Opower Energy Efficiency Cloud Service Product Overview

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Getting Started

The Energy Efficiency Cloud Service includes analytical insights and digital products that are designed to educate customers with personalized information about their energy use and help them lower their energy costs. The following components are available in this service:

- Home Energy Reports v3
- Email Home Energy Reports
- Energy Efficiency Web Portal
- Video Home Energy Reports
- Inside Opower Oracle Utilities Opower Inside Opower Product Overview
- Customer Service Interface - Program Management Oracle Utilities Opower Customer Service Interface - Program Management Product Overview

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 Services Service Descriptions.

2

Home Energy Reports

Home Energy Reports are user-friendly print communications that provide personalized information to customers about their energy use. data-driven insights targeted to specific customer attributes. It includes enhanced features such as the Three-Bar Neighbor Comparison, the performance summary, energy disaggregation-based insights, and Tip Modulesabout the customer's major energy end-use categories, such as heating, cooling, and appliances.

The goals of the product are to give customers actionable insights about their energy and motivate them to lower their usage.

In this section:

Requirements and Limitations

The following data requirements and limitations apply to all utilities and customers in the Home Energy Reports program. These requirements must be met in order for a utility and a customer to participate in the program.

Channel Fees

Utilities may purchase a channel fee if they are using any printed rate education communications as part of the Oracle Utilities Opower program. Channels fees are used to add on report generation, printing, mailing, and postage services to a cloud service. There are two types of options: General Availability and Controlled Availability channel fees. The type that is relevant depends on the individual Oracle Utilities Opower program setup. Coordinate with your sales representative if you need help determining which type applies.

A summary of the fees is shown below. For more details about what each channel fee includes and the requirements for using them, see the Oracle Utilities Opower Channel Fees Cloud Services guide.

General Availability Channel Fees

The General Availability channel fees are applicable if the utility has a version of the cloud service that includes report generation. These channel fees can be purchased for different regions.

- **Report Printing and Mailing**: The Report Printing and Mailing channel fee includes the printing of generated report communications through an approved third-party print vendor,

as well as services for the proper mailing of the reports. It does not include postage for mailing the reports to customers.

- **Postage for Print and Mail**: The Postage for Print and Mail channel fee includes postage for the delivery of print communications.

  Note: The postage channel fee cannot be purchased alone. It must be purchased in combination with the printing and mailing channel.

Controlled Availability

The Controlled Availability channel fees are applicable if the utility has a version of the cloud service that does not include report generation. A utility may only choose one of the channel fees listed below.

- *Report Generation*: The Report Generation channel fee includes generating a digital version of print communications. It does not include the printing and mailing of print communications.
- *Report Generation and Print*: The Report Generation and Print channel fee includes the generation and printing of print communications. It does not include the mailing of print communications.
- *Report Generation, Print, and Mail*: The Report Generation, Print and Mail channel fee includes the generation, printing, and mailing of print communications.

Utility Requirements and Limitations

- **Templates**: Oracle Utilities has established standard templates for Home Energy Reports, which the US Postal Service has confirmed are currently eligible for mailing under the USPS Standard Mail classification. A deviation from these templates may cause the mailing of Home Energy Reports to be ineligible for USPS Standard Mail classification. If a utility purchases a print or mail channel, then Oracle Utilities Opower standard Home Energy Report templates will be used for the program. In the event that the utility and Oracle Utilities agree to deviate from such templates, the utility is responsible for any corresponding increase in postage.
- **Data Integration**: Customer data and energy use data must be sent by the utility to Oracle Utilities in the correct schema and according to the Oracle Utilities Opower data transfer standards.
- **Other Data Sources**: Oracle Utilities uses third-party reference data, such as weather and parcel data, to learn more about customers and the areas where they live. This information allows Oracle Utilities to identify neighbors, recommend tips, and provide additional energy insights. Moreover, customers can submit information through available Oracle Utilities Opower applications. For example, customers can submit information about their homes in the Energy Efficiency Web Portal.

Customer Requirements and Limitations

- **Billing Frequency**: The customer must be billed monthly, bi-monthly, or quarterly. Billing requirements vary by module. See the module descriptions that follow for details.
- **Energy Use Threshold**: Customers must meet a minimum energy use threshold to receive Home Energy Reports. This energy use threshold is optimized for each individual program.
- **Data History**: Each module requires a certain amount of historical data to appear on a customer's report. Backup modules appear for customers who do not have enough data to render a particular module. See the module descriptions that follow for details.

- **Fuel Type**: Electric-only, gas-only, and dual fuel.

Customer Experience Overview

Home Energy Reports v3 are user-friendly print communications that provide personalized information to customers about their energy use. The reports include two pages of content that consist of modules. Modules are separable pieces of content that communicate some type of relevant and engaging information to the customer. When printed out, the reports are a single page, with content on the front and back.

In this section:

Report Types

Home Energy Reports consist of several report types with different layouts and modules that vary throughout the year to provide customers with a dynamic experience. The report types are designed to construct a story for the customer to follow as they learn about their energy use. Some report modules are common to all report types, while others only appear in a specific report type. The available report types include:

- Electric Vehicle Report
- Limited Income Report
- Peak Focused Report
- Progress Report
- Promotion Report
- Seasonal Report
- Solar Report
- Time of Use Report
- Welcome and Announcement Report

Electric Vehicle Report

The Electric Vehicle Home Energy Report provides electric vehicle customers with a report experience that takes into account the unique priorities of electric vehicle customers, and the impact that electric vehicle charging has on their energy use. The report includes insights and explanations that are specific to the electric vehicle customer experience, and encourages customers to further enhance their report by completing the Home Energy Survey.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	No limitations.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Daily, monthly, bi-monthly, or quarterly. See module-specific requirements.
Data Requirements	• Hourly AMI data and insights. • Electric vehicle confirmation. Contact your Delivery Team for more information.
Data History	See module-specific requirements.
Data Coverage	See module-specific requirements.
Supported Fuels	See module-specific requirements.

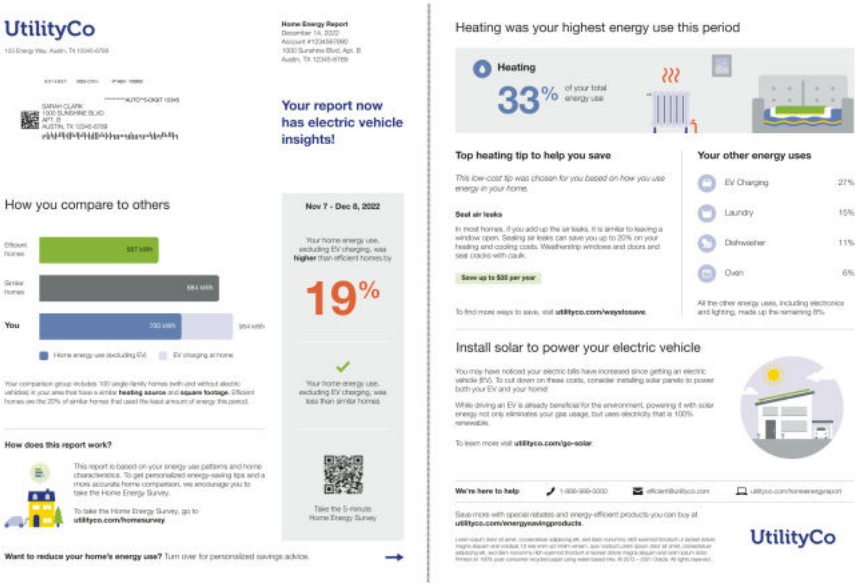
Limitations

- **Electric Vehicle Disaggregation Data**: There are additional data requirements to show advanced insights such as Electric Vehicle disaggregation. Contact your Delivery Team for more information.
- **Normative Comparison**: A Three-Bar Neighbor Comparison must be used for this report type.

User Experience

This section describes the Electric Vehicle Report. The report is built with a predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals.

This image is an example of the Electric Vehicle Report user experience for an electric-only fuel customer. Go to the individual module page for more details about the user experience.



The following modules are on the front of the report:

- Header
- Electric Vehicle Introduction
- Three-Bar Neighbor Comparison
- Explainer
- Page Turn

The following modules are on the back of the report:

- What Uses Most
- Marketing Modules
- Utility Info

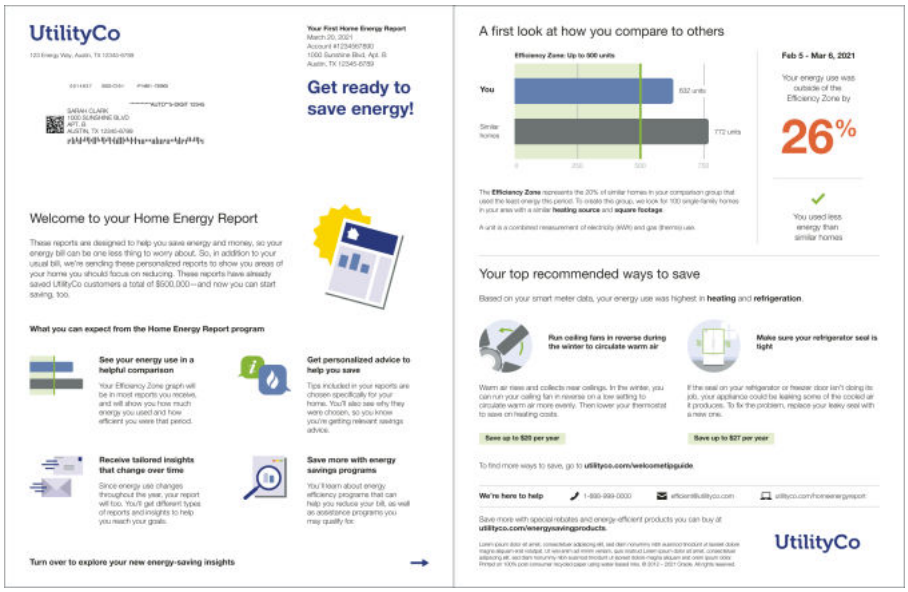
Limited Income Report

The Limited Income Report helps customers enrolled in a limited income plan improve their energy efficiency and identify ways to lower both current and future bills. While its primary goal is to promote energy savings, the report also includes features tailored to the unique circumstances and needs of limited income customers. There are two types of reports:

- Limited Income Welcome Report
- Limited Income Progress Report

Limited Income Welcome Report

The Limited Income Welcome Report is the first report a new or legacy customer receives as part of their Home Energy Report program experience.



Legacy customers: Customers that have received Home Energy Reports in the past are considered legacy customers. The Welcome Report acknowledges how the report experience has changed.

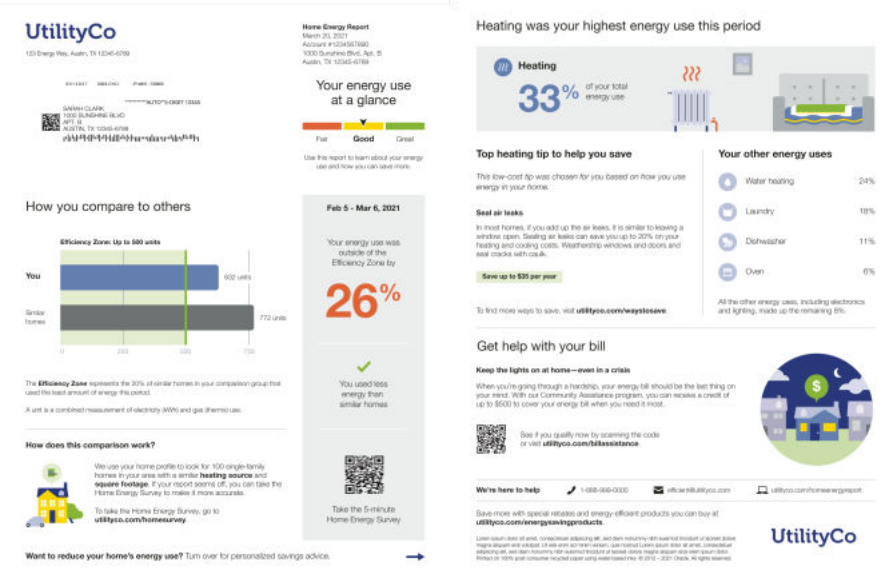
New customers: Customers that have never received a Home Energy Report are considered new customers. The Welcome Report introduces new customers to their report insights.

> **Note**
>
> Customers who move from one audience segment to another are not considered new customers.

See the Limited Income Report Modules for more information about how the experience varies by module.

Limited Income Progress Report

The Limited Income Progress Report is focused on general energy efficiency and money saving goals for limited income customers.



See the Limited Income Report Modulesfor more information about how the experience varies by module.

Limited Income Report Modules

The Limited Income Report type is built with a predefined mix of dynamic and static modules that have been carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details about the user experience.

Limited Income Welcome Report Module

The following modules are included on the front of the report:

- Header
- Introduction
- Announcement
- Quadrants
- Page Turn

The following modules are included on the back of the report:

- Three-Bar Neighbor Comparisonor Efficiency Zone
- Tip Modules
- Utility Info

Limited Income Progress Report Modules

The following modules are included on the front of the report:

- Header
- Energy Use Benchmark
- Three-Bar Neighbor Comparison or Efficiency Zone
- Explainer
- Page Turn

The following modules are included on the back of the report:

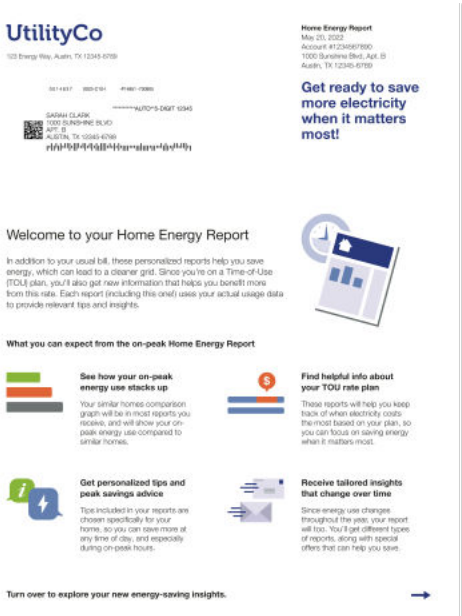
- What Uses Most
- Marketing Modules
- Utility Info

Peak Focused Report

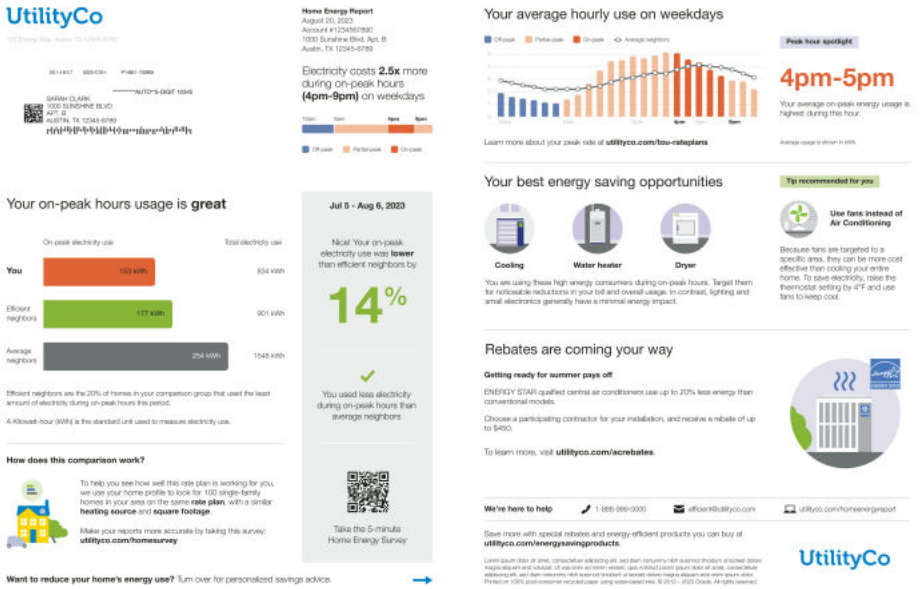
The Peak Focused Report helps customers understand their electricity usage, with an emphasis on peak periods under their Time of Use rate plan. It includes modules that raise awareness of electricity costs and encourage more energy conscious behavior during high cost periods.

There are two types of Peak Focused Home Energy Reports:

Peak Focused Welcome Report: This version introduces new customers and existing customers who are new to the Home Energy Report experience to peak energy use. As the first report they receive, it is designed to support behavior change, provide actionable tools and insights, improve customer satisfaction, and promote energy savings.



