Data Coverage	The default requirements are: 50% read coverage for the week covered by the report. 50% read coverage for the week preceding the report one. This product does not differentiate between estimated and non-estimated reads. Both types of reads are supported.

Limitations

These are the limitations:

- **Zero Usage**: In the case when a customer hasn't used any electricity during the week, several checks are completed to determine whether to hide modules, or to fail the entire email communication. The checks are as follows:
  - **Introduction Email**: If the Hourly Usage module has 0 usage, the module is excluded from the communicaiton.
  - **Weekly Email**: If the Weekly Comparison module has 0 usages, the communication is not sent. If the Hourly Usage module has 0 usages, the module is excluded but the communication is sent.
  - **Peak Usage Summary Email**: If the Hourly Usage module has 0 usages, the module is excluded from the communication.
  - **Emails Including the Season Transition Module**: The Weekly Coach Email and the Peak Usage Summary Email can contain the Season Transition module. If the emails include the pre-transition version of the module and the Weekly Comparison module has 0 usages, the module is exclude from the communication. If the Hourly Usage module has 0 usages, the module is exclude from the communication.
- **Rates with no on-peak period in a given season**: The module shows non-peak usage data when no on-peak time of use period is present. See the User Experience Variations.

User Experience

This module includes the following components:

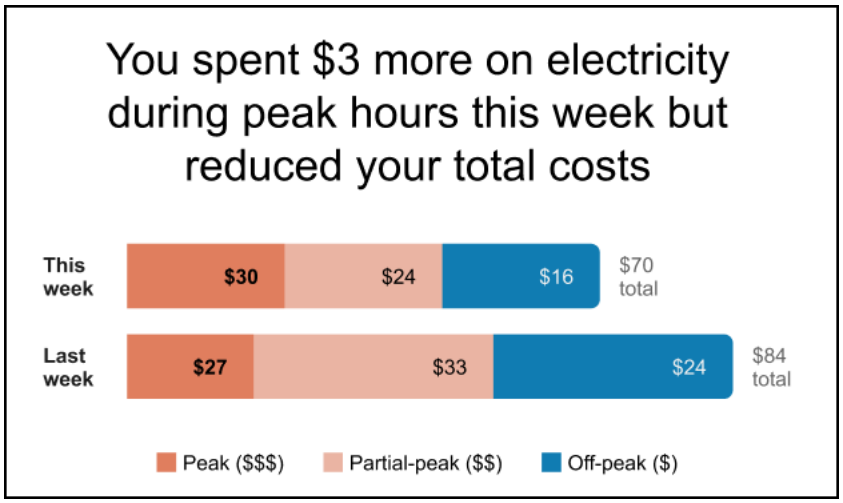
Insight Statement: A message above the graph that varies based on how the customer's costs in the week compare to those of the previous week. For example, if the customer spent less on energy in the current week, the message might say, "Great job! You spent [$X] less on electricity during peak hours this week." The message changes based on the customer's cost comparison. No filtering is performed to remove high or low usage outliers. Partial peak hours are not included in the comparison.

Insight Statement Graphic: A graphic appears next to the insight statement. If the customer used less energy during the current week than the previous week, the module displays a smiley face. If the customer used more energy, the module displays an exclamation point.

Bar Graph: The module includes a horizontal bar graph that compares the customer's energy costs during peak hours in the current week to their spending during peak hours in the previous week.

This image shows an example of the Weekly Comparison module:

Figure 2-39 Weekly Comparison Module



User Experience Variations

This section discusses the user experience variations in the Weekly Comparison module.

Customer Spent More This Week

If a customer spends more during peak hours this week, the TOU Coach Weekly Comparison module displays the following:

- **Insight Statement:** You spent [$X] more on electricity during peak hours this week.
- **Insight Graphic:** The module displays an exclamation point next to the insight statement.

Customer Spent About the Same This Week

If a customer spends about the same amount during peak hours this week, the TOU Coach Weekly Comparison module displays the following:

- **Insight Statement:** You spent about the same on electricity during peak hours this week.
- **Insight Graphic:** The module does not display a graphic next to the insight statement.

Usage Variation

If the email is designed to display usage instead of cost, the module displays the following:

- **Insight Statement:** You used <XX% more/less> electricity during peak hours this week
- **Bar Labels:** The labels to the left of the graph read "This week's peak usage" and "Last week's peak usage", and the labels to the right display the usage in kWh.
- **Decimal Places for kWh:** When displaying usage, you can configure the module to include up to two decimal places in the kWh display. For example, 4.25 kWh.

Data Overlapping the Seasonal Transition Date

Costs cannot be calculated for this module if the seasonal transition occurs within the module look back period. The behavior of the module is impacted by whether or not the peak hours data has changed.

Peak hours have changed: If peak hours changed at the season transition, and the look-back period for a given module overlaps the season transition date, then the module fails and the individual module is not included in the TOU Rate Coach email type. The report will still be sent with the remaining modules.

Peak hours have not changed: If the customer's peak hours have not changed, one the following variations occurs:

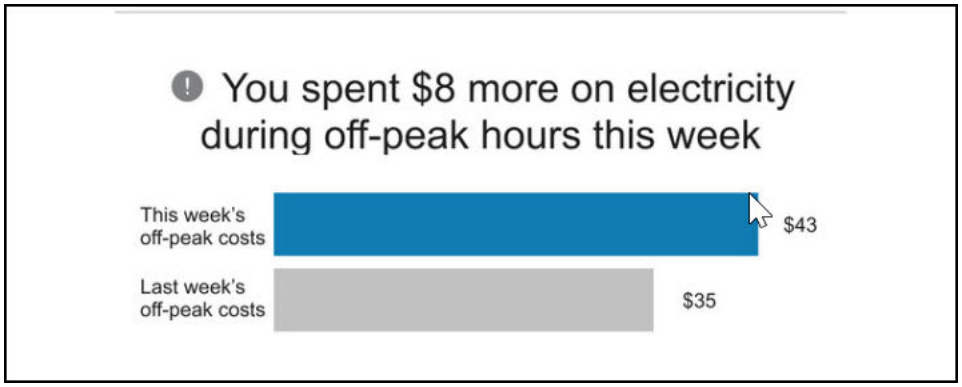
- If peak hours have not changed in a period that overlaps the seasonal transition, the seasonal transition module is shown in usage form.
- If peak hours have not changed in a period that overlaps the seasonal transition, *and non-peak data for other data changing modules in the report have changed during the season transition date*, then all of the report modules are shown in usage form. Costs are not calculated or shown.

Rates with Off-Peak and Partial-Peak Periods Only

The module automatically evaluates whether there is an on-peak period in the current rate plan. If there is no on-peak period in the current rate plan, the module will use part-peak data to show off-peak usage.

> **Note**
>
> This variation is only applicable to the Weekly Comparison module and the Peak Usage Summary module. Disaggregation and bill period modules do not support an off-peak usage variation.

Figure 2-40 Off-Peak and Partial-Peak Periods Only



Weekly Peak Period Disaggregation Module

This module provides the customer with insights about what appliances they use the most during peak hours each week as part of their TOU Weekly Rate Coach email with peak period disaggregation. It highlights up to four customer end uses, and encourages the customer to improve their report insights by completing or updating their Home Energy Analysis. End uses are split into quantified and unqantified groups based primarily on the detail with which we can provide information about the appliance use.

Quantified End Uses: Quantified categories include end uses that our disaggregation algorithms are able to provide an accurate estimate of how much of the appliance a customer was using during peak hours, and therefore can be associated with a specific metric, such as kWh or percentage. Possible quantified end uses include:

- Cooling
- EV Charging
- Water Heating
- Dryer Use

A bar located next to the category indicates the percentage that category contributed to the customer's energy overall energy use.

Unquantified End Uses: The unquantified category includes appliances that can be accurately detected if used during peak hours. Possible unquantified end uses include:

- Heating
- Oven use

Together, the quantified and unquantified groups provide the customer with a comprehensive picture of what contributes to their peak hour energy use. The goal of this module is to raise the customer's awareness of which of their appliances contribute the most to on-peak energy use so that they can take action to save energy during on-peak periods.

Requirements and Limitations

This section discusses customer requirements and limitations.

Customer Requirements

This table lists the customer requirements:

Category	Description
Data Delivery Frequency	Daily.
Data Requirements	Hourly or more granular AMI data. There are additional AMI data requirements to show advanced insights such as appliance-level disaggregation. Contact your Delivery Team for more information.
Data History	AMI data for at least one bill period.
Data Coverage	AMI data for all days in the week with peak hours. By default the number of allowable missed days is 0.

Limitations

These are the limitations:

- **Weekly Report with Weekly Peak Disaggregation only**: This module is only available as part of the Weekly Coach Email with Weekly Peak Disaggregation.
- **Hourly Disaggregation Service**: Customers must be eligible for the Hourly Disaggregation service in order to receive the Weekly Coach Email with Weekly Peak Disaggregation and Post-Bill Report email.
- **End Use Categories**: End use categories included in this module are limited to cooling, EV charging, water heating, dryer use, heating, and oven use.
- **Usage Only**: Only usage is supported in the disaggregation breakdown.
- **Seasonal Transition**: Costs cannot be calculated for this module if the seasonal transition occurs within the module look back period.

User Experience

The module includes the following components:

Quantified header: The header prepares the customer to learn about their top uses during on-peak hours and tells the customer what percentage of their total energy use came from the quantified use categories.

Quantified end use category breakdown: The disaggregation breakdown presents the customer's top three quantified use categories during on-peak hours for the weekly peak periods and how much energy each category used during on-peak hours. Possible categories include:

- Cooling
- EV charging
- Dryer use
- Water heating

Unquantified Header: The unquantified header draws the customer's attention to other uses that contributed to their usage.