Peak Focused Progress Report: The Progress Report provides insights into customers' electricity usage, with a focus on peak periods under their Time of Use rate plan. It is designed to increase awareness of electricity costs and encourage more energy efficient behavior.



Report Modules

The Home Energy Report is built with predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details on the user experience.

Peak Focused Welcome Report

The Peak Focused Welcome Report includes the following modules:

Header

Introduction

Announcement

Quadrants

Page Turn

Peak Focused Normative Comparison

Time of Use 101

Utility Info

Peak Focused Progress Report

The Peak Focused Progress Report includes the following modules:

Header

Mini Time of Use Reminder

Peak Focused Normative Comparison

Explainer

Page Turn

Time of Day Hourly Insight

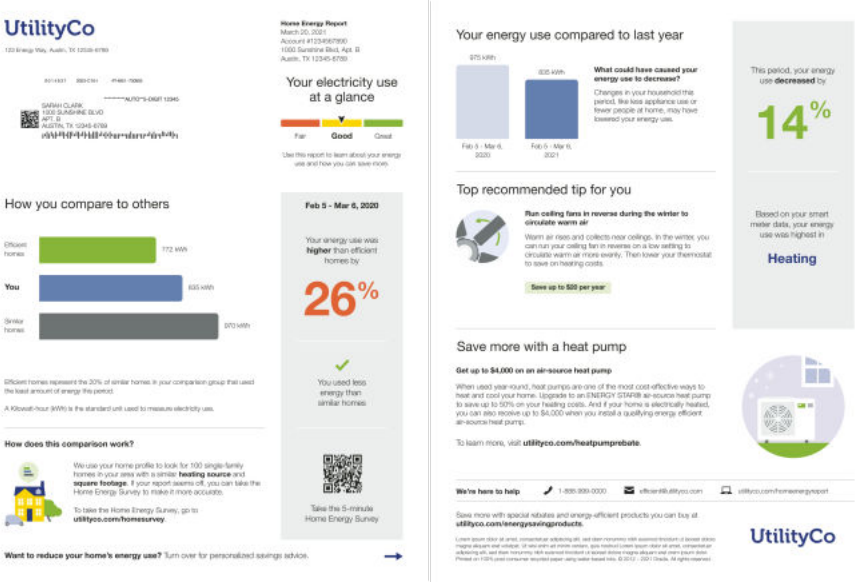
Energy Literacy and Tip

Marketing Modules

Utility Info

Progress Report

The Progress Report uses personalized insights and energy saving tips to encourage customers to maintain or improve their energy efficiency. Its design incorporates behavioral science techniques such as normative comparison, curiosity, and anchoring to keep customers engaged over time. Features like the Energy Use Benchmark, neighbor comparisons, context aware tips, and marketing modules are designed to support ongoing energy savings.



See the Progress Report Modules for more information about how the experience varies by module.

Progress Report Modules

The Progress Report type is built with a predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details about the user experience.

The following modules are included on the front of the report:

- Header
- Energy Use Benchmark
- Three-Bar Neighbor Comparison or Efficiency Zone
- Explainer
- Page Turn

The following modules are included on the back of the report:

- Self-Comparison
- Progress Report Tips
- Marketing Modules
- Utility Info

Promotion Report

The Promotion Report provides customers with personalized insights into specific end uses in their home to encourage participation in utility offered promotions. It leverages Oracle Utilities Opower disaggregation capabilities to support the adoption of more efficient devices, appliances, and deeper home retrofits.

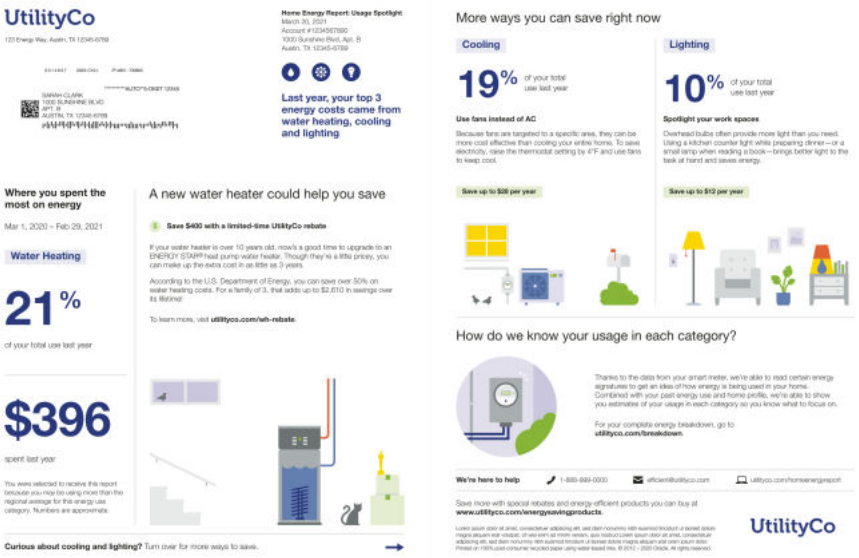
Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	No limitations. Customers will receive the Promotion Report Type if they meet the following requirements: • Appliance detection and disaggregation, heating & cooling disaggregation or simple disaggregation with Home Energy Analysis completion for that end use. • Confirmed presence of the end use through presence discovery or Home Energy Analysis completion. • Use more than the regional average for the utility selected end use.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Daily, monthly, bi-monthly, or quarterly. See module-specific requirements.
Data Requirements	• Hourly AMI data and insights. • Electric vehicle confirmation. Contact your Delivery Team for more information.
Data History	See module-specific requirements.
Data Coverage	See module-specific requirements.
Supported Fuels	Electric-only and dual fuel



The Promotion Report experience is determined by the report state and promotion type selected by the utility. Oracle Utilities Opower works with the utility to select the promotion they wish to run based on available disaggregation insights. Possible report states include:

Customer's Top End Use Category: The utility selects the end use category to focus on for the main insight and promotion for the front of the report. In this case, the selected end use is the customer's largest end use. The end use categories on the back are the customer's second and third largest end uses.

Utility-Preferred End Use Category: The utility selects the end use category to focus on for the main insight and promotion for the front of the report. This is not the customer's largest end use. Instead, the categories on the back are the customer's top end uses excluding the promotion end use.

Heating and Cooling Combined - Top Use Category: Heating and cooling categories are combined and are the focus of the main insight and promotion on the front of the report. These end uses are the customer's largest end uses for last year. Heating and cooling are again shown individually on the back of the report.

Heating and Cooling Combined – Utility Preferred: Heating and cooling categories are combined and are the focus of the main insight and promotion on the front of the report. These end uses are not the customer's largest end uses for the last year. Heating and cooling are again shown individually on the back of the report.

The front of the report includes the following modules: Header, Promotion Introduction, Dissagregation Main Insight, Promotion, and Page Turn. The back of the report includes tips, a marketing module, and Utility Info.

Promotion Report Modules

The Promotion Report type is built with a predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use, and to promote specific offerings and tips for them to act upon. Go to the individual module page for more details about the user experience.

The following modules are included on the front of the report:

- Header
- Promotion Introduction

- Disaggregation Main Insight
- Program Promotion Module
- Page Turn

The following modules are included on the back of the report:

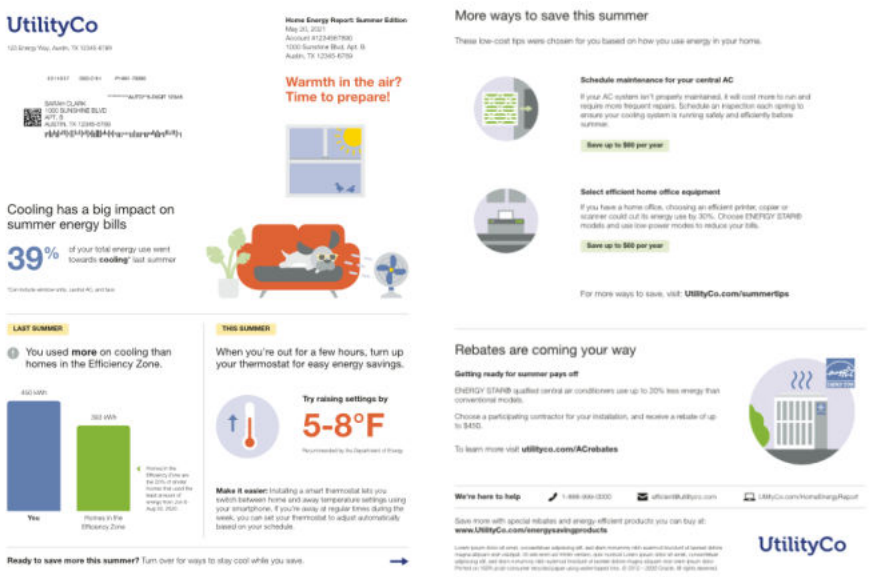
- Promotion Report Tips
- Marketing Modules
- Utility Info

Seasonal Report

The Seasonal Report encourages customers to reduce energy use ahead of the extreme weather seasons of summer and winter. It focuses specifically on heating or cooling, as these typically have the greatest impact on energy bills during these periods. Sent before each season begins, the report helps customers prepare and plan for the months ahead. It includes targeted tips and recommended actions to lower heating or cooling usage, along with a seasonal thermostat adjustment tailored to the report.

Summer Seasonal Report

The summer version of the Seasonal Report focuses on the impact cooling has on summer utility bills.



Winter Seasonal Report

The winter version of the Seasonal Report focuses on the impact heating has on winter utility bills.

See the Seasonal Report Modules for more information about how the experience varies by module.

Seasonal Report Modules

The Seasonal Report type is built with a predefined mix of dynamic and static modules that have been carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. The winter and summer versions of the reports include the same seasonally-focused features. Go to the individual module page for more details about the user experience.

The following modules are included on the front of the report:

- Header
- Seasonal Report Introduction
- Seasonal Breakout Module
- Seasonal Normative Comparison
- Seasonal Report Tips
- Page Turn

The following modules are included on the back of the report:

- Seasonal Report Tips
- Marketing Modules
- Utility Info

Solar Report

The Solar Report provides solar customers with a personalized report experience that is focused on improving energy savings behaviors and customer satisfaction. The report takes into account the impact of solar on the customer's energy use. There are two types of reports: Solar Welcome Report and Solar Progress Report.

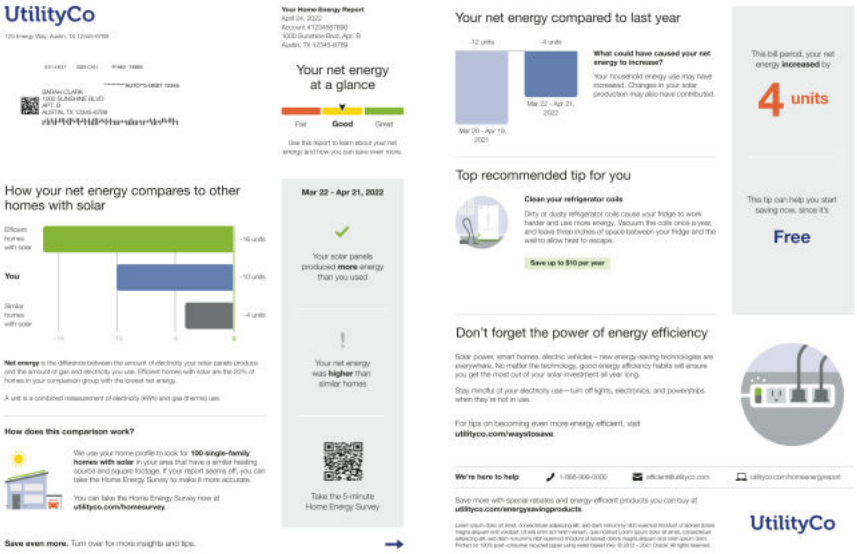
Solar Welcome Report

The Solar Welcome Report is the first report a customer on a solar plan receives. It introduces the solar-only neighbor comparison and tells them what they can expect from subsequent reports.

See the Solar Report Modules for more information about how the experience varies by module.

Solar Progress Report

The Solar Progress Report is focused on general energy efficiency and money saving goals for solar customers.



See the Solar Report Modules for more information about how the experience varies by module.

Solar Report Modules

The Solar Report type is built with a predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details about the user experience.

Solar Welcome Report Modules

The following modules are included on the front of the report:

- Header
- Introduction
- Three-Bar Neighbor Comparison
- Page Turn

The following modules are included on the back of the report:

- Seasonal Report Tips
- Welcome Quadrant
- Utility Info

Solar Progress Report Modules

The following modules are included on the front of the report:

- Header
- Energy Use Benchmark
- Three-Bar Neighbor Comparison
- Explainer
- Page Turn

The following modules are included on the back of the report:

- Self-Comparison
- Solar Progress Report Tips
- Utility Info

Time of Use Report

The Time of Use Report serves a dual purpose, providing customers on a time of use energy plan with insights on both overall energy savings and rate education. There are two types of Time of Use Reports: the Welcome Report and the Progress Report.

Time of Use Welcome Report

The Time of Use Welcome Report is the first report that new and legacy customers on a time of use plan receive as part of their Home Energy Report experience.

- **Legacy customers** are those who have received Home Energy Reports in the past. For these customers, the Welcome Report highlights how the report experience has evolved.

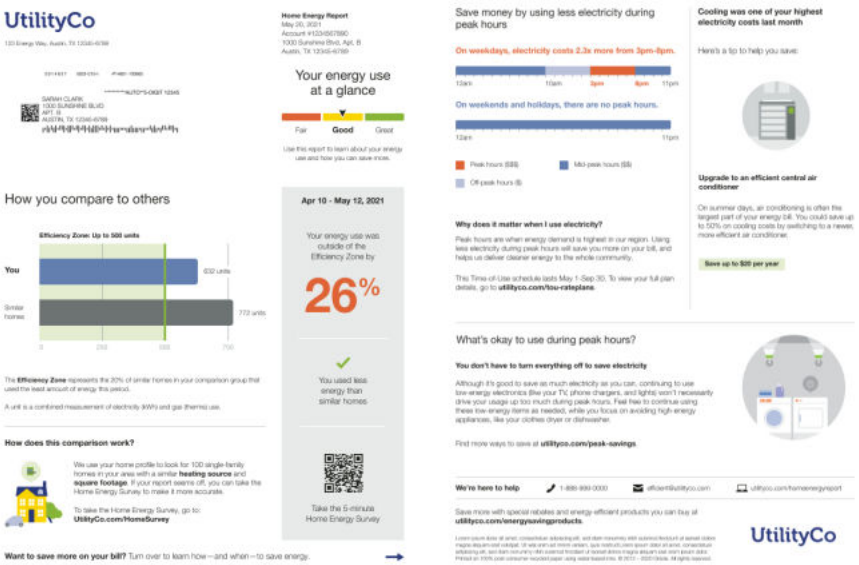
- **New customers** are those who have not previously received a Home Energy Report. For them, the Welcome Report serves as an introduction their report insights.

> **Note**
>
> customer who has moved from one segment to another is not considered a new customer. For example, a customer that moves from a standard rate plan to a time of use plan is not considered a new customer.

See the Time of Use Welcome Report Modules for more information about how the experience varies by module.

Time of Use Progress Report

The Time of Use Progress Report is focused on general energy efficiency and money saving goals for customers on time of use plans.



See the Time of Use Progress Report Modules for more information about how the experience varies by module.

Time of Use Report Modules

The Time of Use Report type is built with a predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details about the user experience.

Time of Use Welcome Report Modules

The following modules are included on the front of the report:

- Header
- Introduction
- Announcement
- Quadrants
- Page Turn

The following modules are included on the back of the report:

- Three-Bar Neighbor Comparison or Efficiency Zone
- Time of Use 101
- Utility Info

Time of Use Progress Report Modules

The following modules are included on the front of the report:

- Header
- Energy Use Benchmark
- Three-Bar Neighbor Comparison or Efficiency Zone
- Explainer
- Page Turn

The following modules are included on the back of the report:

- Time of Use 101
- Time of Use Report Tips
- Marketing Modules
- Utility Info

Welcome and Announcement Report

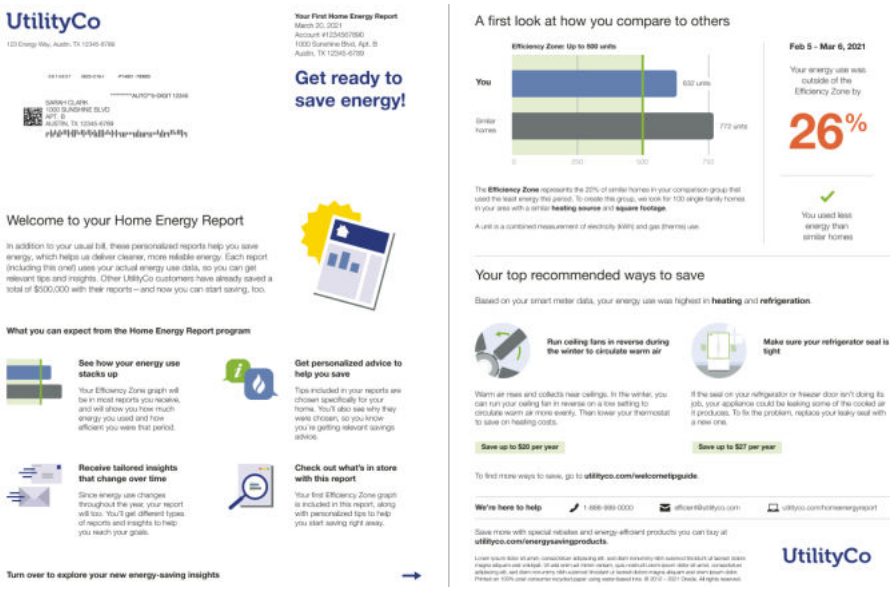
The Welcome and Announcement Report is a dual-purpose report type that can introduce Home Energy Report recipients to their new report experience or can be customized to share an important announcement or update with existing customers.

Welcome Report

The Welcome Report is the first report that new and legacy customers on a time of use plan receive as part of their Home Energy Report experience.

- **Legacy customers** are those who have received Home Energy Reports in the past. For these customers, the Welcome Report highlights how the report experience has evolved.
- **New customers** are those who have not previously received a Home Energy Report. For them, the Welcome Report serves as an introduction to their report insights.

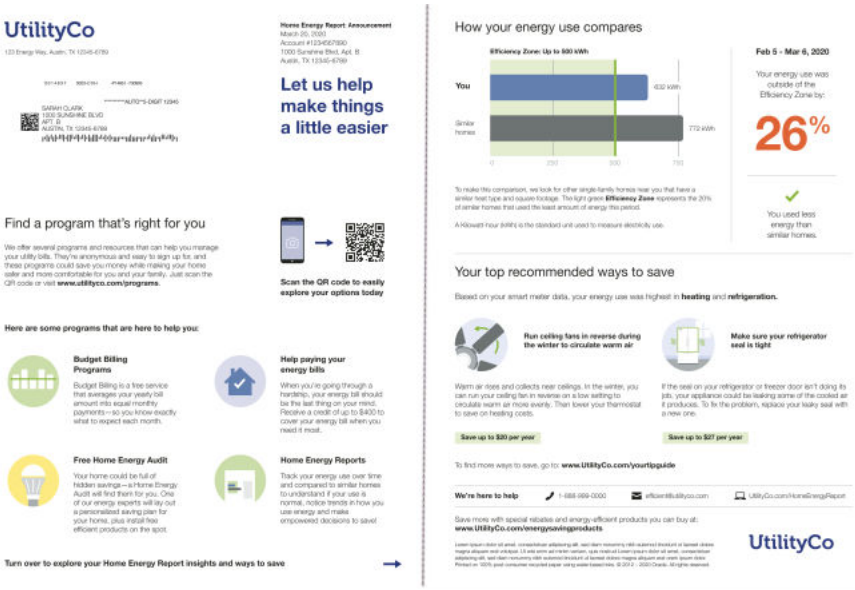
> **Note**
>
> New customers does not include customers who move from one audience segment to another. For example, customers that move from a standard rate plan to a time of use plan.



See the Welcome and Announcement Report Modules for more information about how the experience varies by module.

Announcement Report

The Announcement Report delivers a custom message about an event or update that may affect a customer's energy use, while connecting that message to the insights presented in the rest of the report. For example, it can be used to inform limited to moderate income customers about bill assistance programs or to help customers prepare for fire season. The front page of the report is fully customizable, allowing utilities to add relevant context alongside existing insights and predefined content to better align the report with the customer's current situation.



See the Welcome and Announcement Report Modules for more information about how the experience varies by module.

Welcome and Announcement Report Modules

The Welcome and Announcement Report type is built with a predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details about the user experience.

The following modules are included on the front of the report:

- Header
- Introduction
- Announcement
- Quadrants
- Page Turn

The following modules are included on the back of the report:

- Three-Bar Neighbor Comparison or Efficiency Zone
- Welcome Report Tips
- Utility Info

Report Modules

All reports consist of modules. Modules are separable pieces of content that communicate some type of relevant and engaging information to the customer. Report modules can be complex, providing dynamic information about a customer's energy use, or simple, containing a static image and hyperlinks. See each module description for details, or go to Report Layouts for more information about how modules are organized.

Announcement

The Announcement module states the intent of the report. It includes text and an image that either welcomes customers to their new report experience or acknowledges a change to the customer's program.

Appears in: Welcome and Announcement Report, Limited Income Report, Time of Use Report, and Peak Focused Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Not applicable.
Data Delivery Frequency	Not applicable.
Data Requirements	Not applicable.
Data History	Not applicable.
Data Coverage	Not applicable.
Supported Fuels	Electric-only, gas-only, dual fuel

Limitations

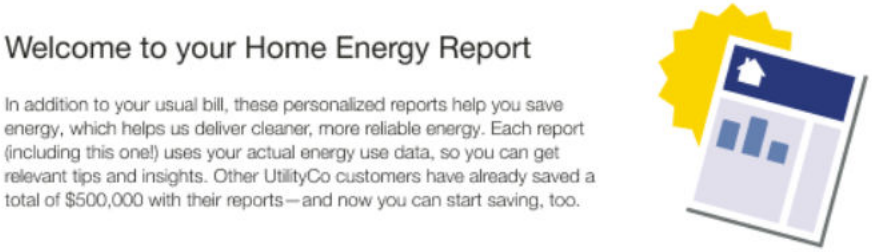
- **Report type**: This module is only offered as part of a welcome experience or as part of the Welcome and Announcement Report.

User Experience

Welcome and Announcement Report

Welcome Report

This section describes the user experience of the Announcement module for a new customer that receives a Welcome Report. The welcome version of the module introduces the customer to their new report experience and clearly indicates that subsequent reports are not bills.



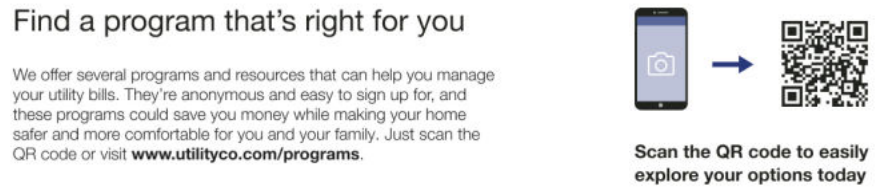
Heading: A heading that welcomes the customer to the Home Energy Report.

Announcement: The announcement introduces customers to their new report experience. It explains that the reports are designed to help them make informed decisions that can help them save. The announcement varies depending on whether the customer is new to reports or if they are a legacy customer who is new to the report experience. See User Experience Variations for more information.

Image: The illustration supports the welcome message.

Announcement Report

This section describes the user experience of the Announcement module for a new customer that receives an Announcement Report. This version of the module is customized to support the announcement type selected by the utility.



Heading: A custom title that highlights the change.

Announcement: Custom body text that explains a change to the customer's program experience, such as an update to their energy circumstances.

Image: A visual that complements the utility's announcement.

Time of Use Report and Peak Focused Report

Time of Use Report and Peak Focused Report version of the module emphasizes the report message of the importance of saving energy at all times, while also educating customers about the additional benefits of saving during peak hours. The module varies slightly for new and legacy customers.

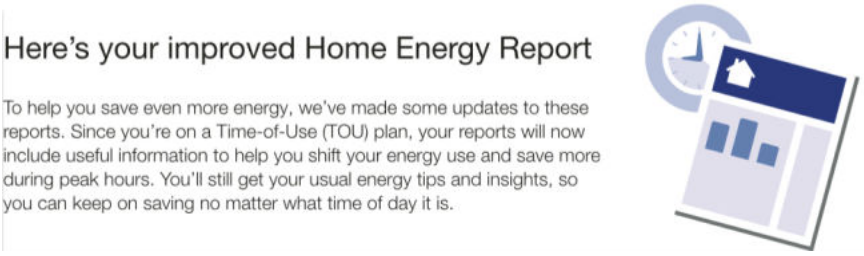
This section describes the user experience of the Announcement module for a new customer.

Heading: A heading that welcomes the customer to the Home Energy Report.

Announcement: The announcement explains to the customer that the reports are designed to help them save energy and personalized for their Time of Use plan.

Image: An image that compliments the custom utility announcement.

This section describes the user experience of the Announcement module for a legacy customer.



Heading: A heading that alerts the customer to a change in their Home Energy Report.

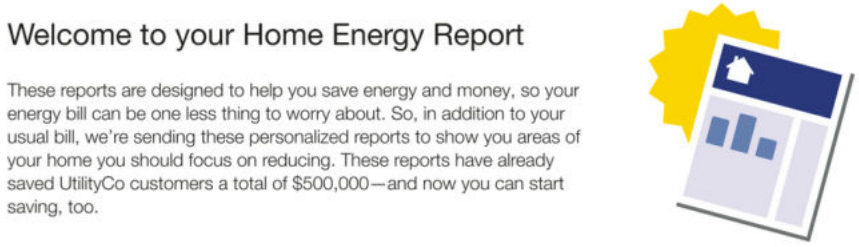
Announcement: The announcement reemphasizes the purpose of the report and that their report insights are personalized to account for their Time of Use plan.

Image: An image that compliments the custom utility announcement.

Limited Income Report

The Limited Income Welcome Report version of the module emphasizes the report message of how saving energy can help the customer save money. The module varies slightly for new and legacy customers.

This section describes the user experience of the Announcement module for a new customer.



Heading: A heading that welcomes the customer to the Home Energy Report.

Announcement: The announcement explains to the customer that the reports are designed to help them save energy and money.

Image: An image that compliments the custom utility announcement

This section describes the user experience of the Announcement module for a legacy customer.

Heading: A heading that alerts the customer to a change in their Home Energy Report.

Announcement: The announcement reemphasizes the purpose of the report and that their report insights are personalized to help them save energy and money.

Image: An image that compliments the custom utility announcement.

User Experience Variations

New vs. Legacy Customers

The Announcement module welcome variations differ slightly by report type, depending on whether the customer is new or legacy.

Customers who have received earlier versions of the reports are considered legacy customers. These versions acknowledge how the report has changed, with messaging such as "Welcome to your new Home Energy Report" or "Here's your improved Home Energy Report."

Customers who have never received a Home Energy Report are considered new customers. These versions introduce customers to their report insights, with messaging such as "Welcome to your Home Energy Report."

See the User Experience for more information about each module type.

Disaggregation Main Insight

The Disaggregation Main Insight module uses personalized insights about a specific end use in the customer's home to encourage participation in a utility promotion. It highlights categories where the customer's usage exceeds the regional average, helping to motivate adoption of the promotion and reduce overall energy use. The module can feature the customer's largest end use category or a utility selected category that aligns with the promotion. Oracle Utilities Opower collaborates closely with utilities to develop marketing modules that enhance the overall report experience.

Appears in: Promotion Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy EfficiencyCloud Service
Scale	Not applicable.

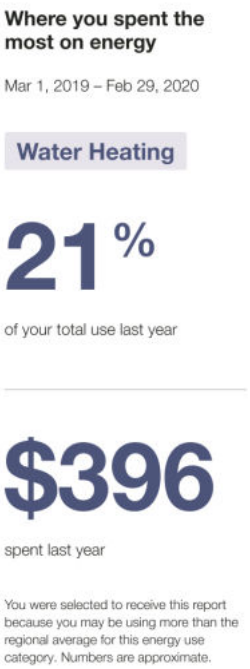
Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Not applicable.

Category	Description
Data Requirements	Energy disaggregation data is required to get an estimate of the categories where a customer uses the most energy. **Minimum**: The minimum data requirement is average energy use data for the households in a utility's region. This data is typically obtained from public data sources. The module then uses the customer's responses to the Home Energy Analysis survey to adjust the average energy use values and yield personalized disaggregation results. **Recommended**: The recommended approach is to use weather data and at least six historical bills, as this will provide more accurate disaggregation results. Additional data requirements may apply depending on the utility's setup, configuration, and whether any advanced data science models are used.
Data History	• A minimum of six bills is required for Non-AMI customers. • A minimum of 60 days of AMI reads for AMI customers.
Data Coverage	Not applicable.
Fuel Type	Electric-only, gas-only, dual fuel.

User Experience

This section describes the user experience of the Disaggregation Main Insight.



Header: Introduces the main insight and explains how it relates to the customer's energy use.

Date Range: Specifies the time period the insights are based on, typically the year prior to the report period.

End Use Category: Identifies the specific end use that the promotion focuses on.

Usage Insight: Shows the selected end use as a percentage of the customer's total energy use, displayed as a whole number using standard rounding.

Usage Insight Label: Provides context for the usage percentage displayed.

Spend Insight: Indicates how much the customer spent on the selected category during the specified date range, shown as a whole number using standard rounding.

Spend Insight Label: Adds context by describing the time period and meaning of the dollar amount. Disclaimer: Explains why the customer is receiving the report.

User Experience Variations

Utility Preferred End Use

If the utility decides to promote an end use that is not the customers largest end use category, the header introduces the category more generically as a place to save without saying where it ranks in their overall use.

Energy Use Benchmark

The Energy Use Benchmark module provides a dynamic and personalized, at-a-glance interpretation of the customer's energy use. Energy use is categorized into one of the three sections or statuses: Fair, Good, and Great. The customer's status is determined by their performance relative to their Three-Bar Neighbor Comparison or Efficiency Zone modules.

Appears in: Progress Report, Limited Income Report,Time of Use Report, Solar Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Not applicable.
Data Requirements	Not applicable.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	**Progress Report, Limited Income Report, Time of Use Report:** Electric-only, gas-only, and dual fuel. **Solar Report**: Electric-only and gas-only. </entry>

User Experience

Energy Use Benchmark

This section describes the user experience of the Energy Use Benchmark design for the Peak Focused Report, Limited Income Report, and Time of Use Report

Heading: The heading notifies the customer that the energy use benchmark gives them an at-a-glance view of their energy use. It varies according to the customer's fuel type.

Energy Use Benchmark: The benchmark gauge is broken into three sections: Fair, Good, and Great. A customer's status on that gauge is determined by their performance relative to both comparison points in the Normative Comparisons. A customer's performance is indicated with an arrow that sits in the middle of a given segment of the gauge. Each state has a corresponding color:

- **Orange: Fair**. Customer is using more than Similar Homes.
- **Yellow: Good**. Customer is using more than Efficient Neighbors / Efficiency Zone threshold, but less than Similar Homes.
- **Green: Great**. Customer is using less than the Efficient Neighbors / Efficiency Zone threshold.

Benchmark Copy: Depending on the customer's current state and any differences since their last report, the copy below the gauge tells the customer how they can leverage the report or recognizes a change in state. In some instances, the benchmark copy reemphasizes the customer's fuel type.

Solar Energy Use Benchmark

This section describes the user experience of the Solar Energy Use Benchmark which accommodates negative energy states experienced by solar customers in the Solar Report.

Heading: The heading notifies the customer that the energy use benchmark gives them an at-a-glance view of their net energy use.

Energy Use Benchmark: The benchmark gauge is broken into three sections: Fair, Good, and Great. A customer's status on that gauge is determined by their performance relative to both comparison points in the Three-Bar Neighbor Comparison. A customer's performance is indicated with an arrow that sits in the middle of a given segment of the gauge. Each state has a corresponding color:

- **Orange: Fair**. The customer's net energy was positive and more than similar homes.
- **Yellow: Good**. The customer's energy use falls into one of the following categories:
  - Net energy was positive and less than similar homes
  - Net energy was negative and more than similar homes
  - Net energy was negative and more than efficient homes, but less than similar homes
- **Green: Great**. The customer's net energy was positive or negative and an efficient home.
- **Yellow: State Change (High to Low)**..The customer's benchmark state has changed from Fair to Good or Good to Great since the last report.