Unquantified use categories: The second section of the breakdown displays up to three of the customer's unquantified contributors: Heating Oven use

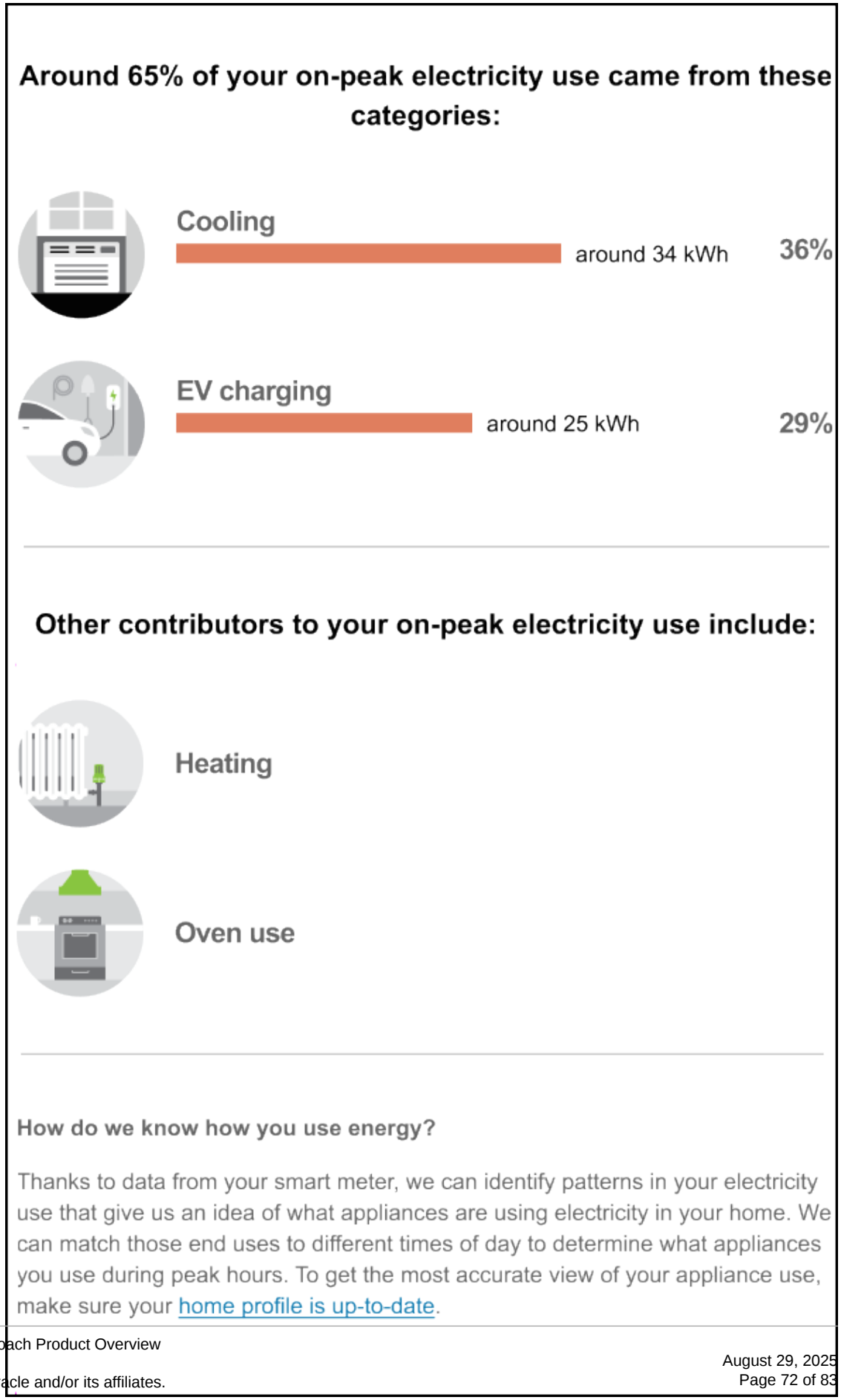
Home Energy Analysis call-to-action heading: The heading encourages customers to learn how they can get more accurate categories in their report.

Home Energy Analysis call-to-action body text: The call-to-action body text gives a short explanation of disaggregation and explains how completing the Home Energy Analysis improves their experience by making their report more accurate.

Home Energy Analysis call-to-action link: Customers can immediately access their Home Energy Analysis within their utility web portal by clicking the provided link.

This image shows an example of the Weekly Peak Period Disaggregation module:

Figure 2-41 Weekly Peak Period Disaggregation Module



User Experience Variations

This section discusses the user experience variations in the Weekly Peak Period Disaggregation module.

Header

The header varies by the number of quantified and unquantified end uses:

Data States	Number of Appliances	Text
Quantified Header	2 or more	Around X% of your on-peak energy use came from these categories:
Quantified Header	1	Around x% of your on-peak energy use came from <use category>.
Unquantified Header	0	Not applicable. Section is omitted.
Unquantified Header	1	<category> was a contributor to your energy use.
Unquantified Header	2 or more	Other contributors to your on-peak energy use include:
Unquantified Header	2 or more with quantified section omitted.	Contributors to your on-peak energy use include:

Call-to-Action

The call-to-action section varies depending on whether the customer has completed the Home Energy Analysis.

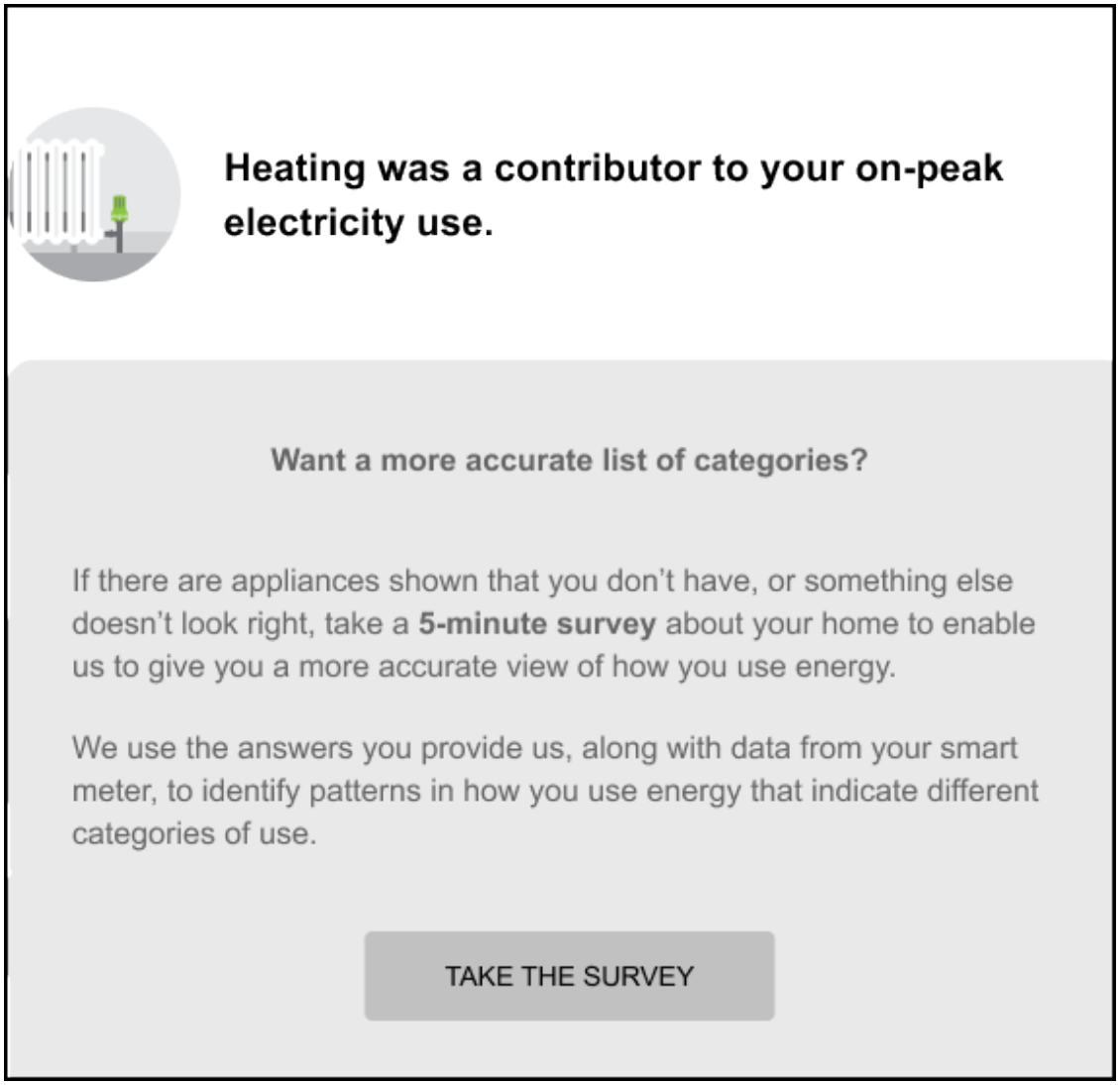
Home Energy Analysis Status	Heading	Body Text	Link or Button
Incomplete	Want a more accurate list of categories?	If there are appliances shown that you don't have, or something else doesn't look right, take a 5-minute survey about your home to enable us to give you a more accurate view of how you use energy. We use the answers you provide us, along with data from your smart meter, to identify patterns in how you use energy that indicate different categories of use.	Button

Home Energy Analysis Status	Heading	Body Text	Link or Button
Complete	How do we know how you use energy?	Thanks to data from your smart meter, we can identify patterns in your electricity use that give us an idea of what appliances are using electricity in your home. We can match those end uses to different times of day to determine what appliances you use during peak hours. To get the most accurate view of your appliance use, make sure your home profile is up-to-date.	Link

Zero Quantified Use Categories and One or More Unquantified Use Categories

If there are no quantified use cases, the quantified section is omitted. The unquantified header is omitted when there is only one unquantified category. The text next to the unquantified icon indicates that the use category contributed to their on-peak usage. The call-to-action section varies depending on whether the customer has completed their Home Energy Analysis.