Benchmark Copy: The copy below the gauge tells the customer how they can leverage the report or recognizes the customer's lower net energy use.

User Experience Variations

The user experience varies for customers depending upon their service types, available data, costs, and locale. Note that the following list indicates the primary user experience variations, not all possible variations.

Solar Report

- **Net energy**: The term 'energy use' is replaced with 'net energy.'

Progress Report, Limited Income Report, and Time of Use Report

Benchmark State: The copy below the gauge changes depending on the customer's current state and any differences since their last report. Possible states include:

- **Fair state:** Explains how to use the report.
- **Good state:** Explains how to use the report.
- **Great state:** Congratulates the customer for being efficient.

- **High to lower use state:** Congratulates the customer for lowering their use compared to neighbors.

Low to higher use state: Helps the customer consider what may have changed.

Fuel Type: The customer's fuel type is displayed in the header and benchmark copy, "Your <fuel variation> use at a glance."

- **Gas-only**: The benchmark header and copy use the term 'gas.'
- **Electric-only:** The benchmark header uses the term 'electricity' and the benchmark copy uses the term 'energy.'
- **Dual fuel:** The benchmark header and copy use the term 'energy.'

Explainer

The Explainer module tells the customer what data is used to calculate the Normative Comparisons and provides ways to improve or correct the data used in the module by completing or updating the Digital Self Service - Energy Management Home Energy Analysis. The module includes a brief explanation of how the comparison is calculated, as well as URL and QR code options to go from their paper report to the Home Energy Analysis. The goal of this module is to reduce negative customer sentiment by providing transparency around the similar home comparison and offering a simple and quick way for customers to update their information if it is not accurate.

Appears in: Progress Report, Limited Income Report, Time of Use Report, Solar Report, Electric Vehicle Report, Peak Focused Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly
Data Delivery Frequency	Daily, monthly, bi-monthly, or quarterly.
Data Requirements	A minimum of one historical bill.
Data History	A minimum of one historic bill.
Data Coverage	All billing and data delivery frequencies are supported.
Supported Fuels	**Progress Report, Limited Income Report, and Time of Use Report**: Electric-only, gas-only, dual fuel. **Solar Report, Electric Vehicle Report**: Electric-only, dual fuel. **Peak Focused Report**: Electric-only.

Limitations

- **Module replacement**: To ensure clear messaging, an additional promotion module should not be run in place of this module.

User Experience

This section describes the user experience for each report type.

Progress Report, Limited Income Report, Time of Use Report, and Peak Focused Report

This section describes the user experience of the Explainer module for the Progress Report, Limited Income Report, Time of Use Report, and Peak Focused Report.

Header: Informs the customer either that they can learn more about how their comparison is calculated or that their comparison is accurate based on their completed Home Energy Analysis.

Body Text: Explains that the customer's home profile is used to identify similar homes with comparable square footage and heating fuel type within a defined distance. Details such as the number of homes, home type, location radius, and heating source are dynamic and vary by customer. Utilities may choose to show fewer criteria, but at least one must be included.

Call to Action: Provides two ways for customers to update their home profile:

Link: Directs customers to the Digital Self Service Energy Management web portal, where they can sign in and complete the Home Energy Analysis.

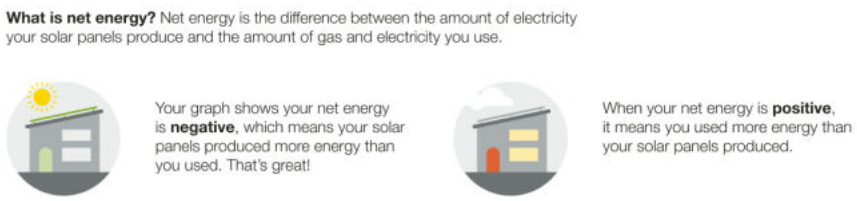
QR Code: Encourages customers to take a short home energy survey. By scanning their unique code, they can quickly move from their paper report to either an authenticated or unauthenticated landing page, depending on the utility's setup.

Solar Report

The Solar Welcome Report includes a net explainer version of the Explainer module. The goal of the module is to educate customers about net energy, while reinforcing the insights shown in the neighbor comparison graph.

Welcome Progress Report

This section describes the user experience of the Explainer module for a customer with dual fuel and a positive comparison state in the Solar Welcome Report.



Header: The header defines net energy.

Explainer :The explainer reinforce the insights shown in the report's three-bar neighbor comparison. The text varies based on the customer's comparison state and fuel type.

Image: The left image matches the customer's current net negative or net positive state. The right image of the opposite state. The image is designed to reinforce the explainer definition state. For example, a house with a red door is paired with the positive next energy positive explainer to indicate that more energy is used than the solar panels produced. An image of sun shining over a house with a green door and roof line is paired with the negative net energy explainer to reinforce that in a negative net energy state the solar panels produce more energy than the customer used.

Solar Progress Report

This section describes the user experience of the Explainer module for the Solar Report of a customer with an incomplete Home Energy Analysis.

Header: The header is intended to either notify the customer that they can learn more about how their comparison is determined or notify them that their comparison is accurate as a result of their completing the Home Energy Analysis.

Body Text: The body text explains that the customer's home profile is used to identify similar solar homes of roughly the same square footage and with the same heating fuel type within a set distance. The number of homes, home type, location radius, and heating source information is all dynamic and varies by customer.

Image: The image reinforces that the customer's insights take into account their solar energy use.

Call to Action: Customers are provided with two convenient ways to update the home profile:

- **Link:** A link located below the body text that redirects the user to the Digital Self Service - Energy Management web portal, where they can sign in and complete the Home Energy Analysis.
- **QR Code:** The QR code prompt encourages customers to take a five-minute home energy survey. Customers can scan their unique code with their phone and immediately transition from their paper report to either the authenticated or unauthenticated landing page, depending on which one is set up for the utility.

Electric Vehicle Report

The Electric Vehicle Report explainer module is designed to help educate the customer about how their home energy use and home characteristics contribute to their comparison. The module header, body text, and call to action vary depending on whether or not the customer has completed their Home Energy Analysis.

This section describes the user experience of the Explainer module for the Electric Vehicle Report of a customer who has not yet completed their Home Energy Analysis.

Header: The header notifies the customer that they can learn more about how their report works.

Body Text: The body text explains that the report uses the customer's energy use patterns and home characteristics to generate insights, and encourages them to complete the Home Energy Analysis for more a more accurate comparison.

Image: The image of an electric vehicle charging at home is used to visually reinforce that the customer's electric vehicle charging is taken into account in the report comparison and insights.

Call to Action: Customers are provided with two convenient ways to update the home profile:

- **Link:** A link located below the body text that redirects the user to the Digital Self Service - Energy Management web portal, where they can sign in and complete the Home Energy Analysis.
- **QR Code:** The QR code prompt encourages customers to take a five-minute home energy survey. Customers can scan their unique code with their phone and immediately transition from their paper report to either the authenticated or unauthenticated landing page, depending on which one is set up for the utility.

User Experience Variations

The user experience varies for customers depending upon their service types, available data, costs, and locale. Note that the following list indicates the primary user experience variations, not all possible variations.

Home Energy Analysis **Completion**

The Explainer module and QR code text for the Progress Report, Limited Income Progress Report, Time of Use Progress Report, Solar Progress Report, and Electric Vehicle Report vary depending on the customer's Home Energy Analysis completion.

- **If the customer recently completed the** Home Energy Analysis: The body text confirms what is known about their home that goes into the calculation, and then prompts them to go online in order to see their energy use breakdown.
- **If the customer has not completed the** Home Energy Analysis: The body text tells the customer that the report and insights are based on their energy use patterns and home

characteristics, and encourages them to take the Home Energy Survey to get personalized energy-saving tips and a more accurate home comparison.

- **If the customer already received the "Home Energy Analysis Recently Completed" copy state:** Each subsequent report confirms what is known about their home that goes into the calculation, and then prompts them to go online in order to see their energy use breakdown.

Header

The report header appears at the top of each report communication vary by report type. The report header is composed of a report image (logo), customer address block, and Johnson Box. The Johnson Box includes the program name or report type label, report date, account number, service address, and a benchmark insight or introduction module. The title of the report and whether a benchmark insight or introduction module is included in the report varies by report type.

Appears in: All report types.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Less than 100,000 per week

Customer Requirements

Category	Description
Billing Frequency	Not applicable.
Data Delivery Frequency	Not applicable.

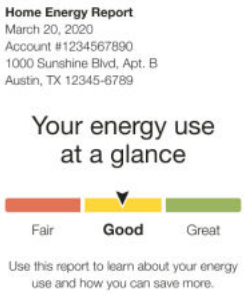
Category	Description
Data Requirements	For the Promotion Report, the Oracle Utilities Opower platform requires data about how much energy customers used in specific end-use categories, such as heating or cooling, so that the top three categories can be highlighted. **Minimum**: The minimum requirement is to have average energy use data for households in a utility's region. This data is typically obtained from public data sources and is used as a baseline for the Home Energy Analysis survey. Responses to the survey can then be used to determine a breakdown of how customers used energy in different categories. **Recommended**: The recommended approach is to use Oracle Utilities Opower data science models to generate more accurate energy use disaggregation results. In this case, the data requirements include a combination of billed usage data, daily or subdaily AMI data, and weather data. Your Delivery Team will work with you to explain the specific requirements and help you identify the best approach for your situation.
Data History	Not applicable.
Data Coverage	Not applicable.
Supported Fuels	Not applicable.

Limitations

- **Report Image (Logo)**: The report image must be provided by the utility. The maximum allowable size is 132 x 72 pixels (1.83 x 1 inches).

User Experience

This section describes the user experience of the header module for the Progress Report. See the User Experience Variations for examples of how this module varies for other report types.



Logo: The logo appears in the top-left corner of the front page of the report, and the utility's address appears underneath it. The logo also appears at the back of the report in the lower-right corner of the Utility Info module.

Customer Address Report Block: The customer address always appears in the top-left corner of the report, in the space beneath the logo and utility's address. This is the proper

space for it to display in the envelope window. The report template has a blank area set aside for the address to be stamped on by the print vendor.

Johnson Box: The Johnson Box is the section that appears in the top-right corner of the front page of the report.

- **Report Type Label:** The report label identifies the report as a Home Energy Report.
- **Report Date**: The report date indicates the end date of the most recent billing period covered in the report. The goal is to inform the customer of the latest date for which we have data. This date does not correspond to the actual date that the report was generated.
- **Account Number**: The account number is unique to each customer and should match the number they see on their utility bill
- **Service Location**: The Service Location field displays the service address for which the report applies. This helps customers who receive reports for multiple service addresses distinguish between their reports. The Service Location field is displayed on all reports, including for customers who do not have multiple service locations.

Benchmark Module: The Benchmark module provides a dynamic, personalized, at-a-glance interpretation of the customer's energy use broken on the three sections of a gauge: Fair, Good, and Great. See the Energy Use Benchmark module.

> **Note**
>
> Some report type headers includes an Introduction Module instead of a Benchmark module. See the User Experience Variations.

User Experience Variations

This section provides examples of the Header module varies for other report type experiences.

Promotion Report

This image is an example of the Header module design for the Promotion Report.

The Promotion Report Header includes a unique report type label and Promotion Introduction module. See Introduction.

Welcome and Announcement Report

The Welcome and Announcement Report header varies depending on whether the customer receives a welcome or announcement version of the Welcome and Announcement Report.

This image is an example of the Header module design for the welcome version of the report. The report header includes a unique report type label and Announcement Introduction Module. See Introduction.

This image is an example of the Header module design for the announcement version of the Welcome and Announcement Report. The report header includes a unique report type label and Announcement Introduction Module. See Introduction.

Seasonal Report

This image is an example of the Header module design for the Seasonal Report with a winter season focus. The report header includes a unique report type label and Seasonal Introduction Module. See Introduction.

Limited Income Report

The header of the Limited Income Report varies depending on whether the customer receives a welcome or progress version of the report

This image is an example of the Header module design for the Limited Income Welcome Report. The report header includes a unique report type label and Welcome Introduction Module. See Introduction.

This image is an example of the Header module design for the Limited Income Progress Report.

Report Type Label: The report type label identifies the report as part of the Home Energy Report series.

Benchmark Module: The Benchmark module provides a dynamic, personalized, at-a-glance interpretation of the customer's energy use broken on the three sections of a gauge: Fair, Good, and Great. See the Energy Use Benchmark module for more information.

Time of Use Report

The header of the Time of Use Report varies depending on whether the customer receives a welcome or progress version of the report.

This image is an example of the Header module design for the Time of Use Welcome Report . The report header includes a unique report type label and introduction text. See Introduction.

This image is an example of the Header module design for the Time of Use Progress Report Modules.

Report Type Label: The report type label identifies the report as part of the Home Energy Report series.

Benchmark module:The Benchmark module provides a dynamic, personalized, at-a-glance interpretation of the customer's energy use broken on the three sections of a gauge: Fair, Good, and Great. See the Energy Use Benchmark module for more information.

Solar Report

The Solar Report header design varies slightly depending on whether the customer receives a welcome or progress version of the Solar Report.

This image is an example of the Header module design for the Solar Welcome Report. The report header includes a unique report type label and Solar Introduction Module. See Introduction.

This image is an example of the Header module design for the Solar Progress Report.

Report Type Label: The report label identifies the report as a Home Energy Report.

Benchmark Module: The Benchmark module provides a dynamic, personalized, at-a-glance interpretation of the customer's net energy broken on the three categories: Fair, Good, and Great. See the Energy Use Benchmark module for more information.

Electric Vehicle Report

This image is an example of the Header module design for the Electric Vehicle Report. The report header includes a unique report type label and Solar Introduction.

Peak Focused Report

The Peak Focused Report header design varies slightly depending on whether the customer receives a welcome or progress version of the report. This image is an example of the Header module design for the Peak Focused Welcome Report.

Introduction Module: A short welcome message appears at the top of the report encouraging the customer to get excited about their new report experience. The message varies slightly depending on intro message is "Get ready to save more energy when it matters the most!"

This image is an example of the Header module design for the Peak Focused Progress Report.

Mini Time of Use Reminder Module: A short reminder located at the top of the report reminds the customer of when the peak period is based on their Time of Use plan. The graph labels

identify which periods in the graphs fall into high, medium, and low cost periods. See Mini Time of Use Reminder.

Home Profile

The Home Profile highlights the customer's progress and reminds them of the impact of completing the survey on their report insights. The module includes a list of known and unknown home attributes, a percent complete wheel which displays how much of the customer's Home Energy Analysis that is complete, and a QR code that links to the Home Energy Analysis. The module is available as a replacement for the Explainer in any non-first send report experience.

Appears in: Optional replacement for the Explainer in any non-welcome version of the Report Types.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

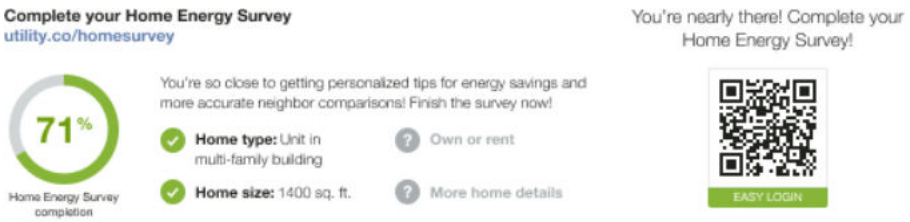
Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Daily, monthly, bi-monthly, or quarterly.
Data Requirements	Not applicable.
Data History	A minimum of one historical bill.
Data Coverage	All billing and data delivery frequencies are supported.
Supported Fuels	**Promotion, Announcement and Welcome, Limited Income, and Time of Use Reports**: Electric-only, gas-only, dual fuel. **Solar Report**: Electric-only, dual fuel.

Limitations

- The module is designed to replace the Explainer module or the Marketing Modules in the Progress Report.
- The module can be used in any non-welcome version of a report type as a replacement for the Explainer module.

User Experience

This section describes the user experience of the Home Profile module for a customer who has not yet completed their Home Energy Analysis.



Title and URL: The title reminds the customer of their DSS EM Home Energy Analysis status. The Home Energy Analysis URL appears under the title.