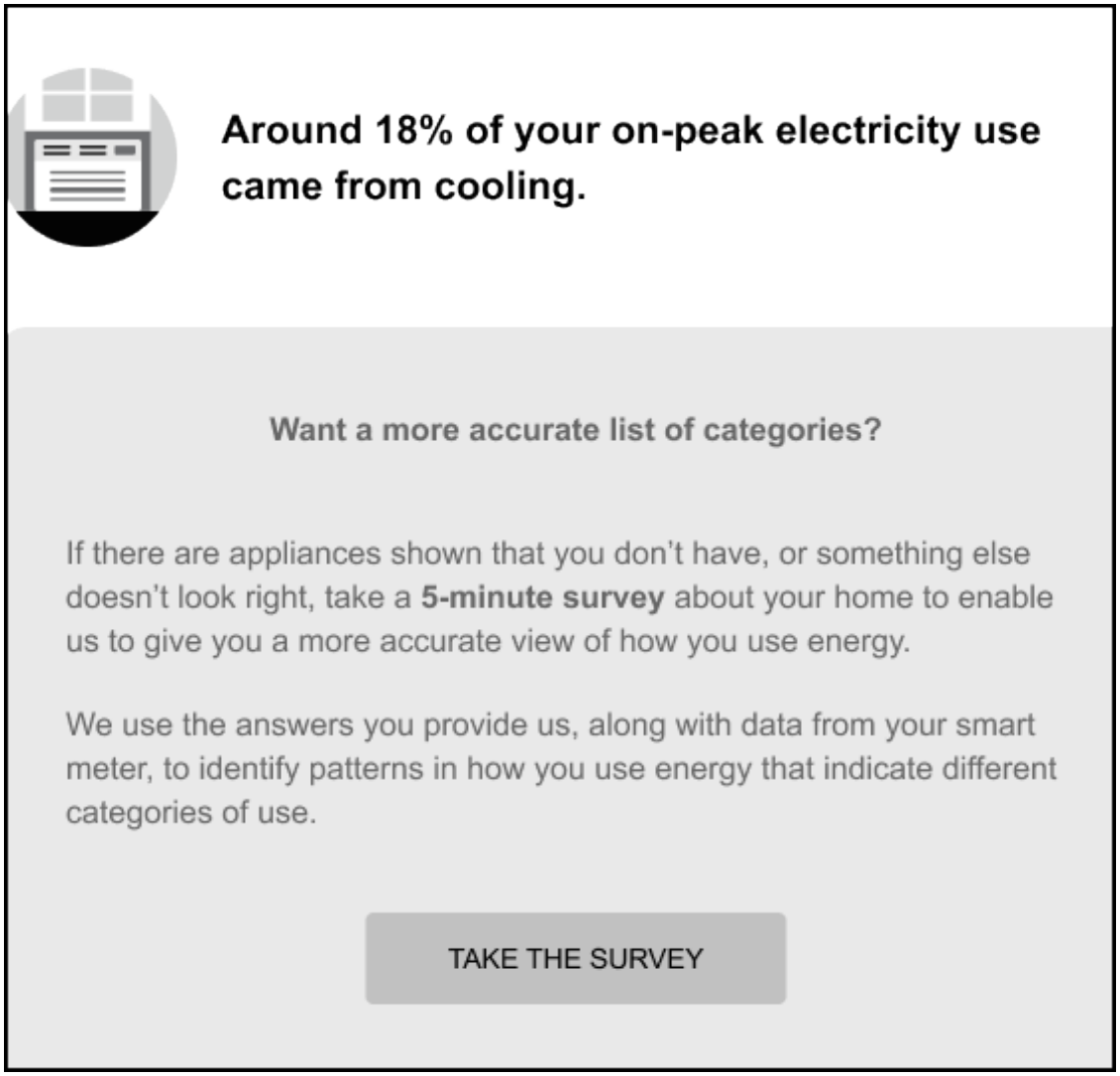
Figure 2-42 Variation Example



One Quantified Use Category and Zero Unquantified Use Categories

If there is only one quantified category, the quantified section header is omitted. Text indicating what percent of the on-peak electricity usage came from the use category is located next to the use case icon. The call-to-action section varies depending on whether the customer has completed their Home Energy Analysis. The unquantified section is omitted.

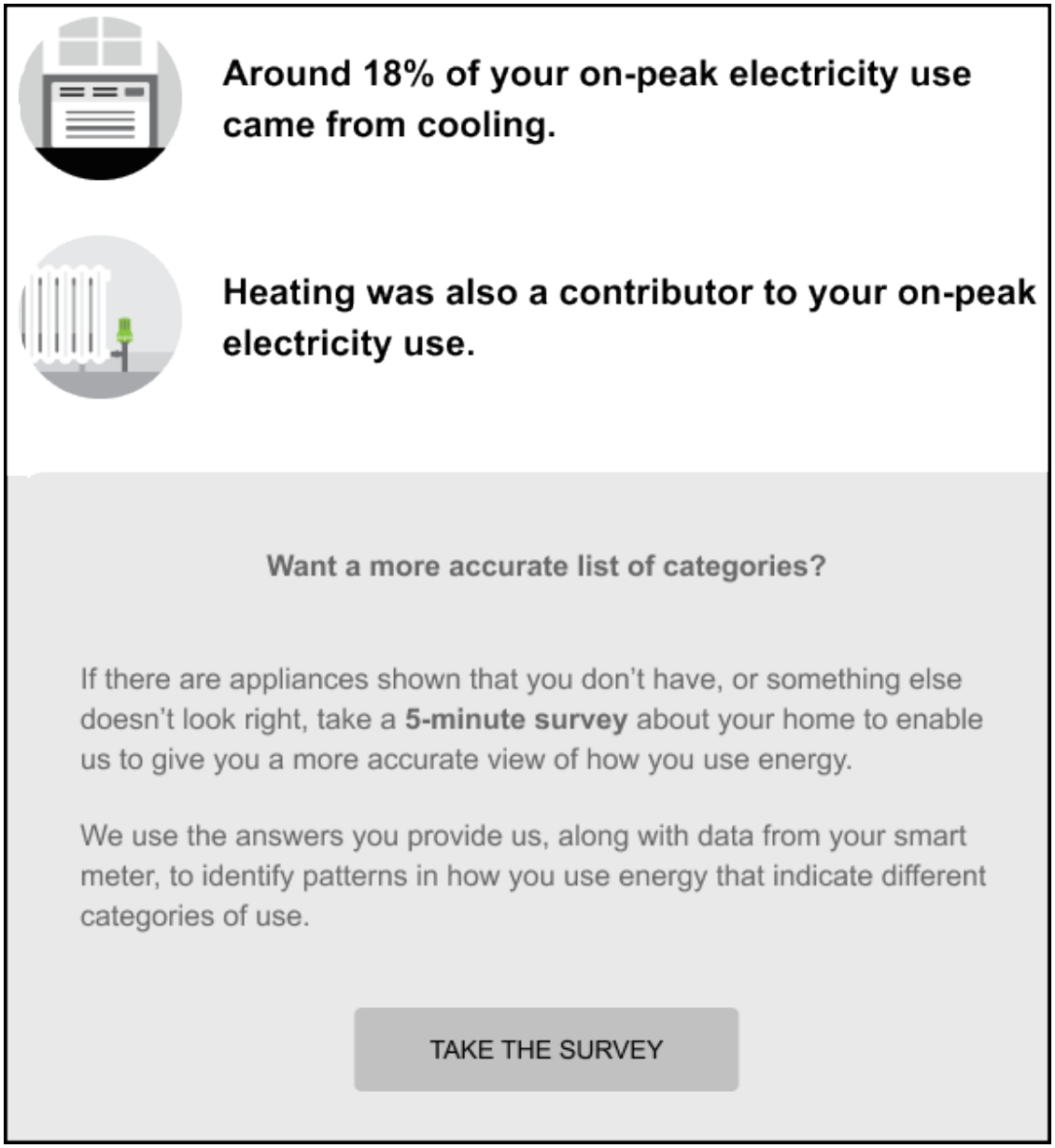
Figure 2-43 Variation Example



One Quantified Use Category and One Unquantified Use Categories

If there is only one quantified and one unquantified category, the headings are omitted. Text next to the quantified icon indicates what percent of the on-peak electricity usage came from the use category. Text next to the unquantified category indicates that it contribute to their on-peak use. The call-to-action section varies depending on whether the customer has completed their Home Energy Analysis.