Explanation: A brief text encouraging the customer to finish their Home Energy Analysis to get more accurate insights in their report.

List of Attributes: The module includes a list of four home attributes. Each attribute that is known for the customer has a green check next to it, and each unknown attribute has a grey question mark logo next to it. Default Home Energy Analysis categories include home type, size, and heating. If heating is not available, it is replaced with the own or rent.

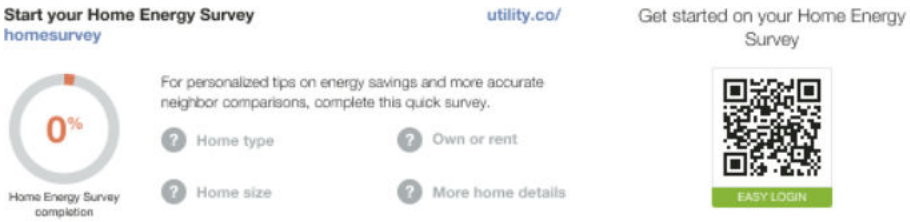
Percent Complete Wheel: A wheel shows the percentage of the customer's home profile survey that is completed. For example, if 50% of the survey is complete known for the customer, then 50% of the wheel would be colored in, and the text "50%" would appear in the center of the wheel.

QR Code: A QR code provides customers with quick access to their Home Energy Analysis from the report without having to log in to their account.

User Experience Variations

Home Energy Analysis Not Attempted

The image below is an example of the Home Profile module of a customer that has not begun their Home Energy Analysis.



Title: The title tells the customer to start their survey.

Explanation: A brief text encouraging the customer to take action and update their home profile appears below the title.

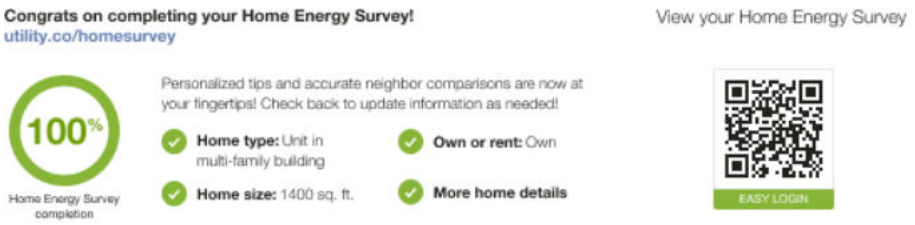
List of Attributes: The module includes a list of four home attributes. Each attribute had a grey unknown question mark logo next to it.

Percent Complete Wheel: The percent complete wheel shows 0 percent.

QR Code: A QR code provides customers with quick access to their Home Energy Analysis from the report without having to log in to their account. The QR code title echoes the module title message encouraging the customer to start their survey.

Home Energy Analysis Recently Completed

The image below is an example of the header module a customer who has recently completed their survey.



Title: The title congratulates the customer on completing their survey.

Explanation: A brief text tells the customer that their personalized tips and comparisons are accurate because they have completed their survey, and encourages the customer to update the survey if anything changes.

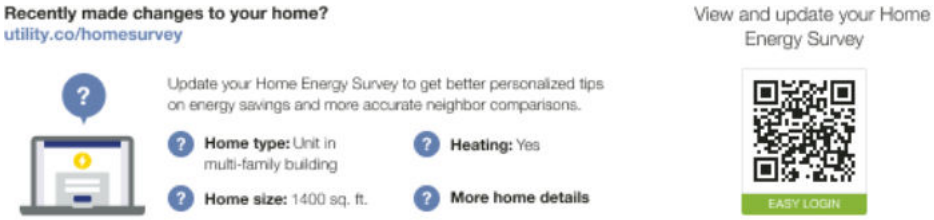
List of Attributes: The module includes a list of four home attributes. Each attribute has a green check mark logo next to it indicating that the attribute is known for the customer.

Percent Complete Wheel: The percent complete wheel shows 100 percent.

QR Code: A QR code provides customers with quick access to their Home Energy Analysis from the report without having to log in to their account. The title of the QR code invites the customer to use the QR code to view their Home Energy Analysis.

Home Energy Analysis Completed

The image below is an example of the Home Profile of a customer who has completed the Home Energy Analysis previously, but has not updated their survey in a while.



Title: The title asks the customer if they have made any changes to their home.

Explanation: A brief text encourages the customer to update the survey to ensure that they are getting the most accurate tips and insights.

List of Attributes: The module includes a list of four home attributes. Each attribute has a green check mark logo next to it indicating that the attribute is known for the customer.

Computer Icon: The percent complete wheel is replaced with a computer icon.

QR Code: A QR code provides customers with quick access to their Home Energy Analysis from the report without having to log in to their account. The QR code title echoes the module title message encouraging the customer to view and update their survey.

Introduction

Introduction modules identify that the reports are part of the customer's Home Energy Report experience and prepare the customer for what they will see in the report. The design of the modules varies by report type.

Appears in: Progress Report, Welcome and Announcement Report, Time of Use Report, Seasonal Report, Solar Report, and Peak Focused Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly
Data Delivery Frequency	Daily, monthly, bi-monthly, or quarterly.
Data Requirements	Not applicable
Data History	**Announcement, Promotional, Welcome, and Time of Use Introduction modules:** • A minimum of six bills is required for Non-AMI customers. • A minimum of 60 days of AMI reads for AMI customers. **Seasonal Introduction:** • 13 months of billed usage data. • A minimum of six bills is required for Non-AMI customers. • A minimum of 60 days of AMI reads for AMI customers. **Solar Introduction**: Not applicable.
Data Coverage	All billing and data delivery frequencies are supported.
Supported Fuels	**Promotion, Announcement and Welcome Report, Limited Income Report, Time of Use Report**: Electric-only, gas-only, dual fuel **Solar Report**: Electric-only, dual fuel

Limitations

- **Promotion Report**: Customers must meet the following criteria to receive the promotion report and this module:
  - The customer is using more than the regional average for the utility selected end use.
  - Oracle Utilities Opower have confirmed presence of the end use either through presence discovery or Home Energy Analysis.
  - The customer has appliance detection and disaggregation, heating and cooling disaggregation, or simple disaggregation with Home Energy Analysis.

User Experience

This section describes the user experience of the Introduction module for the Promotion Report

The Promotion Introduction module appears at the top of the report within the report Header. It provides the customer with a preview of three energy use categories where they could save money. The categories can be drawn from the customer's top three energy use categories or selected by the utility to support the report promotion. The goal of this module is to identify the promotion report type as part of the customer's Home Energy Report experience and provide them with a preview similar to the Energy Use Benchmark seen in the Progress Report.

Report Type Label (Not depicted): The label "Home Energy Report: Usage Spotlight" appears at the top of the report header and explains what the piece of mail is and identifies it as a Home Energy Report. See the Header to learn more about the header module that appears at the top of the front page of every report.

Icons: The icons that appear above the intro message correlate to the energy use categories.

Intro Message: The intro message provides the customers with an overview of the energy use categories in which they could save more. They are listed in the order in which they appear in the report.

User Experience Variations

This section provides examples of the Introduction module experience varies for other report types.

Announcement Introduction

The Announcement Introduction module appears at the top of the Announcement Report within the Header module. The goal of this module is to identify the report type as part of the customer's Home Energy Report experience and prepare the customer for what they will see in the report. The module text is customized to emphasize the selected report theme.

Report Type Label: The report title identifies the report as part of the Home Energy Report series and notes that the report will share an important announcement or update. For example, "Home Energy Report: Announcement."

Announcement Introduction: The announcement introduction places the utility's announcement or update in context. See the Announcement Introduction module for more information.

Promotion Introduction

Utility Selected Preferred State: If the utility selects a preferred energy use category to support the main promotion, the icons that appear above the intro message correlate to the promoted end-use category, followed by the customers' second and third or first and second highest end-use categories. The intro message provides the customers with an overview of the energy use categories in which they could save more.

Heating and Cooling Top Use State: If a heating and cooling top use state is selected, the icons that appear above the intro message are heating and cooling icons, and the customer's other high end-uses are not mentioned in the introduction. However, the customer's tips will be related to their large end-use categories.

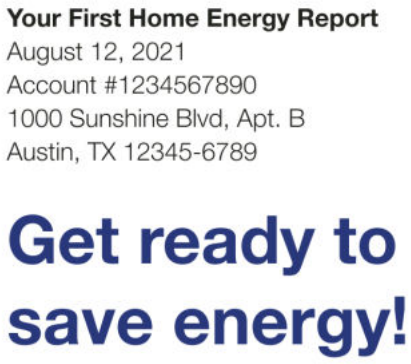
Heating and Cooling Utility Preferred: If a heating and cooling utility preferred state is selected, the icons that appear above the intro message are heating and cooling icons. The intro message tells the customer that they could be saving more in heating and cooling.

Gas-only Fuel Type: The introduction message for gas customers is, "Your top 3 gas costs."

Promotion Report: Dual fuel: If the customer's fuel type is dual fuel (combined) or electric they will see "Your top 3 energy costs" in the intro message. For example, Last year your top three energy costs cam from heating, water heating, and cooling."

Welcome Introduction

The Welcome Introduction module appears within the header of the welcome version of the Welcome and Announcement Report Modules, and the Limited Income Welcome Report. The goal of the module is to introduce Home Energy Report recipients to their new report experience.



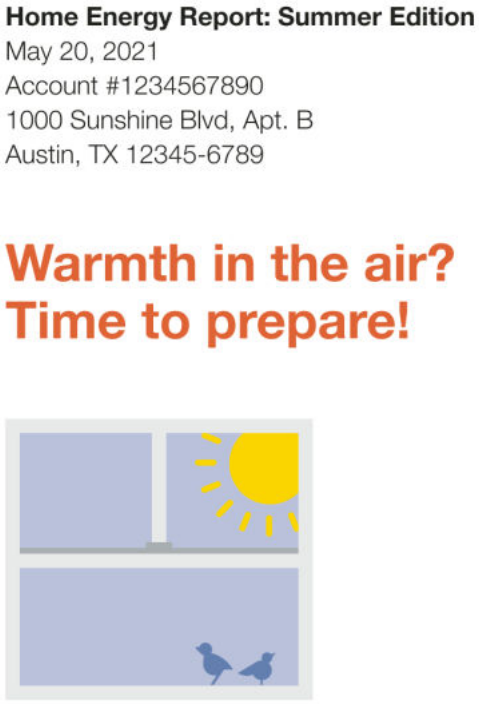
Report Type Label: The report type label identifies the report as the customer's first in a series of Home Energy Report. For example, "Your First Home Energy Report."

Welcome Introduction: The Welcome Introduction module provides the customer with a quick overview of the report topic. The introduction text varies slightly for new and legacy customers:

- **Legacy customers**: Customers that have received earlier versions of the reports are considered legacy customers. The Welcome Report and Limited Income Report for legacy customers acknowledges how the report has changed. The intro message for legacy customers is "Get ready to save more!"
- **New customers**: Customers that have never received a Home Energy Report are considered new customers. The Welcome Report and Limited Income Report for new customers introduces them to the new report and insights. The intro message for new customers is "Get ready to save energy!"

Seasonal Report Introduction

The Seasonal Introduction appears in the Seasonal Report, and provides customers with a preview of their seasonal report focus. The goal of this module is to identify the report as part of the customer's Home Energy Report experience, and provide them with a preview similar to the Energy Use Benchmark seen in the Progress Report.



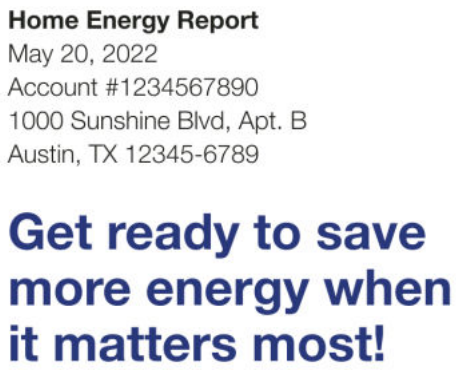
Report Type Label: The label "Home Energy Report: Summer Edition" appears at the top of the Summer Seasonal Report Header. The label explains what the piece of mail is and identifies it as a type of Home Energy Report.

Icons: A seasonally appropriate window image is included in the Introduction module.

Intro Message: A short, dynamic, seasonally-focused message places the report in context. For the summer variation, this message is, "Warmth in the air? Time to prepare!"

Time of Use Introduction

The Time of Use Introduction module appears within the header at the top of the Time of Use Welcome Report. The goal of this module is to identify the report type as part of the customer's Home Energy Report experience and prepare the customer for what they will see in the report.



Report Type Label: The label "Home Energy Report" appears at the top of the report and identifies it as part of the Home Energy Report Series. See the Header to learn more about the header module that appears at the top of the front page of every report.

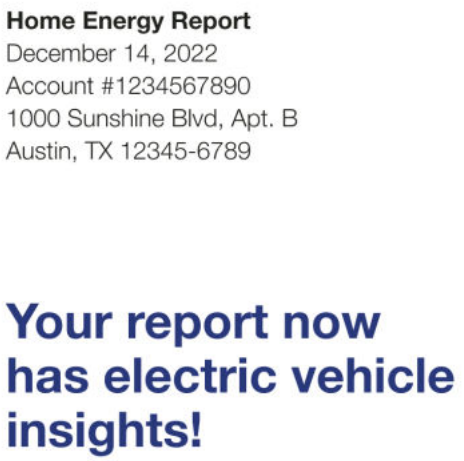
Introduction Text: A short, time of use-focused message places the report in context. For example, "Get ready to save more energy when it matters most!"

Solar Introduction

This module has no supported user experience variations.

Electric Vehicle Introduction

The Electric Vehicle Introduction module appears in the header of the Electric Vehicle Report. The goal of this module is to identify the report type as part of the customer's Home Energy Report experience and prepare the customer for what they will see in the report.



Report Type Label: The label "Home Energy Report" appears at the top of the report and identifies it as part of the Home Energy Report Series.

Intro message: A short message a reminds the customer that their report includes electric vehicle insights. The introduction message varies by customer type and use state.

Peak Focused Introduction

The Peak Focused Introduction module appears in the header of the Peak Focused Welcome Report. The goal of this module is to encourage the customer to initiate energy reduction during peak usage hours.

Report Type Label: The report title identifies the report as part of the Home Energy Report series.

Intro message: A short message tells the customer that their report includes information that will help them save electricity at key moments.

Mini Time of Use Reminder

Positioned in the top right of the progress version of the Peak Focused Report, the Mini Time of Use Reminder module is a customer's first point of reference for understanding peak electricity cost periods based on their Time of Use plan. The module clearly displays the multiplier for high-cost periods and their specific timings., provides a color-coded timeline that highlights peak times in for easy identification, and adapts to different utility peak times and billing structures, such as demand charges.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Less than 100,000 per week.

Customer Requirements

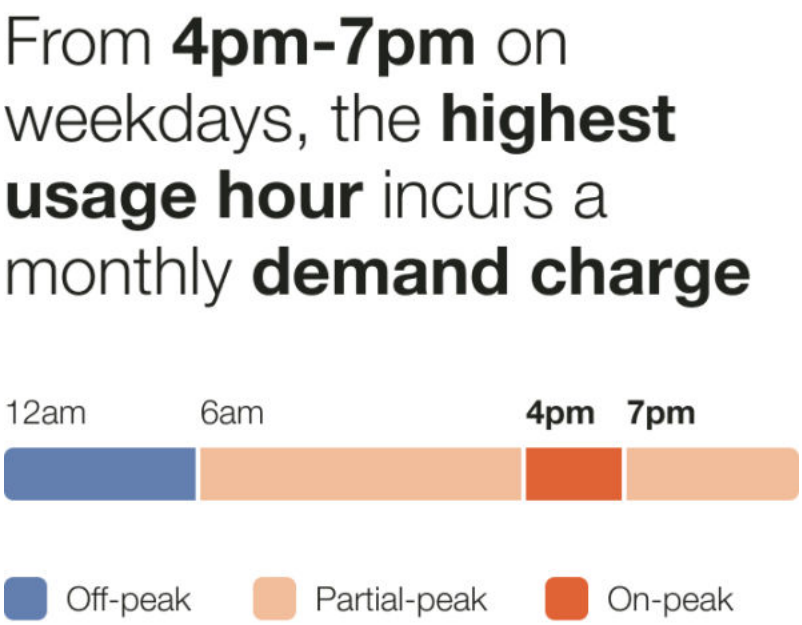
Category	Description
Billing Frequency	Monthly or bi-monthly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	• AMI data. • Rate meta data.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electric-only.

Limitations

- **Peak Focused Report Only**: This module is only available as part of the Peak Focused Report.
- **Time of Use**: Customers must be on a Time of Use Rate plan.

User Experience

This section describes the user experience for a customer with three peak times.



Header: The header informs the customers what the multiplier in cost will be during the peak period and what times the period will occur:

- **Weekday price ratio**: The multiplier of cost during the peak period.
- **High cost period label**: Rate plan-specific name for the high cost period. For example, peak period or on-peak.
- **Weekday high cost period start time**: The time the peak period will start. For example, 4pm.
- **Weekday high cost period end time**: The time the peak period will end. For example, 7pm.

Cost period bar: The cost period bar provides a visual representation of the cost periods.

- **High Cost Period**: The high cost period displays the most expensive time range, and is indicated by a warning-color. It is dynamically rendered based on the customer's rate plan details. For example, "On-peak hours ($$$)."
- **Medium Cost Period**: The medium cost period label identifies the time range that is neither the most or least expensive, and is indicated by a medium warm color. It is dynamically rendered based on rate plan details. For example, "Partial-peak hours ($$)."
- **Low Cost Period**: The low cost period label identifies the least expensive time range, and is indicated by a light cool color. It is dynamically rendered based on rate plan details. For example, "Off-peak hours ($)."

Cost start and end times: The cost period start time and end time are noted on the bar.

Cost period legend: The cost period legend identifies the cost periods represented in the cost period bar.

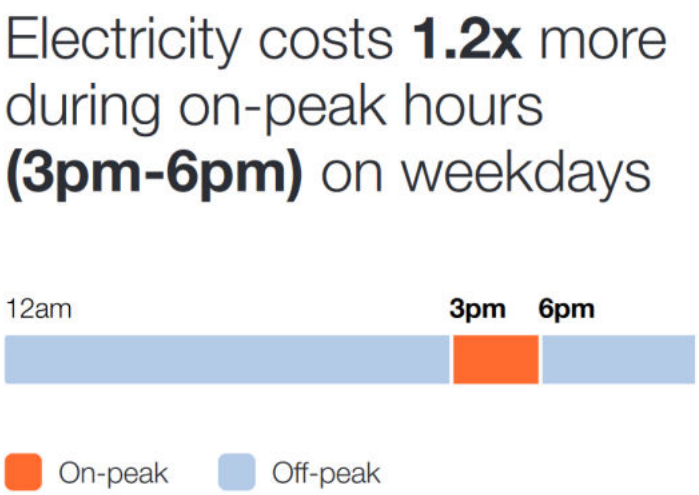
User Experience Variations

Data States

The data states of the module are based on how many peak times the utility has, and whether the utility has a demand charge.

Two Peak Times

This image is an example of the Mini Time of Use Reminder module for two peak periods.

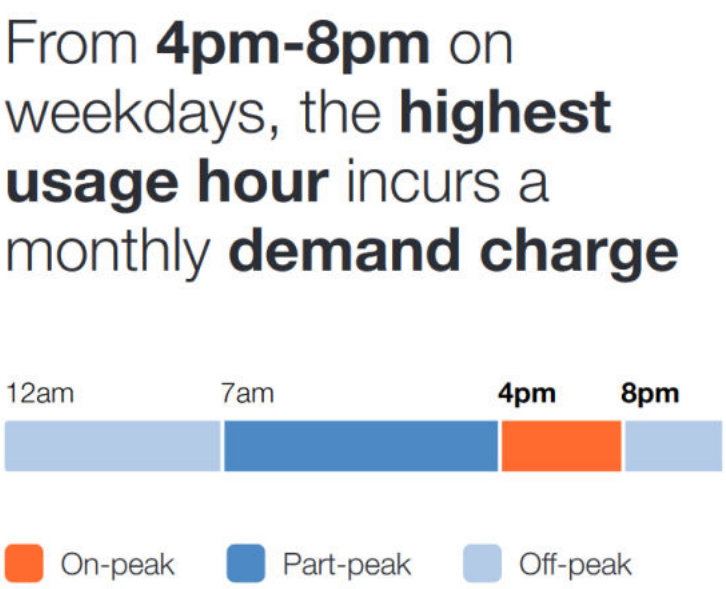


Cost period bar: The cost period bar provides a visual representation of the high cost period.

- **High Cost Period**: The high cost period displays the most expensive time range, and is indicated by a warning-color. It is dynamically rendered based on the customer's rate plan details. For example, "On-peak hours ($$$)."
- **Low Cost Period**: The low cost period label identifies the least expensive time range, and is indicated by a light cool color. It is dynamically rendered based on rate plan details. For example, "Off-peak hours ($)."

Demand Charge

This image is an example of the Mini Time of Use Reminder module for a customer with demand charge rate in addition to the Time of Use plan.



If the customer has demand charging, then the user experience varies as follows:

Header: The header informs the customers when the demand charge occurs.

Weekday high cost period start time: The time the peak period will start. For example, 4pm.

- **Weekday high cost period end time**: The time the peak period will end. For example, 8pm.
- **Cost period bar**: The cost period bar provides a visual representation of the high cost period.

Cost period colors: The cost period provide the customer with a visual cue to draw their attention to the most crucial times to save every during peak events.

- **High Cost Period**: The high cost period displays the most expensive time range, and is indicated by a warning-color. It is dynamically rendered based on the customer's rate plan details. For example, "On-peak hours ($$$)."
- **Medium Cost Period**: The medium cost period label identifies the time range that is neither the most or least expensive, and is indicated by a medium warm color. It is dynamically rendered based on rate plan details. For example, "Partial-peak hours ($$)."
- **Low Cost Period**: The low cost period label identifies the least expensive time range, and is indicated by a light cool color. It is dynamically rendered based on rate plan details. For example, "Off-peak hours ($)."

Cost period legend: The cost period legend defines which colors represent cost periods in the cost period bar.

Marketing Modules

Marketing modules encourage customers to take advantage of utility-specific or Oracle Utilities-specific products or programs. The modules are selected from a library of content that has been tested to optimize conversions and satisfaction. Small edits can be made to the text and visuals. For example, the modules can be customized to promote utility-specific programs (such as a home audit), products or features, processes, rebates, calls to action (URL, phone number, or both), and more.

Appears in: All Report Types.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Less than 100,000 per week

Customer Requirements

Category	Description
Billing Frequency	Not applicable.
Data Delivery Frequency	Not applicable.
Data Requirements	Simple, Heating and Cooling, and AD&D Disaggregation
Data History	Not applicable.
Data Coverage	Not applicable.
Supported Fuels	Not applicable.

Limitations

- **Module Size**: Marketing module dimensions must be sized exactly to these specs.
- **Module Options**: Utilities must coordinate with their Delivery Team to select specific marketing modules for upcoming reports.
- **Not Personalized**: Marketing modules are static. They do not use dynamic data or personalized information for individual customers but can be targeted using segmentation and targeting.
- **Customization Flexibility**: The amount of customization available for marketing modules depends on the utility's service level purchase.
- **Customization Flexibility:** The amount of customization available for these marketing modules is limited by the utility contract. Contact your Delivery Team to discuss specific customization options.

User Experience

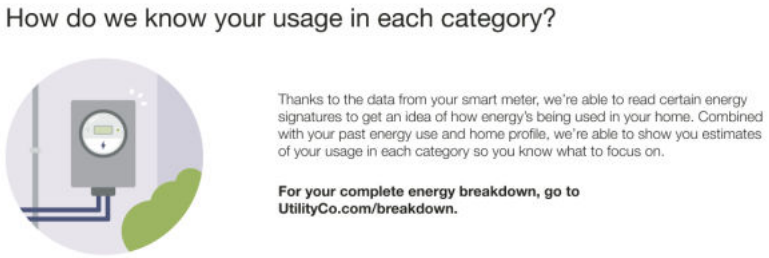
This section describes the user experience for each report type.

Progress Report

The Progress Report has a dedicated space on the back of the report for a print marketing module. A marketing module should be included in every send. This image is an example of a marketing module for the report.

Promotion Report

The Promotion Report includes a Disaggregation Breakdown marketing module which explains how usage is calculated for each category of energy use in a customer's home. However, utilities have the option of replacing the Disaggregation Breakdown with an alternative module related to the promotion. This image is an example of the marketing module.

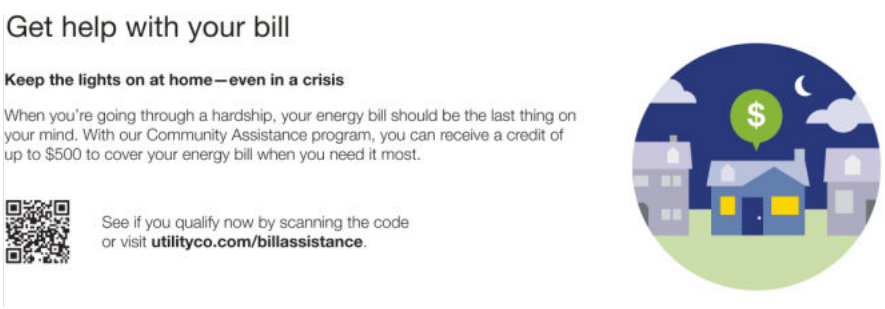


Seasonal Report

Marketing modules included in the Seasonal Report educate customers about seasonal costs and changes, and advertise relevant programs and rebates. This image is an example of the winter seasonal marketing module.

Limited Income Report

The marketing module included in the Limited Income Report educates customers about additional programs or promotions that can help them save money. This image is an example of a limited income marketing module.



Time of Use Report

The marketing module included in the Time of Use Report is designed to educate customers about peak usage, highlight community impact, alert customers of season changes, and advertise relevant rates, programs and rebates. This image is an example of a time of use marketing module .

Electric Vehicle Report

The marketing module included in the Electric Vehicle Report educates customers about additional programs or promotions that can help them save money. This image is an example of a marketing module designed to promote the benefit of solar panels.

Normative Comparisons

Normative comparison modules compare a customer against themselves (for example, their past energy usage) or their neighbors. These modules are designed to motivate customers to understand the underlying causes of the differences in each comparison and subsequently reduce energy.

> **Note**
>
> For most report types, utilities have the option of including either the Efficiency Zone or the Three-bar Normative Comparison module some report experiences. It is recommended that utilities with a savings-focus use the Three-bar Normative Comparison.

The design of the modules varies by report type and program design. Go to the individual module page to learn about the details of each module experience.

Efficiency Zone

The Efficiency Zone module is designed to motivate customers to save energy by showing how their usage compares to similar homes. It reframes the Efficient Homes concept from the Neighbor Comparison to improve customer satisfaction while maintaining a focus on energy efficiency. The module includes a bar graph that compares the customer's energy use and similar homes' usage against an Efficiency Zone, along with insights that help put the customer's usage into context. Usage at or below the threshold falls within the Efficiency Zone. This threshold is based on the average energy use of the most efficient 20% of similar homes during the billing period and may change with each report.

The normative comparison in Digital Self Service – Energy Management mirrors the customer's report experience. For example, if a customer sees the Efficiency Zone in their report, they will also see it in Digital Self Service – Energy Management. For more information about the web version of the Efficiency Zone, see Digital Self Service Energy Management Efficiency Zone.

Appears in: Progress Report, Welcome and Announcement Report, Limited Income Report, Time of Use Report

> **Note**
>
> Utilities have the option of including either the Efficiency Zone or Three-Bar Neighbor Comparison module in most report types.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Less than 100,000 per week

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly
Data Delivery Frequency	Monthly, bi-monthly, or quarterly
Data Requirements	Billing data and third-party data (GSI and parcel data)

Category	Description
Data History	A minimum of one historical bill
Data Coverage	Not applicable. See Data Requirements.
Supported Fuels	Monthly, bi-monthly, or quarterly

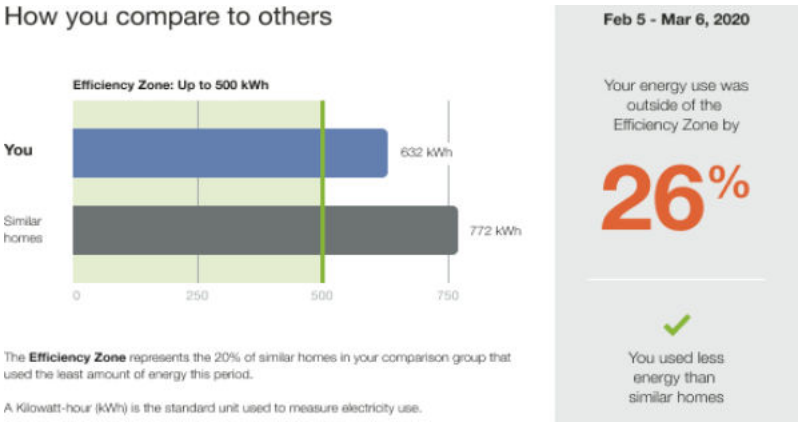
Limitations

- **Home Energy Reports vs. Web**: Customers receive an Efficiency Zone user variation in the web product which differs slightly from the Efficiency Zone in the reports. See the Neighbor Comparison section of the Oracle Utilities Opower Digital Self Service - Energy Management Cloud Service Product Overview for more information.
- **Third-Party Data**: Third-party data (GIS and parcel data) is needed to identify neighbors for the neighbor selection process.
- **Neighbor Selection**: A minimum number of neighbors (the default target is 100) must be selected for the customer. See Neighbor Selection - Detailed for more information.
- **Solar Report**: The Efficiency Zone cannot be included in the Solar Report. Solar customers receive a solar variation of the three-bar neighbor comparison. See Three-Bar Neighbor Comparison for more information.

User Experience

Efficiency Zone

This section describes the most common user experience for the Efficiency Zone. This image is an example of the Efficiency Zone.



Heading: "How you compare to others." invites the customer to explore their normative comparison and learn about their energy use in more detail.

Threshold: The label above the graph introduces the maximum Efficiency Zone threshold (for example, Up to 500 kWh). The threshold is the average use of the 20th percentile of similar homes during that bill period. A green tinted rectangle and darker vertical line indicate the range and upper boundary of the Efficiency Zone, enabling customers to quickly see whether they are in the zone. The threshold is recalculated and changes with each report.

Graph: Displays how much energy the customer (You) used in comparison with Similar Homes. The Similar Homes bar indicates the average use of the customer's neighbors.

Hero Insight: The large colorful numeric percentage to the right in the gray column which displays the customer's status relative to the Efficiency Zone or to Similar Homes. The color of the large number and percent sign varies, depending on their state. If the customer is within

the Efficiency Zone, the large number is green. If the customer is not within the Efficiency Zone, the large number is orange.

The hero insight has three primary states:

- **Great:** In the Efficiency Zone
- **Good or Fair:** Outside the Efficiency Zone
- **Fair:** Higher than Similar Homes

Explainer Text: Defines the efficiency zone for the customer.

Secondary Insight: The smaller green check mark or orange X – (not pictured) located under the Hero Metric that presents the customer with their status relative to the other comparison group. Depending on how the customer is performing, the color of the secondary insight is either green (Great or Good) or orange (Fair). There are several possible states:

- **Great:** In the Efficiency Zone
- **Great:** Near the Efficiency Zone
- **Good:** Lower than Similar Homes
- **Good:** About the same as Similar Homes
- **Fair:** Not in the Efficiency Zone

User Experience Variations

Fuel Type

Gas-only and dual fuel customers see a variation in the units of energy displayed in the Efficiency Zone module. The electricity unit "kWh" is replaced by "therms" for gas-only customers and "units" for dual fuel customers. Moreover, there is a variation in the wording of the insight statement. The word "electricity" is replaced by "natural gas" for gas-only customers, and "energy" for dual fuel customers.

Substituting the Neighbor Comparison for the Efficiency Zone

Utilities have the option of including either the Efficiency Zone or Three-Bar Neighbor Comparison module in their reports. It is recommended that utilities with a savings-focus include a Three-bar Neighbor Comparison in their report experience instead of the Efficiency Zone. Contact your Delivery Teamfor more information.