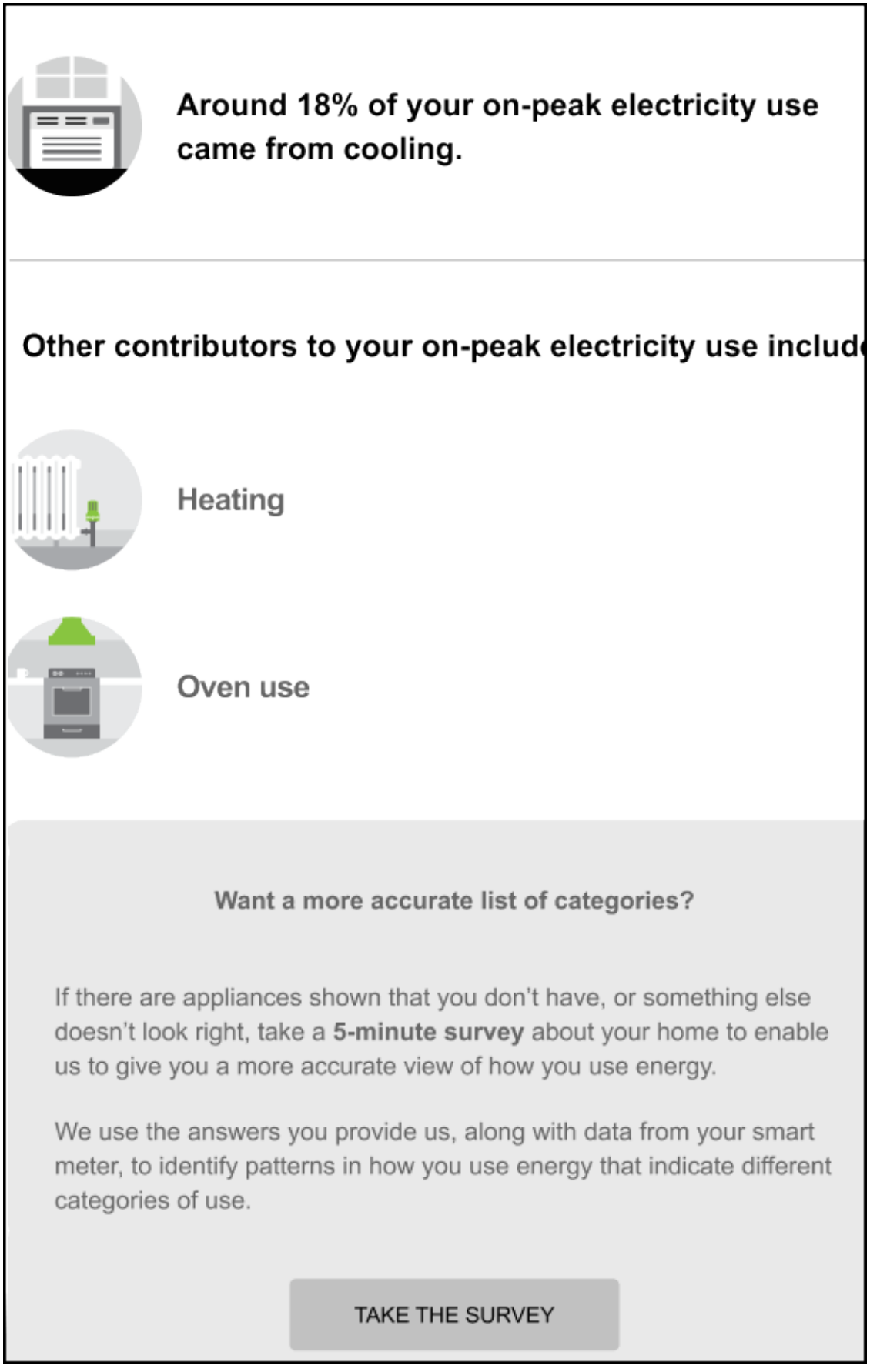
Figure 2-44 Variation Example



One Quantified Use Category and Two or More Unquantified Use Categories

The quantified section omits the use categories heading. Text next to the quantified use icon indicates what percent of the on-peak electricity usage came from the use category. The unquantified header indicated that the listed categories were also contributors to on-peak usage. The names of the unquantified use categories are located next to the unquantified use icons. The call-to-action section varies depending on whether the customer has completed their Home Energy Analysis.

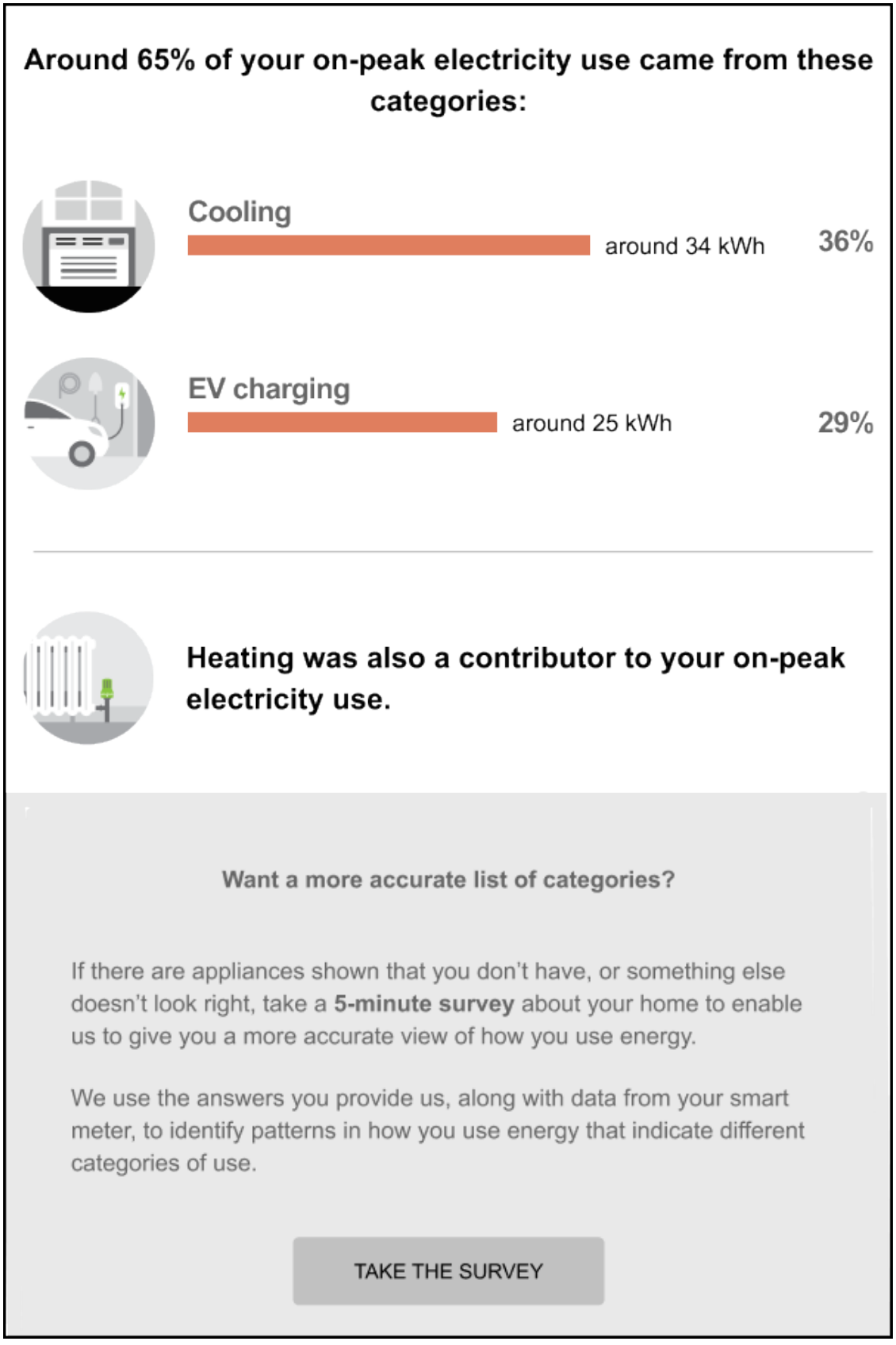
Figure 2-45 Variation Example



Two or More Quantified Use Categories and One Unquantified Use Category

The quantified section includes the quantified header and quantified end use category breakdown. The unquantified use header is omitted from the unquantified use section. Text next to the unquantified category indicates that it contribute to their on-peak use. The call-to-action section varies depending on whether the customer has completed their Home Energy Analysis.

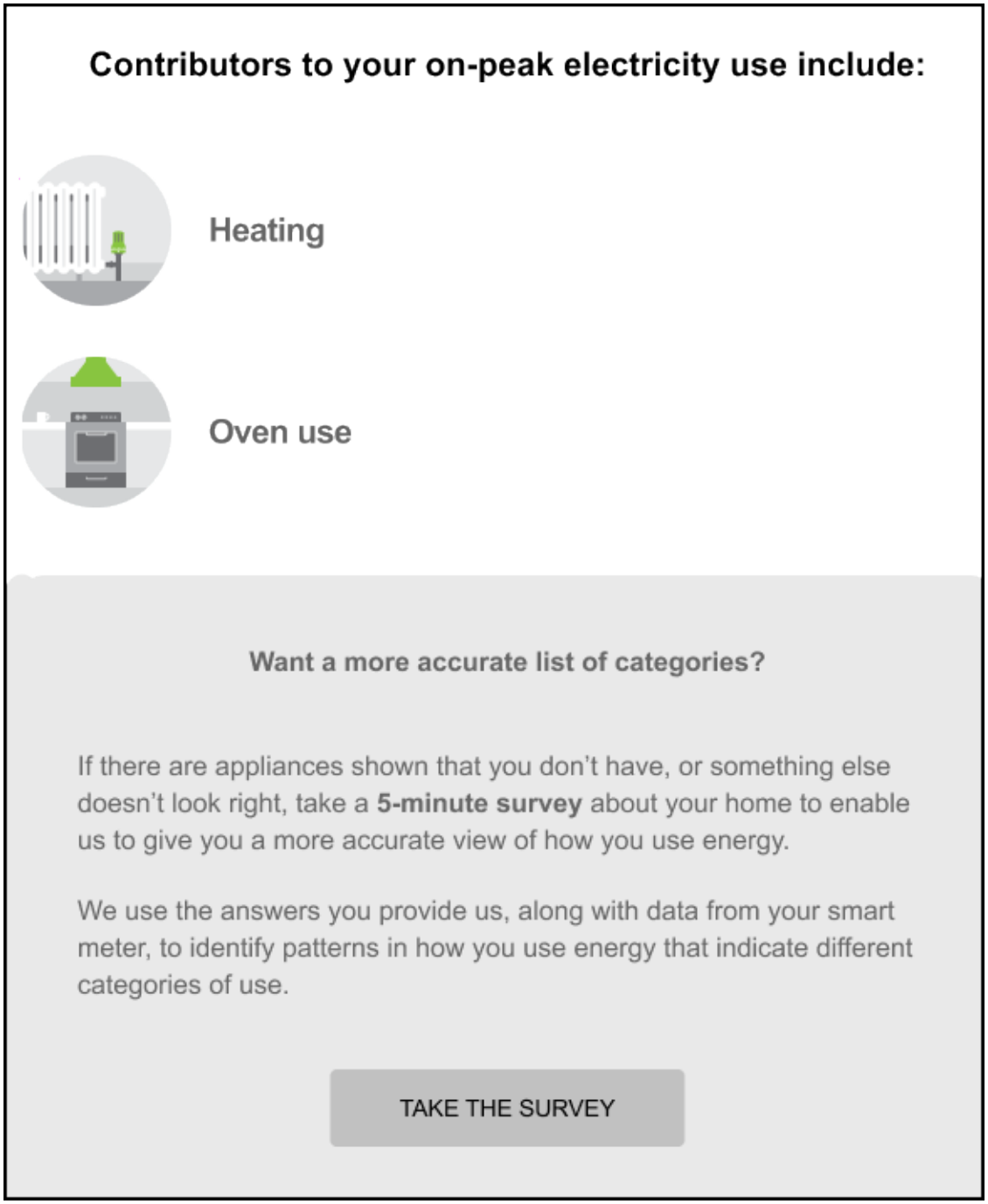
Figure 2-46 Variation Example



Zero Quantified Use Categories and Two or More Unquantified Use Categories

The quantified section is omitted. The unquantified use section includes a header. The names of the unquantified end use category is included next to the icon. The call-to-action section varies depending on whether the customer has completed their Home Energy Analysis.

Figure 2-47 Variation Example



Zero Quantified Use Categories and Zero Unquantified Use Categories

The module is not included in the report.

Data Overlapping the Seasonal Transition Date

Costs cannot be calculated for this module if the seasonal transition occurs within the module look back period. The behavior of the module is impacted by whether or not the peak hours data has changed.

Peak hours have changed: If peak hours changed at the season transition, and the look-back period for a given module overlaps the season transition date, then the module fails and the individual module is not included in the Time of Use Coach email type. The report will still be sent with the remaining modules.

Peak hours have not changed: If the customer's peak hours have not changed, one the following variations occurs:

- If peak hours have not changed in a period that overlaps the seasonal transition, the seasonal transition module is shown in usage form.
- If peak hours have not changed in a period that overlaps the seasonal transition, *and non-peak data for other data changing modules in the report have changed during the season transition date*, then all of the report modules are shown in usage form. Costs are not calculated or shown.

Welcome Message Module

This module appears below the header and introduces customers to the program. This module is only included in the Introduction email, not in subsequent emails.

User Experience

This module includes the following components:

Welcome Message: This message appears below the header and introduces customers to the program. The message is designed to encourage customers to engage with the content in the insight statement.

Insight Statement: This statement describes the customer's TOU rate plans, explains how shifting energy use to off-peak hours can help them lower their energy bill, and includes information about the average savings of other utility customers who have shifted their use to off-peak hours.

This image shows an example of the Welcome Message module:

Figure 2-48 Welcome Message Module

User Experience Variations

This module has no user experience variations.

3

Load Shifting Insights for High Bill Alert AMI Emails

The Load Shifting Cloud Service, Rate Coach provides insights that can be included in the latest version of the High Bill Alert AMI Email. These emails are digital messages sent through the email channel to inform customers when they are on track for a high bill or high energy use.

Load shifting insights are provided within Rate Coach modules that are built to be included in the High Bill Alert AMI Email. These insights are designed to educate customers about their Time of Use (TOU) and Demand rate plans and encourage them to shift energy use to off-peak hours.

> **Note**
>
> Dual fuel customers might receive a High Bill Alert AMI email that contains one of the Load Shifting Rate Coach modules to display electric data and also includes the standard High Usage Period module to display gas data.

Requirements and Limitations

To view load shifting insights in High Bill Alert AMI emails, you must first meet the requirements for the latest version of High Bill Alert AMI. In addition, you must meet the requirements listed below. See the Oracle Utilities Opower Proactive Alerts Cloud Service Product Overview for more information.

Utility Requirements and Limitations

This list specifies the utility requirements and limitations:

Related Cloud Services: The utility customer must purchase both the Oracle Utilities Opower Proactive Alerts Cloud Service and the Oracle Utilities Opower Load Shifting Cloud Service, Rate Coach.

Peak Periods: Utilities must have at least two peak categories set up in order for Load Shifting insights to display correctly. For example, a utility might have PEAK hours from 6am to 12am, and OFF-PEAK hours from 12am to 6am.

Customer Requirements and Limitations

This list specifies the customer requirements and limitations:

- **Billing Frequency:** Monthly or bi-monthly.
- **Data Delivery Frequency:** Daily.
- **Data Requirements:** Interval data (hourly or more granular).
- **Data History:** Interval data for the last two weeks.

- **Data Coverage:** This product does not differentiate between estimated and non-estimated reads. Both types of reads are supported. The default requirements are:
  - 50% read coverage for the last two weeks.
  - 50% read coverage for the week covered by the report.
  - 50% read coverage for the highest day in the customer's last week.
  - 50% read coverage for the last day of the week.
- **Fuel Type:** Electric-only and dual fuel.
- **Meter Type:** The customer must have a smart meter.
- **Customer Type:** The customer must be residential.
- **Email Address:** The customer must have a valid email address.
- **Rate Plan:** The customer must be on a time of use rate plan.

Customer Experience

To enable Time of Use (TOU) and Demand rate customers to view load shifting insights within their High Bill Alert AMI Email, you can include Load Shifting modules within the email communication that help the reader understand their rates. These modules are designed to educate customers about their Time of Use (TOU) and Demand rate plans and encourage them to shift energy use to off-peak hours.

For customers on Time of Use rate plans, you will include one of these modules in the High Bill Alert email:

- Load Shifting High Usage module: This version is a simplified module that displays the cost or usage during each peak period.
- TOU HBA Main Insight module: This is an expanded and updated module that includes additional insights that help readers understand how they can save money and energy by shifting their use to off-peak hours. Oracle recommends using this version of the module.

Demand rate customers will receive one of these modules, and also the Demand 101 module in their email.

Load Shifting High Usage Module

This module shows customers how much money they spent on off-peak and on-peak hours over a specific time frame, encouraging them to shift their energy usage to off-peak hours.

Note that dual fuel customers might receive the dual fuel High Bill Alert AMI email that contains the Load Shifting High Usage Period module and the standard High Usage Period module. The Load Shifting High Usage Period module shows electric usage and the different pricing periods through the day that are associated with the electric TOU or demand rate plan. The standard High Usage Period module shows a single price for the day and displays gas usage.

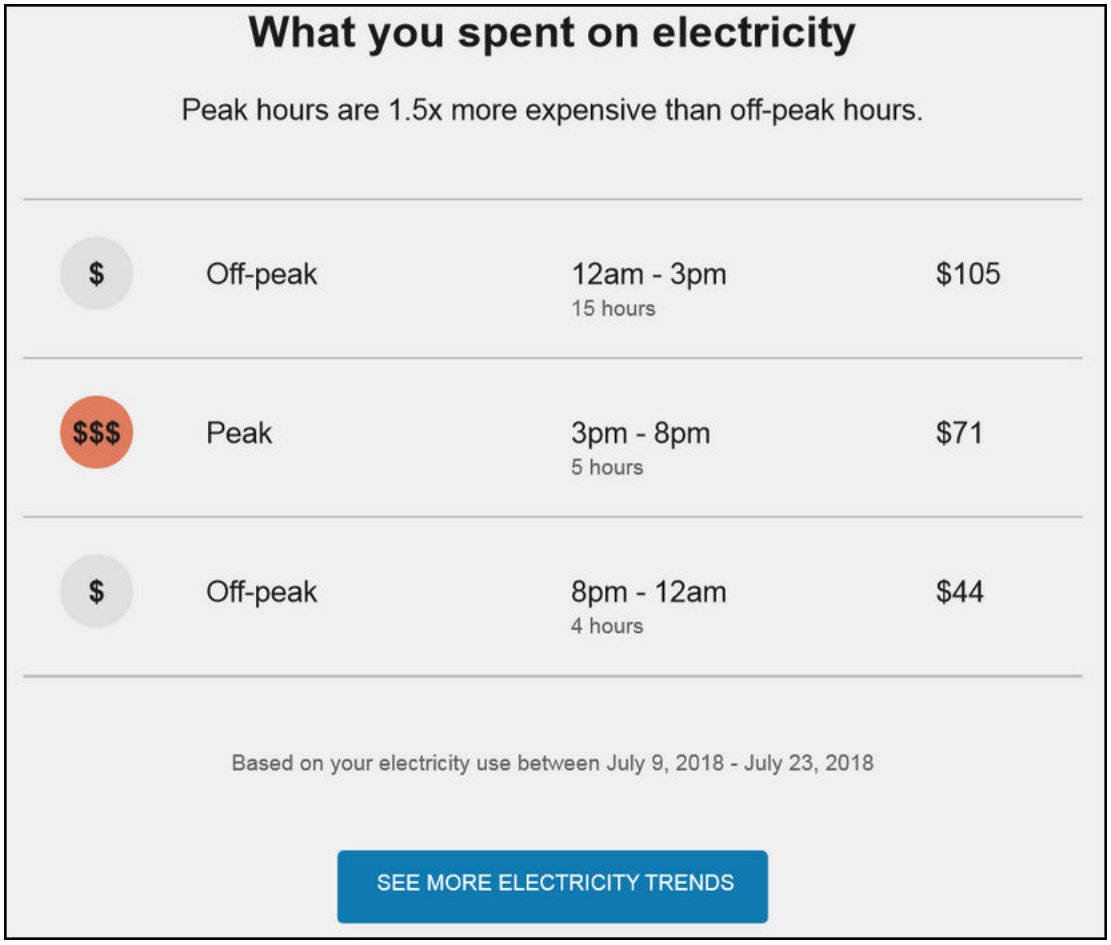
> **Note**
>
> - This section describes only the Load Shifting High Usage Period module and does not cover additional modules that are delivered within the High Bill Alert AMI Email communication. See the Oracle Utilities Opower Proactive Alerts Cloud Service Product Overview for more information about the other modules.
> - This module is considered a legacy version. Before using this, be aware that Oracle recommends using the TOU HBA Main Insight module instead. While this module is still available, utilities starting a new deployment should use the TOU HBA Main Insight module, and utilities currently using the Load Shifting High Usage Module are encouraged to upgrade to the TOU HBA Main Insight module. Contact your delivery team if you have questions about which module to use.