Peak Focused Normative Comparison

The Peak Focused Normative Comparison module helps educate customers about their energy use during on-peak periods by comparing it to that of similar homes. The module compares the customer ("You") to two groups: "Efficient Neighbors" and "Average Neighbors," and assigns a comparison state such as Fair, Good, or Great to indicate how their electricity use compares. Results are displayed in a horizontal bar graph, along with total electricity usage values to help customers understand how their on-peak usage relates to their overall consumption during the billing period. An informational section below the graph explains that "Efficient Homes" represent the 20% of similar homes in the comparison group that used the least energy during the billing period, and provides additional context on how to interpret the graph. Based on the customer's comparison state, the insight statement below the graph either encourages additional savings opportunities or highlights that the customer is outperforming their neighbors in energy efficiency.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

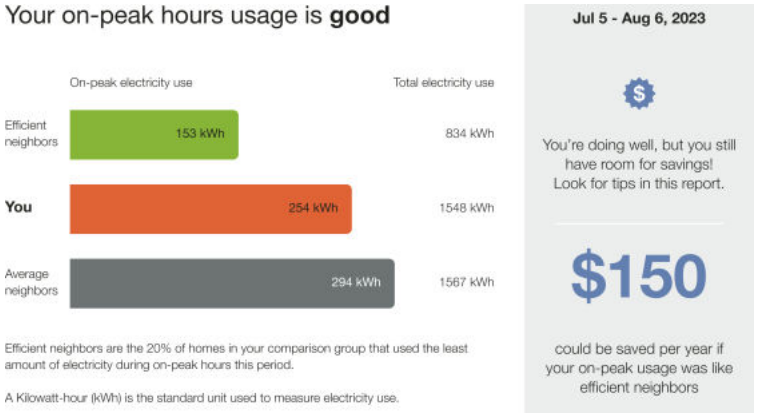
Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	• Billing data and third-party data (for example, GIS and parcel data). • AMI data
Data History	A minimum of one historical bill.
Data Coverage	AMI data for on-peak periods must have 100% of available reads for the customer.
Supported Fuels	Electric-only.

Limitations

- **Peak Focused Report:** This modules is only available as part of the Peak Focused Report.
- **Time of Use Rate Plan**: This module is only available to customers with a Time of Use rate plans.

User Experience

This section describes the user experience for a customer with a good data state.



Heading: Notifies the customer that the normative provides them with a comparison of their on-peak hours usage to their neighbors.

Bar Chart: Displays how much energy each group in the comparison used. Typically, the bar with the smallest value is on top and the bar with the largest value is on the bottom.

- **You**: Indicates how the customer is doing. This is often a color that corresponds to the utility brand color.
- **Average Neighbors**: Indicates how all the customer's neighbors are doing. It is usually a gray or neutral color. The energy use data that is shown is the mean energy use value.

- **Efficient Neighbors**: Displays a usage value for the most efficient 20% of the customer's neighbors. It is usually colored green because green is commonly associated with energy efficiency. Note that the efficient homes value that appears in the module is not an average of the top 20% of similar homes. A threshold value—the 20th percentile of similar homes—is used to determine the efficient homes value. Efficient homes are not chosen in advance.

Explainer Text: Includes an efficient homes description that defines efficient neighbors that the customer is being compared to as the 20% of similar homes in their comparison group that used the least energy. The fuel units used in the comparison are defined below the efficient neighbors description.

Insight Statement: Appears to the right of the bar chart and explains why the chart is displayed as it is. Each data state includes a unique top and bottom insight.

- **Billing Period**: The report billing period is located at the top of the insight statement.
- **Top Insight**:Displays either a percentage or a message telling the customer how much more or less energy they used compared to their most relevant comparison group. The percentage color changes depending on whether the customer's usage is "great" "good" or "fair". The color of the insight changes based on the customer's usage to their most relevant comparison group."
- **Bottom Insight**: Provides feedback indicating either a potential financial savings or a percentage insight to help interpret the impacts of current on-peak energy use. The financial version uses the customer's Time of Use rate to calculate an approximate annualized cost of the energy use gap between the recipient and their most relevant comparison group. For example, "$150 could be saved per year if your on-peak usage was like efficient homes." The percentage indicates how much more or less energy the customer has used compared to their most relevant comparison group. See User Experience Variations for more information.

User Experience Variations

Insight Statement Variables

The insights included in the module are determined by the customer's usage state (Fair, Good, Great), threshold state (monetary, fallback, or alternative), and whether the program uses neighbors or similar homes language.

Usage States

Possible customer usage states include the following:

- Fair
- Good
  - Near, but MORE than average neighbors
  - Near, but LESS than average neighbors
  - Near Similar Homes by +/- .5%
- Great
  - Near Efficient Homes by + .5%
  - Near Efficient Homes by -.5% Zero Usage

Insight Statement States

The insights vary slightly depending on the relationship of the customer's cost or savings to the cost or saving threshold. The threshold is conferrable.

- **Monetary**: The monetary state is used when the cost or savings values are greater than the cost/savings threshold.

- **Fallback**: The fallback state is used when the cost or savings are not greater than the threshold.
- **Alternative**: The alternative state is used when the fallback state is enabled and the usage percentage is greater than 99%.

Neighbors and Similar Homes Language

Utilities can configure the normative comparison to use either "similar homes" or "neighbors" language. This flexibility allows utilities to present the data in a way that best resonates with their customers. For example, in rural areas where homes are far apart, or in urban settings where "neighbors" may include a wide range of apartment types, the term "neighbors" may be unclear or misleading. While the choice of language does not affect the comparison group itself, it does slightly change how insights are phrased.

Insight Statement Variations

The table below captures the possible insight statement variations.

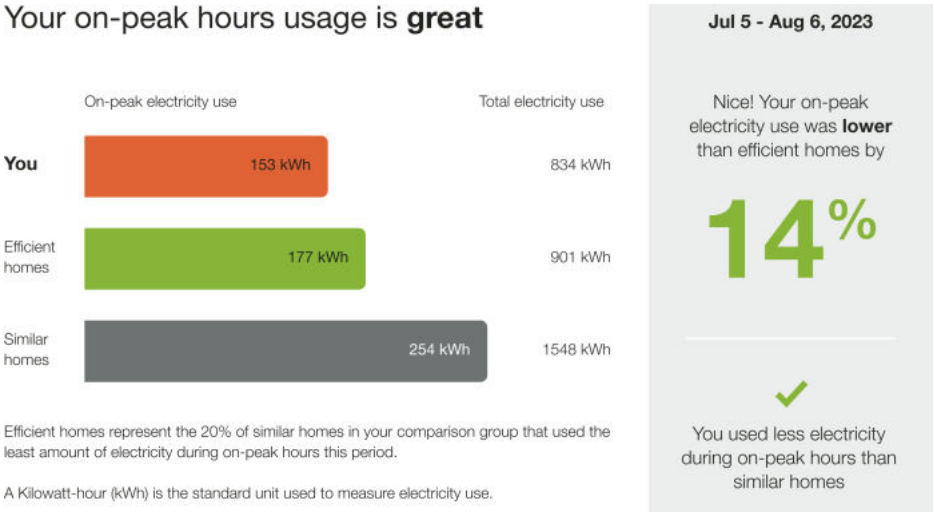
Usage State	Insight Statement State	Header	Top Insight - Neighbors Language	Top Insight - Similar Homes Language	Bottom Insight - Neighbors Language	Bottom Insight - Similar Homes Language
Fair	Monetary	Your on-peak hours usage is fair	You have room for savings! Look for tips in this report		$ could be saved per year if your on-peak usage was like average neighbors	$ could be saved per year if your on-peak usage was like similar home
	Fallback		Your electricity use during on-peak hours was higher than average neighbors by X%	Your electricity use during on-peak hours was higher than similar homes by X%	You used more electricity during on-peak hours than efficient neighbors	You used more electricity during on-peak hours than efficient homes
	Alternative		Your electricity use during on-peak hours was higher than average neighbors	Your electricity use during on-peak hours was higher than similar homes	Your used more electricity during on-peak hours than efficient neighbors	You used more electricity during on-peak hours than efficient homes
Good	Monetary	Your on-peak hours usage is good	You're doing well, but you still have room for savings! Look for tips in this report.		$ could be saved per year if your on-peak usage was like efficient neighbors	$ could be saved per year if your on-peak usage was like efficient homes

Usage State	Insight Statement State	Header	Top Insight - Neighbors Language	Top Insight - Similar Homes Language	Bottom Insight - Neighbors Language	Bottom Insight - Similar Homes Language
Good - Fallback when the monetary savings insights cannot be used	Fallback		Your electricity use during on-peak hours was higher than efficient neighbors by X%	Your electricity use during on-peak hours was higher than efficient homes by X%	You used less electricity during on-peak hours than average neighbors	You used less electricity during on-peak hours than similar homes
	Alternative		Your electricity use during on-peak hours was higher than efficient neighbors	Your electricity use during on-peak hours was higher than efficient homes	You used less electricity during on-peak hours than average neighbors	You used less electricity during on-peak hours than similar homes
Good (near, but MORE than average neighbors)	Monetary	Your on-peak hours usage is good	You're doing well, but you still have room for savings! Look for tips in this report.	$ could be saved per year if your on-peak usage was like efficient neighbors	$ could be saved per year if your on-peak usage was like efficient homes	$ You used less electricity during on-peak hours than similar homes
	Fallback		Your electricity use during on-peak hours was higher than efficient neighbors by	Your electricity use during on-peak hours was higher than efficient homes by X%	You used about the same electricity during on-peak hours as average neighbors	You used about the same electricity during on-peak hours as similar homes
Good (near, but LESS than average neighbors)	Monetary		You're doing well, but you still have room for savings! Look for tips in this report.	$ could be saved per year if your on-peak usage was like efficient neighbors	$ could be saved per year if your on-peak usage was like efficient homes	$ could be saved per year if your on-peak usage was like efficient homes
	Fallback		Your electricity use during on-peak hours was higher than efficient neighbors by X%	Your electricity use during on-peak hours was higher than efficient homes by X%	You used about the same electricity during on-peak hours as average neighbors	You used about the same electricity during on-peak hours as similar homes

Usage State	Insight Statement State	Header	Top Insight - Neighbors Language	Top Insight - Similar Homes Language	Bottom Insight - Neighbors Language	Bottom Insight - Similar Homes Language
Good (Near by +/- .5%)	Alternative		Your electricity use during on-peak hours was higher than efficient neighbors	Your electricity use during on-peak hours was higher than efficient homes	You used about the same electricity during on-peak hours as average neighbors	You used about the same electricity during on-peak hours as similar homes
Great	Monetary	Your on-peak hours usage is great	Nice! Your on-peak electricity use was lower than efficient neighbors by X%	Nice! Your on-peak electricity use was lower than efficient homes by X%	You used less electricity during on-peak hours than average neighbors	You used less electricity during on-peak hours than similar homes
Great (Near, but MORE than efficient homes)	Fallback		Nice! You used about the same as efficient homes/ neighbors. You're in the most efficient X%	Nice! You used about the same as efficient homes/ neighbors. You're in the most efficient X%	You used less electricity during on-peak hours than average neighbors	You used less electricity during on-peak hours than similar homes
Great (Near, but LESS than efficient neighbors)			Nice work! Compared to average neighbors, you were in the most efficient X%	Nice work! Compared to similar homes, you were in the most efficient X%	You used less electricity during on-peak hours than average neighbors	You used less electricity during on-peak hours than similar homes
Great Near Efficient Homes by + .5%	Alternative		Nice! You used about the same as efficient neighbors. You're in the most efficient X%	Nice! You used about the same as efficient homes. You're in the most efficient X%	You used less energy than average neighbors	You used less energy than similar homes
Great Near Efficient Homes by -.5%						
Zero Usage	Monetary	Your on-peak hours usage is fair	You have room for savings! Look for tips in this report!		$ could be saved per year if your on-peak usage was like average neighbors	$ could be saved per year if your on-peak usage was like similar homes

Bottom Insight - Financial vs. Percentage Insight

The financial version of the bottom insight is enabled by default. If the percentage version of the insight is enabled, then the bottom insight indicates how much more or less energy the customer has used compared to their neighbors.

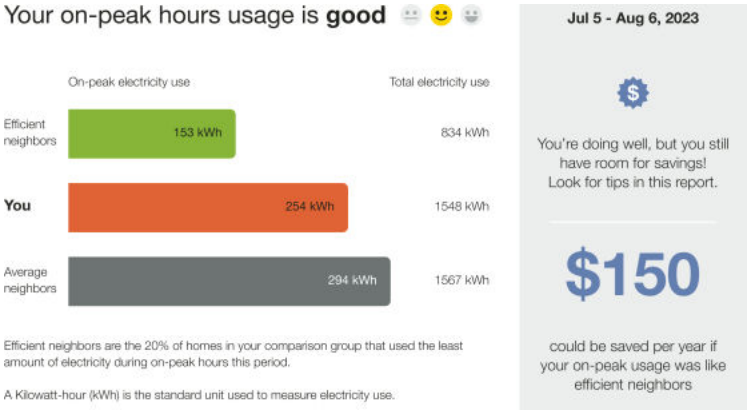


Data States with Icon Sets

Utilities have the option of including an icon set displayed beside the main insight heading. Each icon set has a unique display for Fair, Good, and Great states. The state of the icon set in the report matches the state of the normative comparison. Icon set options include:

- No icons (Off)
- Smiley icons: Neutral or thinking
- Leaf icons
- Medal icons

The following images is an example of the Peak Focused Normative Comparison module with smiley icons enabled.



The following image is an example of the thinking comprehension-focus smiley icons in a fair usage state.

The following image is an example of the environmental-focus leaf icons for a good usage state.

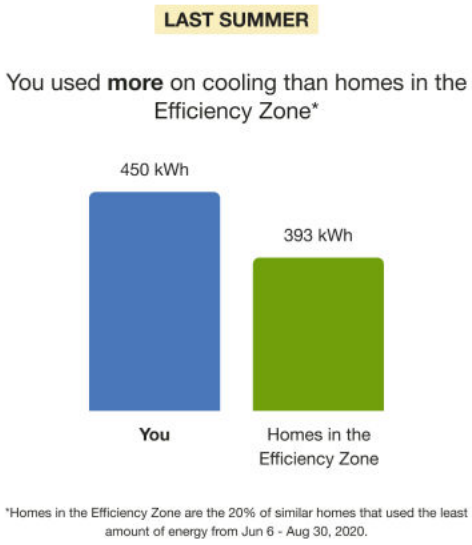
The following image is an example of the competitive-focus medal icons for a great usage state.

Seasonal Normative Comparison

The Seasonal Normative Comparison module compares the customer's cooling or heating energy use from the previous season compared to other homes. This comparison motivates them to reduce cooling energy use during the upcoming extreme weather season.

Appears in: Seasonal Report

This section describes the summer Seasonal Normative Comparison experience for a customer whose program includes an Efficiency Zone.



Normative Message Label: Identifies the comparison season. For example, "Last Summer."

Insight: Summarizes the information in the bar chart.

Bar Chart: Displays how much energy each group in the comparison used.

You: Indicates how the customer is doing. This is often a color that corresponds to the utility brand color.

Homes in the Efficiency Zone or Similar Homes: Indicates how all the customer's neighbors are doing. It is usually green. The energy use data that is shown is the mean energy use value. The bar is labeled according to the version of the normative comparison graph used in the customer's Progress Report.

Normative Insight :Appears above the bar chart and provides information about why the bar chart appears the way it does.

Explainer:Text to the left of the bar chart defines the season date range.

Requirements and Limitations

Fuel: Electric-only, gas-only, dual fuel

Data Required: Appliance detection and disaggregation, heating and cooling disaggregation and/or simple disaggregation with Home Energy Analysis completion

Data History: A minimum of one historical bill

Billing Frequency: Monthly, bi-monthly, or quarterly

Three-Bar Neighbor Comparison

The Three-Bar Neighbor Comparison is designed to motivate customers to save energy by showing how their usage compares to others in their area. It places the customer ("You") alongside two groups—"Efficient Homes" and "Similar Homes"—in a horizontal bar graph. An insight statement indicates whether the customer falls into one of three categories:

- Great
- Good
- Fair

A short message explains how the customer's energy use compares specifically to efficient homes nearby. Below the graph, an informational section clarifies that "Efficient Homes" represent the 20% of similar homes in the comparison group that used the least energy during the billing period, and provides additional context on how to interpret the graph.

The neighbor comparison experience is consistent across Digital Self Service – Energy Management and the customer's report. For example, if a customer sees a Three-Bar Neighbor Comparison in their report, the same designation will appear in Digital Self Service – Energy Management. For more information about the web version of the neighbor comparison, see Digital Self Service Energy Management Neighbor Comparison.