User Experience

This section describes the cost user experience for the Load Shifting High Usage module.

This image shows an example of the Load Shifting High Usage module:

Figure 3-1 Load Shifting High Usage Module



Module Title: The title directs the customer's attention to how much they spent on electricity.

Insight Statement: The statement below the module title indicates how much more expensive energy is during peak hours compared to off-peak hours. For example, the statement might say, "Peak hours are 1.5x more expensive than off peak hours."

Peak and Off-Peak Usage Table: This table displays a row for each period during the day, and identifies the following:

- Whether the period is a peak, partial-peak, or off-peak period
- Which hours the period covers
- How many hours are in the period
- Expected cost for energy used during that period

The table also highlights peak and partial-peak periods using different color icons to draw attention to how much the customer is spending during peak hours.

Date Range Statement: This statement identifies the date range that is used to determine the information in the usage table.

See More Electricity Trends: Clicking this button takes customers to a specified site with additional information. The utility customer can configure this button to direct the customer to a site of their choosing. If available, the button should direct customers to the Data Browser in the Digital Self Service - Energy Management Web Portal. The customer is then prompted to sign into their account, or to register an account if they have not previously done so.

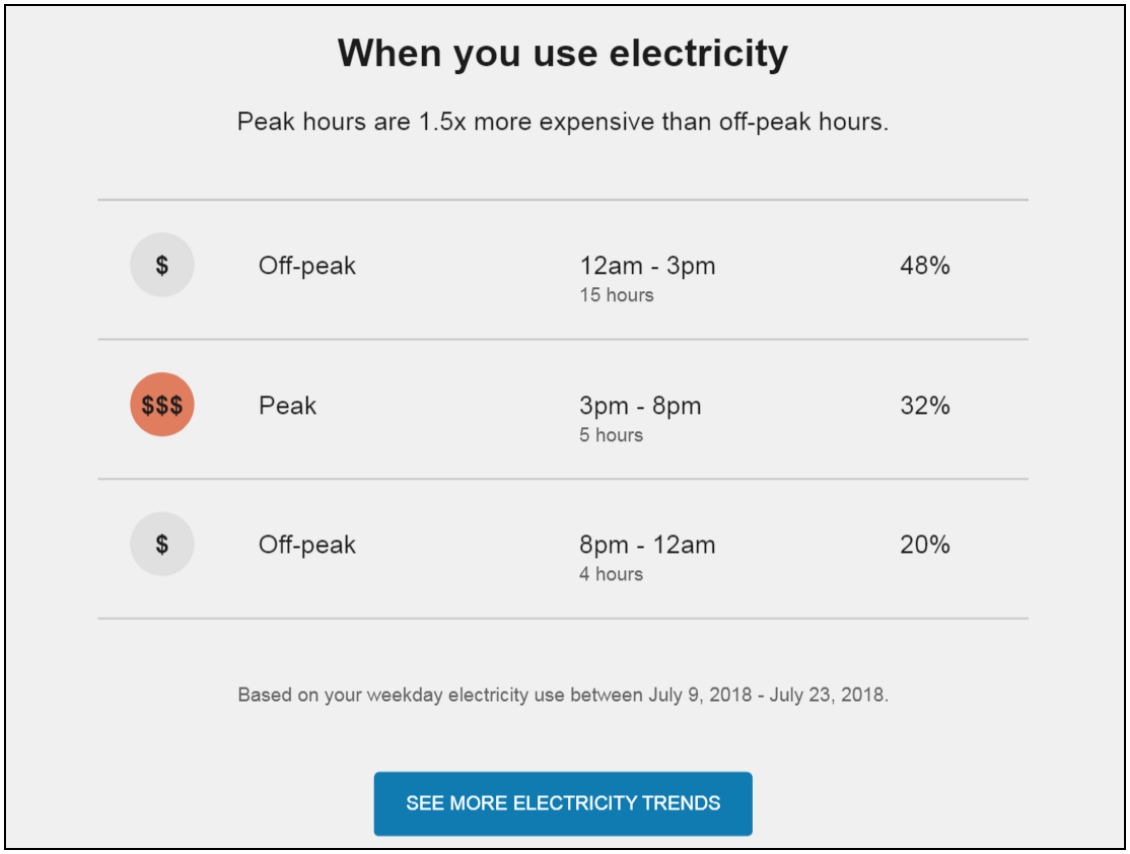
User Experience Variations

This section discusses user experience variations for the BLS High Usage module.

Use vs. Cost Variations

If the module is configured to display usage, the module shows the percentage of use during each period. If the module is configured to show cost, the module shows dollar amounts spent during each period.

Figure 3-2 Usage Variation



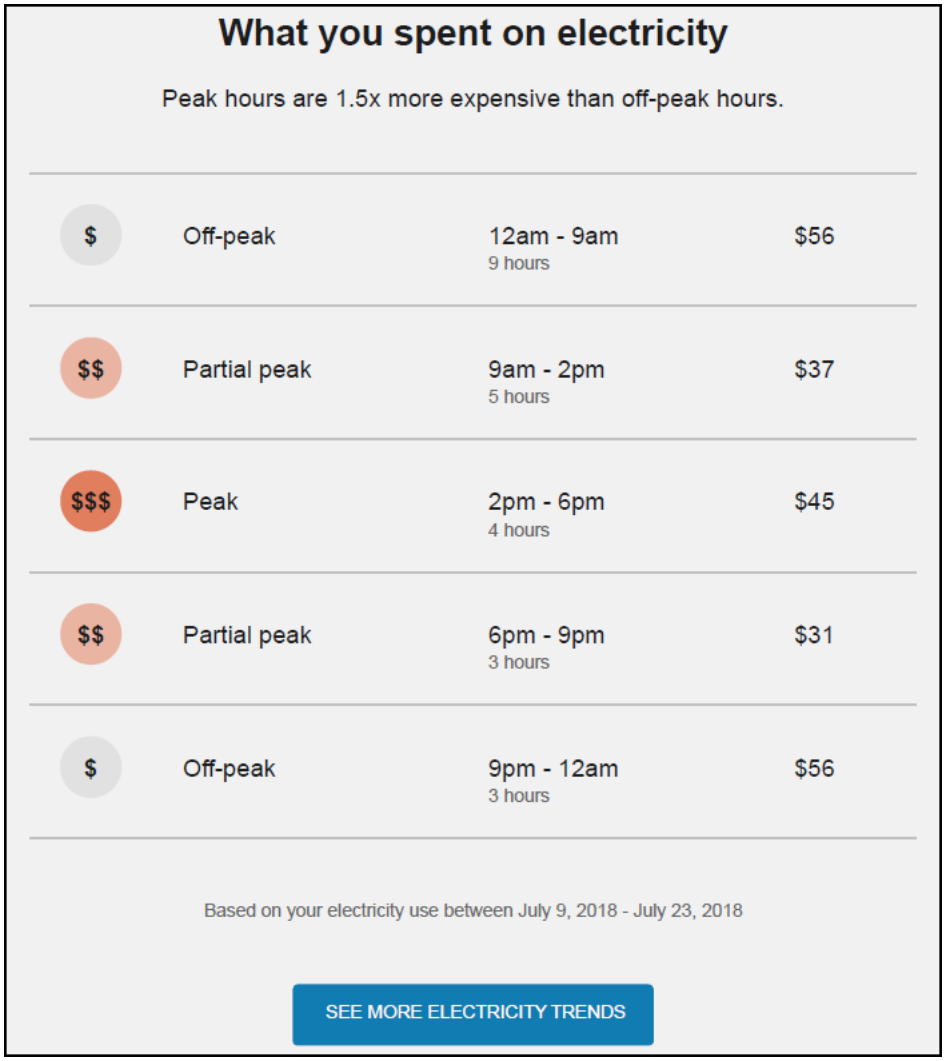
Tiered TOU Rates

For customers on tiered TOU rate plans, the tier with the highest price ratio is used to determine the price ratio in the insight statement of the Load Shifting High Usage Period module.

Partial-Peak Periods

For customers with rate plans that include partial-peak periods, the module displays off-peak, partial-peak, and peak hours using different color icons within the table.

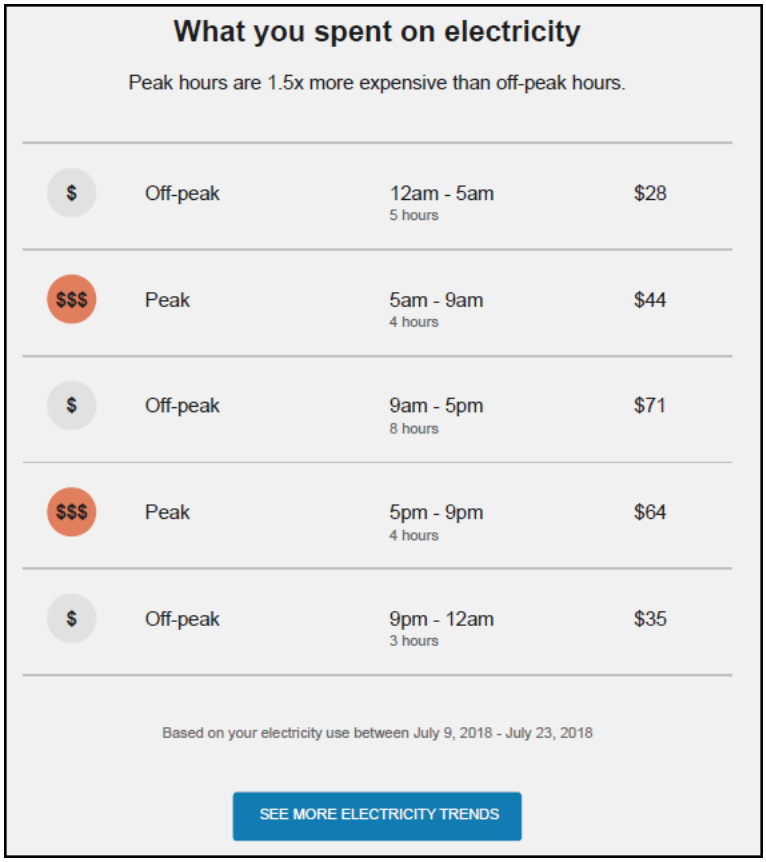
Figure 3-3 Partial-Peak Variation



Multiple Peak Periods

For customers with rate plans that include multiple peak periods each day, the module displays all peak periods in the table.

Figure 3-4 Multiple Peak Periods Variation



Weekday and Weekend Breakdowns

If a customer's rate plan has different weekday and weekend pricing breakdowns, then the Load Shifting Time of Day modules should be separated so that the weekday module is displayed first and the weekend module appears next.

Insight Statement: The statement that appears below the module heading changes as follows, depending on whether the module is displaying weekday or weekend data:

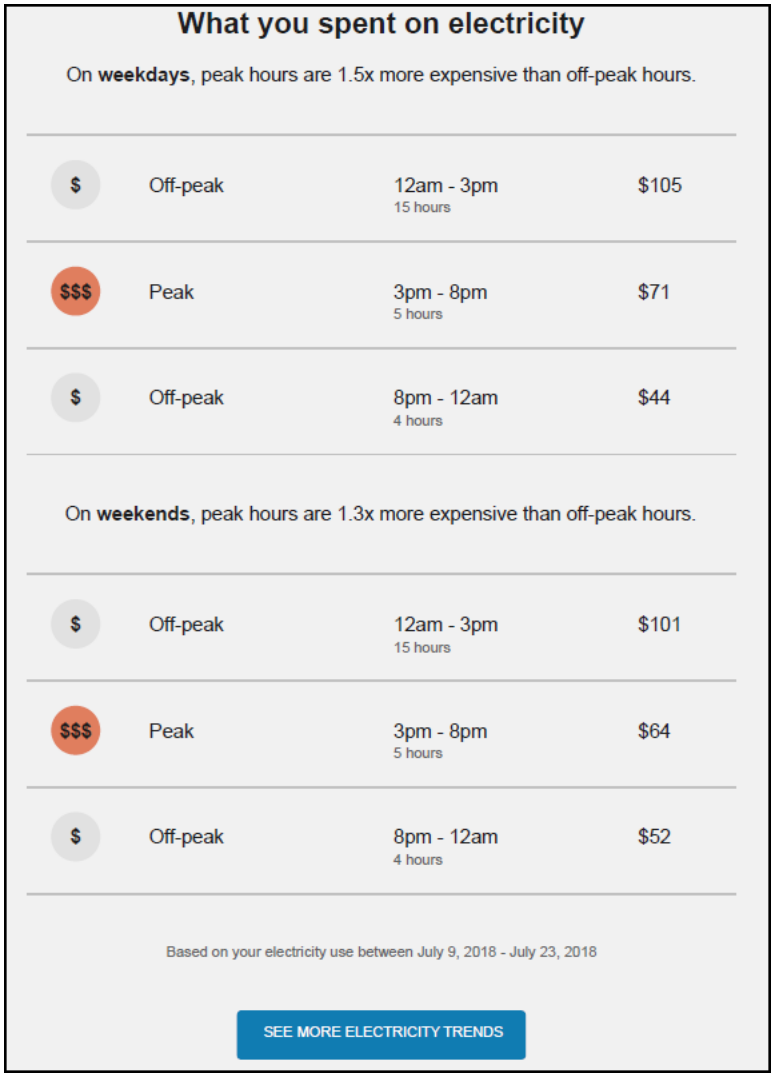
- On weekdays, peak hours are 1.5x more expensive than off-peak hours.
- On weekends, peak hours are 1.3x more expensive than off-peak hours.

In some scenarios, the price ratio can be the same on weekdays and weekends, but there will still be two charts displayed if the peak period times are different on weekdays and weekends.

Footer: The footer statement reads: "Based on your electricity use between [date range]."

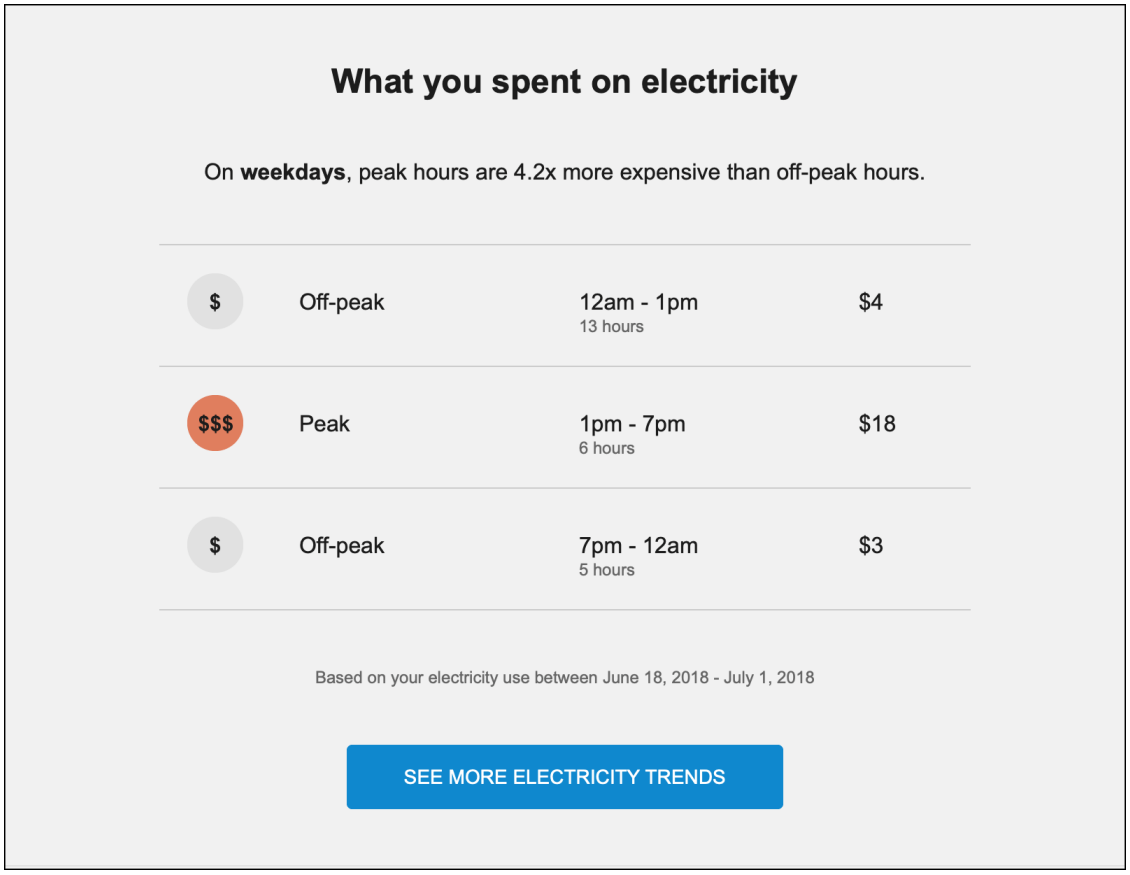
This example illustrates different price ratios on weekdays and weekends:

Figure 3-5 Weekday and Weekend Breakdown Variation



If the rate plan has peak hours during the week, but no peak hours on the weekend, the module appears as follows, and no weekend chart is displayed, as shown here:

Figure 3-6 No Weekends Variation



TOU HBA Main Insight Module

This module shows customers what portion of their energy use occurs during on-peak periods, provides details about the cost of energy use during peak periods, displays usage charts for weekdays and weekends, and encourages them to shift their energy usage to off-peak hours.

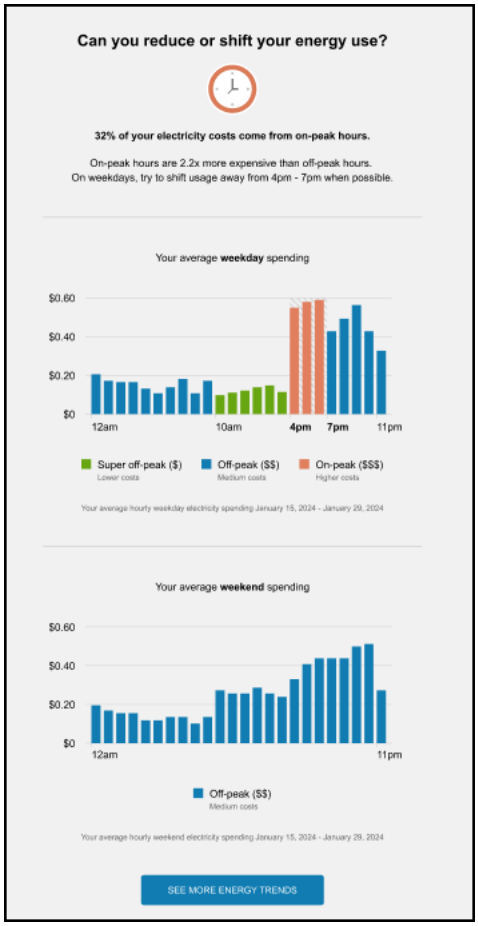
> **Note**
>
> - This section describes only the TOU HBA Main Insights module and does not cover additional modules that are delivered within the High Bill Alert AMI Email communication. See the Oracle Utilities Opower Proactive Alerts Cloud Service Product Overview for more information about the other modules.
> - This is an updated version of the Load Shifting High Usage Module. Oracle recommends using this updated version of the module, as it provides additional details for your customers.

User Experience

This section describes the cost user experience for the TOU HBA Main Insight module.

This image shows an example of the TOU HBA Main Insight module:

Figure 3-7 TOU HBA Main Insight



The module contains these elements:

Module Title: The title asks the reader to think about reducing or shifting their energy use.

Module Graphic: The graphic shows a clock to illustrate that the timing of energy use is important.

Insight Statement 1: The statement below the graphic tells the reader what percentage of their electricity cost was during on-peak hours. The percentage is rounded to the nearest whole percent. For example, the statement might say, "32% of your electricity costs come from on-peak hours."

Insight Statement 2: This statement explains how much more expensive energy is during peak hours compared to off-peak hours, and asks the reader to try and shift usage away from the on-peak time period. The cost ratio is calculated by comparing the highest cost period to the lowest cost period. For example, the statement might say, "On-peak hours are 2.2x more expensive than off peak hours. On weekdays, try to shift usage away from 4pm - 7pm when possible."

Weekday Chart Title: The title of the first chart informs the user that the data is related to their weekday energy spending.

Weekday Bar Chart: The chart depicts the average weekday electricity spending during each hour of the day. The different peak periods are color coded, and described in the legend below the chart, to enable readers to easily identify when they are spending the most on electricity.

The legend includes dollar sign indicators next to each period name and labels below each item to identify high, medium, and low-cost periods.

Weekday Date Range Statement: This statement identifies the date range that is used to determine the information in the bar chart. For example, the statement might say, "Your average hourly weekday electricity spending January 15, 2024 - January 29, 2024".

Weekend Chart Title: The title of the second chart informs the user that the data is related to their weekend energy spending.

Weekend Bar Chart: The chart depicts the average weekend electricity spending during each hour of the day. Utilities typically do not have peak periods on weekends, therefore, this chart is typically shown in a single color with a legend below. The legend includes dollar sign indicators next to each period name and labels below each item to identify high, medium, and low-cost periods. The data helps readers understand when they are spending on electricity on the weekends.

Weekend Date Range Statement: This statement identifies the date range that is used to determine the information in the bar chart. For example, the statement might say, "Your average hourly weekend electricity spending January 15, 2024 - January 29, 2024".

See More Electricity Trends: Clicking this button takes customers to a specified site with additional information. The utility customer can configure this button to direct the customer to a site of their choosing. If available, the button should direct customers to the Data Browser in the Digital Self Service - Energy Management Web Portal. The customer is then prompted to sign in to their account, or to register an account if they have not previously done so.

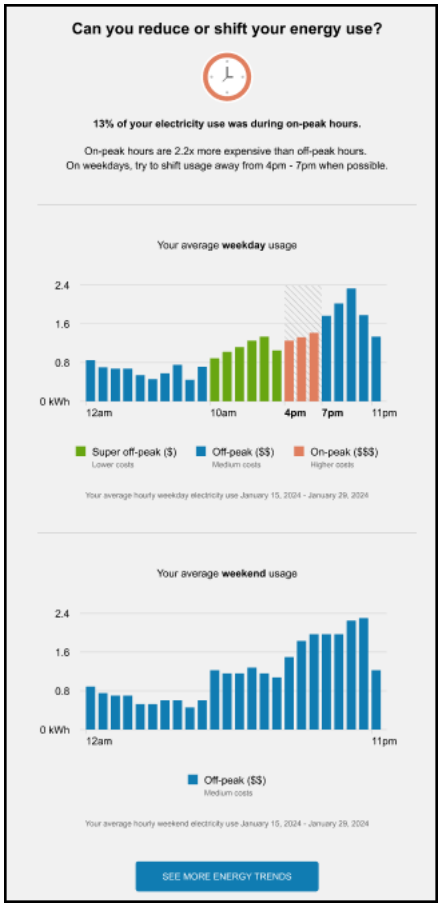
User Experience Variations

This section discusses the user experience variations in the TOU HBA Main Insight module.

Usage Variations

This image shows an example of the usage version of the TOU HBA Main Insight module:

Figure 3-8 Usage Variation



The usage version of the module varies from the cost version as follows:

Insight Statement 1: The statement below the graphic tells the reader what percentage of their energy use was during on-peak hours. For example, the statement might say, "32% of your electricity use was during on-peak hours."

Weekday Chart Title: The title of the first chart informs the user that the data is related to their weekday energy usage.

Weekday Bar Chart: The chart depicts the average weekday electricity usage during each hour of the day. The different peak periods are color coded, and described in the legend below the chart, to enable readers to easily identify when they are using the most electricity.

Weekday Date Range Statement: This statement identifies the date range that is used to determine the information in the bar chart. For example, the statement might say, "Your average hourly weekday electricity use January 15, 2024 - January 29, 2024".

Weekend Chart Title: The title of the second chart informs the user that the data is related to their weekend energy usage.

Weekend Bar Chart: The chart depicts the average weekend electricity use during each hour of the day. Utilities typically do not have peak periods on weekends, therefore, this chart is typically shown in a single color with a legend below. The data helps readers understand when they are using energy on the weekends.

Weekend Date Range Statement: This statement identifies the date range that is used to determine the information in the bar chart. For example, the statement might say, "Your average hourly weekend electricity use January 15, 2024 - January 29, 2024".

Tiered TOU Plans

For tiered TOU plans, the module varies in the following way:

Insight Statement 2: This statement explains how much more expensive energy is during peak hours compared to off-peak hours, and asks the reader to try and shift usage away from the on-peak time period. The tier with the highest cost ratio is used when calculating the price ratio in the statement, which might say, "On-peak hours are up to 2.2x more expensive than off peak hours. On weekdays, try to shift usage away from 4pm - 7pm when possible."

Demand Rate Plans

For demand rate plans, the module varies in the following way:

Insight Statement 2: For Demand TOU plans, the cost ratio is already stated in the Demand TOU 101 module. Therefore, the first sentence of the statement is removed. The statement might say, "On weekdays, try to shift usage away from 4pm - 7pm when possible."

Multiple High-Cost Periods

If there are two or more highest costs periods, the module varies in the following way:

Insight Statement 2: The last sentence of the statement varies for multiple high-cost periods to tell the user that there are multiple time periods when they should shift their energy use, as follows:

- **Two high-cost periods:** The statement might say, "On-peak hours are up to 2.2x more expensive than off peak hours. On weekdays, try to shift usage away from 7am - 10am and 4pm - 7pm when possible."
- **Three or more high-cost periods:** The statement uses the name of the highest cost period, and might say "On-peak hours are up to 2.2x more expensive than off peak hours. On weekdays, try to shift usage away from on-peak when possible."

Low Peak Usage

If the percentage of peak usage is below a certain threshold, the module varies in the following ways:

Module Title: The title of the module changes to "Can you reduce your energy use?"

Module Graphic: No graphic is included.

Insight Statement 1: Not included in the module.

Insight Statement 2: Not included in the module.

TOU Hours the Same on Weekdays and Weekends

If TOU hours are the same during weekdays and weekends, only one chart is included in the module. The chart encompasses both weekdays and weekend days.

The chart title and the date range statements are changed as follows for cost variations:

- **Chart title:** "Your average hourly cost"
- **Date range statement:** "Your average hourly electricity spending January 15, 2024 - January 29, 2024"

The chart title and the date range statements are changed as follows for usage variations:

- **Chart title:** "Your average hourly usage"
- **Date range statement:** "Your average hourly electricity use January 15, 2024 - January 29, 2024"

Holiday Variation

When a holiday is included in the time period, the module is updated as follows for cost variations:

Chart titles: "Your average <weekend or weekday> and holiday spending"

Date range statements: "Your average hourly <weekend or weekday> and holiday electricity spending January 15, 2024 - January 29, 2024"

The module is updated as follows for usage variations:

Chart titles: "Your average <weekend or weekday> and holiday usage"

Date range statements: "Your average hourly <weekend or weekday> and holiday electricity use January 15, 2024 - January 29, 2024"

Enrollment and Delivery for HBA AMI Emails

All enrollment and delivery rules and options for High Bill Alert emails are defined within the Proactive Alerts Cloud Service. See Delivery in the *High Bill Alerts AMI Configuration Guide* for more information.

Providing Customer Support

Customer Service Representatives can do the following in the Customer Service Interface (CSI):

- View copies of alerts sent to customers.
- Manage a customer’s alert preferences.
- Access a customer's Oracle Utilities web portal account and view and update their alert settings.

See Supporting High Bill Alerts (AMI) for details.

4

Inside Opower

The Load Shifting Cloud Service, Electric Vehicle includes access to Inside Opower. Inside Opower is an online, utility-facing suite of tools to help users across a utility stay informed of and manage their Oracle Utilities Opower program. Utility users can access key data such as program insights, analytics, reports, contact information, and documentation.

See the Oracle Utilities Opower Inside Opower Product Overview for details.

5

Customer Service Interface - Program Management

This cloud service includes access to the Customer Service Interface - Program Management tool. The Customer Service Interface (CSI) is an online support tool that provides utility support staff with the information and functionality they need to manage the Oracle Utilities Opower program and answer customer questions. See the Oracle Utilities Opower Customer Service Interface - Program Management Product Overview for details.

6

Contact Your Delivery Team

Your Oracle Delivery Team is the group responsible for setting up, configuring, launching, or expanding your Oracle Utilities Opower program. Contact your Delivery Team if you have any questions about your program products and implementation.

To contact your Delivery Team:

1. Sign in to Inside Opower (https://inside.opower.com). This is your portal for questions and information related to your program.
2. Go to the Community tab to see who is on your Delivery Team.
3. Contact any of the team members using the information provided.

If you need to report an issue or get technical support, contact My Oracle Support.