Appears in: Progress Report, Welcome and Announcement Report, Limited Income Report, Time of Use Report, Solar Report, Electric Vehicle Report

> **Note**
>
> For most report types, utilities have the option of including either the Three-Bar Neighbor Comparison module or Efficiency Zone in their report.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Less than 100,000 per week

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly
Data Requirements	Billing data and third-party data (GIS and parcel data).

Category	Description
Data History	A minimum of one historical bill.
Data Coverage	Not applicable. Billing level data is used.
Supported Fuels	• Solar Report, Electric Vehicle Report: Electric-only, dual fuel • Progress Report, Welcome and Announcement Report, Limited Income Report, Time of Use Report: Electric-only, gas-only, and dual fuel.

Limitations

- **Neighbor Selection**: A minimum number of neighbors (the default target is 100) must be selected for the customer. See Neighbor Selection - Detailed for more information.
- **Home Energy Reports vs. Web**: HER v3 customers receive an Efficiency Zone user variation in the web product which differs slightly from the Efficiency Zone in the reports. See the Neighbor Comparison section of the Oracle Utilities Opower Digital Self Service - Energy Management Cloud Service Product Overview for more information.
- **Third-Party Data**: Third-party data (GIS and parcel data) is needed to identify neighbors for the neighbor selection process.

User Experience

This section describes the user experience for each report type.

Three-Bar Neighbor Comparison

This section describes the user experience for the Progress Report, Welcome and Announcement Report, Limited Income Report, and Time of Use Report.

Heading: Notifies the customer that the neighbor comparison gives them a comparison of their energy use to similar homes.

Bar Chart: Displays how much energy each group in the comparison used. Typically, the bar with the smallest value is on top and the bar with the largest value is on the bottom.

- **You**: Indicates how the customer is doing. This is often a color that corresponds to the utility brand color.
- **Similar Homes**: Indicates how all the customer's neighbors are doing. It is usually a gray or neutral color. The energy use data that is shown is the mean energy use value.

- **Efficient Homes**: Displays a usage value for the most efficient 20% of the customer's similar homes. It is usually colored green because green is commonly associated with energy efficiency. Note that the efficient homes value that appears in the module is not an average of the top 20% of similar homes. A threshold value—the 20th percentile of similar homes—is used to determine the efficient homes value. Efficient homes are not chosen in advance.

The appearance of the bar graph varies depending on the customer's comparison state. Possible comparison states include:

- **Fair**: Home energy use, excluding electric vehicle charging, was more than efficient homes or average neighbors.
- **Good**: Home energy use, excluding electric vehicle charging, was more than efficient than similar homes or average neighbors.
- **Great**: Total energy use was less than efficient homes or average neighbors.
- **Near**: Within more or less than five percent of the average efficient homes or average neighbor value.

Legend: Indicates what portions of the graph indicate home energy use, efficient homes, and similar homes.

Explainer text: Explains why the bar chart appears the way it does. It includes a definition of efficient homes, and the fuel units in the module.

Insight Statement: Provides information about why the bar chart appears the way it does. The insight states are related to the Benchmark module states of Great, Good, and Fair. The insights states are related to the Benchmark state. See the Energy Use Benchmark module for more information.

- **Top insight**: Displays a percentage for either how much more or less the customer used compared to their "efficient homes. For example, "29% more electricity than efficient homes." The percentage color changes depending on where the customer's usage falls on the Benchmark Module gauge. If the customer's usage is "great" or "good" the percentage is green. If the customer's usage falls in the "fair" range, the percentage is orange. By default the percentage threshold for the top insight is >100%. When the threshold is exceeded, alternative insight statements are used to ensure that the insights have a material impact on the user. See the Insight Statement for more information.
- **Bottom insight**: Tells the customer how their usage compared to compared to "neighbors" (that is, all neighbors, including efficient neighbors). The insight states are related to the Benchmark Module states of Great, Good, and Fair.

> **Note**
>
> In some cases, a customer's billing periods do not align exactly with those of their comparison groups. To accurately calculate averages for similar and efficient homes, the system aligns these usage periods with the customer's billing cycle. When misalignment occurs, the application adjusts, or "time shifts," neighboring homes' energy usage by accounting for the overlap between billing periods. These prorated values are then used to calculate the comparison averages.

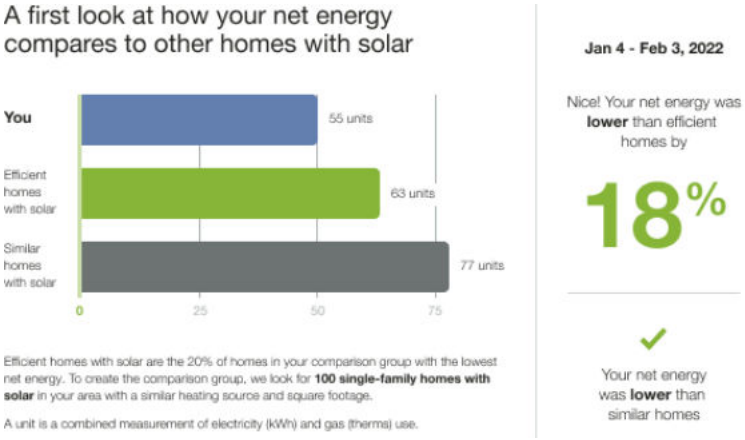
Solar Three-Bar Neighbor Comparison

The Solar Three-Bar Neighbor Comparison appears in the Solar Report. The module accommodates the net zero and excess generation (negative) reads of solar customers. The graph varies based on the benchmark state, fuel type, neighbors and similar homes language,

and whether the customer has positive, negative, or net zero energy use. See User Experience Variations.

> **Note**
>
> In the Solar Report, 'energy use' is replaced with 'net energy' to capture both use and production.

This image is an example of a Solar Three-Bar Neighbor Comparison for a solar customer with a positive comparison state.



Heading: Identifies the customer as a solar customer and indicated that they will be compared to other solar homes or neighbors:

- **Similar Homes**: Indicates how all the customer's neighbors are doing.
- **Neighbors**: Provides how the customer's net energy compares to other neighbors with solar.

Bar chart: Shows a customer's net energy compared to other homes with solar. The comparison groups are informed by the same logic as the standard experience but only include other homes with solar. A net zero indicator and three increment indicators are included on the graph to help orient the customer. Bar graph categories include:

- **Efficient homes with solar**: Displays a usage value for the most efficient 20% of the customer's similar homes.
- **Similar homes with solar:**Indicates how all the customer's neighbors with solar are doing.
- **You**: Provides the customer's energy use.

The appearance of the bar graph varies depending on whether the customer has positive, negative, or net zero energy use. Possible comparison states include:

- **Positive comparison state**: All graph bars show positive readings, meaning that the customers used more energy than their panels produced.
- **Straddle comparison state**: Displays a mix of positive and negative reads.
- **Negative comparison state**: If the customers used less energy than their panels produced, all graph bars show negative readings.

Legend: Indicates what portions of the graph indicate the customer's home energy use , efficient homes with solar, and similar homes with solar.

Explainer Text: Provides definitions of net energy, comparison groups, and fuel used in the insights. See User Experience Variations for more information.

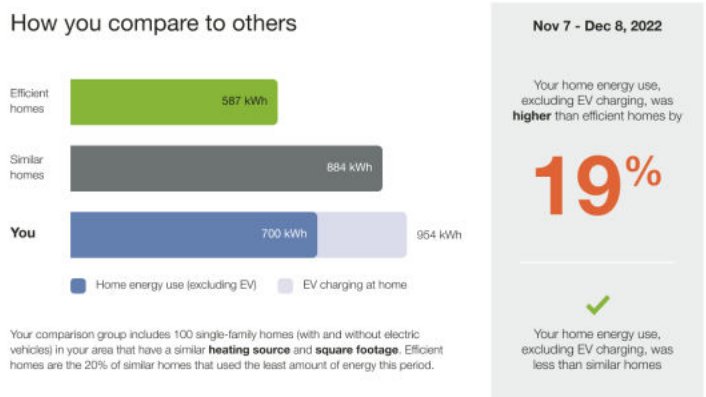
Insight Statement: Provides information about why the bar chart appears the way it does. The insight states are related to the solar comparison state:

- **Positive Comparison Insight Statement**: In a positive comparison state, all graph bars show positive readings, meaning that the customers used more energy than their panels produced.
  - **Top Insight**: Displays a percentage for either how much more or less energy the customer used compared to efficient homes up to a configurable threshold.
  - **Bottom Insight**: Provides the customer how their usage compared to compared to similar homes. By default the percentage threshold for the top insight is >100%. When the threshold is exceeded, positive alternative insight statements are used to ensure that the insights have a material impact on the user.
- **Straddle Comparison Insight Statement**: In the straddle comparison state, the graph shows a mix of positive and negative reads.
  - **Top Insight**: Tells the customer how much energy the customer's solar panels produced compared to how much energy they used.
  - **Bottom Insight**: Tells the customer how their net energy use compares to efficient homes.
- **Negative Comparison Insight Statement**: If the customers used less energy than their panels produced, all graph bars show negative readings.
  - **Top Insight**:Tells the customer that their solar panels covered the amount of energy they used.
  - **Bottom Insight**: Tells the customer how their net energy use compares to efficient homes.

Electric Vehicle Three-Bar Neighbor Comparison

The Three-Bar Neighbor Comparison appears in the Electric Vehicle Introduction. The Electric Vehicle Three-Bar Neighbor Comparison is adapted to show the impact of electric vehicle charging on home energy use. The graph varies based on the benchmark state, fuel type, and whether the customer has similar homes or neighbors language. See User Experience Variations for more information.

This image is an example of the Electric Vehicle Three-Bar Neighbor Comparison for an electric vehicle customer with a good comparison state and similar homes language.



Heading: Indicates that the customer will be compared to other homes.

Bar chart: Displays a customer's energy use compared to other single family homes that may or may not have electric vehicles. The comparison groups are informed by the same logic as the standard experience but includes the customer's electric vehicle charging. Bar graph categories include:

- **Efficient homes**: Provides a usage value for the most efficient 20% of the customer's similar homes.
- **Similar homes**: Indicates how all the customer's neighbors are doing.
- **You**: Highlights the home energy use in relation to Efficient and Similar homes. It includes the customer's home energy use, electrical vehicle charging, and total energy use, but excludes EV charging

The appearance of the bar graph varies depending on the customer's comparison state. Possible comparison states include:

- **Fair**: Home energy use, excluding electric vehicle charging, was more than efficient homes or average neighbors.
- **Good**: Home energy use, excluding electric vehicle charging, was more than efficient than similar homes or average neighbors.
- **Great**: Total energy use was less than efficient homes or average neighbors.
- **Near**: Within more or less than five percent of the average efficient homes or average neighbor value.

Legend: Indicates what portions of the graph indicate home energy use excluding EV charging, and energy use for EV charging at home.

Explainer Text: Defines the comparison group and efficient homes. The explainer state and text is determined by the available customer data. For example, square footage, heating source, home type, and fuel type data.

Insight Statement: Provides information about why the bar chart appears the way it does. The insight states are related to the Benchmark module states of Great, Good, and Fair. The insights states are related to the Benchmark state. See the Energy Use Benchmark module for more information.

- **Top insight:** Displays a percentage for either how much more or less the customer used compared to their "efficient homes. The percentage color changes depending on whether the customer's usage is Great, Good, and Fair.
- **Bottom insight**: Tells the customer how their usage compared to compared to all neighbors, including efficient neighbors.

User Experience Variations

Explainer Text

Explainer Text: The explainer text varies by the available customer data, including:

- Square Footage
- Heating Source
- Home Type
- Fuel type

For example, the words "heating source" and "square footage" will appear in the explainer text for customers with confirmed square footage and heating source data, but not for others.

Solar Three-Bar Explainer: The explainer text for the Solar Three-Bar includes content explaining net energy, the solar comparison group, and fuel. These explainers vary by fuel

type, whether the customer receives similar homes or neighbors language, and home type. For example, "electricity" is used in reports for customers with net energy / dual fuel, and "energy" is used for customers with net energy / electric-only reports. "Efficient homes" or "Efficient Neighbors" appears depending on the neighbors language selected for the utility program. The following example of solar explainer text is for a solar customer with net energy / duel fuel enrolled in a program with similar homes language.

"Net energy is the difference between the amount of **electricity** your solar panels produce and the amount of gas and electricity you use. **Efficient homes** with solar are the 20% of homes in your comparison group with the lowest net energy."

Solar Three-bar Comparison Group Explainer Text: The comparison group explainer includes home type data. For example, if a customer's home type can not be confirmed, the text states that the comparison group is made of, "100 similar homes with solar in your area." If the customer data confirms that the customer lives in a single-family home, the text mentions that they were compared to other single-family homes, "100 single-family homes with solar in your area."

Insight Statement

The insight statement summarizes the customer's energy use in comparison to efficient homes or similar neighbors. It is determined by the customer's benchmark category, fuel type, and the percentage threshold used to identify the top insight..

The following table is an example of how the insight statement varies for a electric or dual fuel customer in a Good benchmark state.

Benchmark State	Language	Insight Type	Top Insight	Bottom Insight
Good	Similar homes	Standard	Your energy use was higher than efficient homes by XX%	You used less energy than similar homes.
		Alternative	Your energy use was higher than efficient homes	
	Neighbors	Standard	Your energy use was higher than efficient neighbors by XX%	You used less energy than average neighbors
		Alternative	Your energy use was higher than efficient neighbors	

The following table is an example of how the insight statement varies for a solar customer in a with a positive comparison state and a good benchmark state.

Benchmark state	Language	Insight Type	Top Insight	Bottom Insight
Good	Similar Homes	Standard	Your net energy was higher than efficient homes by X%	Your net energy was lower than similar homes
		Alternative	Your net energy was higher than efficient neighbors by X%	Your net energy was lower than average neighbors

Benchmark state	Language	Insight Type	Top Insight	Bottom Insight
	Neighbors	Standard	Your net energy was higher than efficient homes	Your net energy was lower than similar homes
		Alternative	Your net energy was higher than efficient neighbors	Your net energy was lower than average neighbors

The following table is an example of how the insight statement can vary for an electric vehicle customer in a Good benchmark state.

Benchmark State	Language	Insight Type	Top Insight	Bottom Insight
Good	Similar homes	Standard	Your home energy use, excluding EV charging, was higher than efficient homes by	Your home energy use, excluding EV charging, was less than similar home.
				Your total energy use was less than average neighbors
		Alternative	Your home energy use, excluding EV charging, was higher than efficient homes	You used less home energy, excluding EV charging, than similar homes
	Neighbors	Standard	Your home energy use, excluding EV charging, was more than efficient neighbors by	Your home energy use, excluding EV charging, was less than average neighbors
		Alternative	Your home energy use, excluding EV charging, was higher than efficient neighbors	You used less home energy, excluding EV charging, than average neighbors

Three-bar Graph

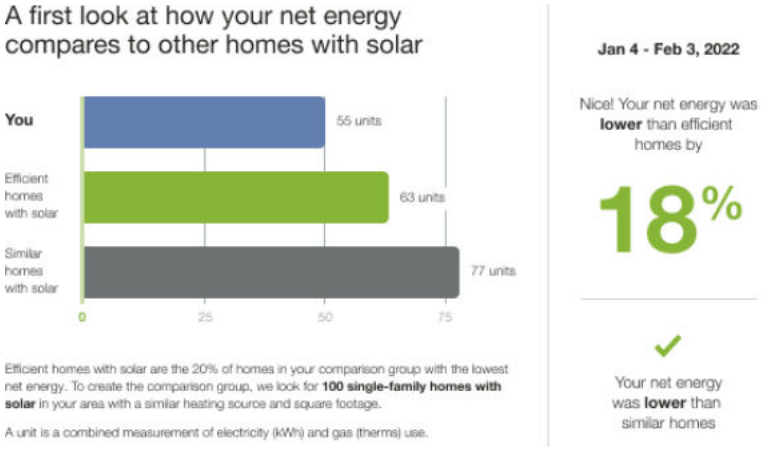
Neighbor Comparison Placement

Utilities have the option to swap the placement of the Quadrants with the Three-Bar Neighbor Comparison or Efficiency Zone. See the Welcome and Announcement Report.

Solar Comparison States

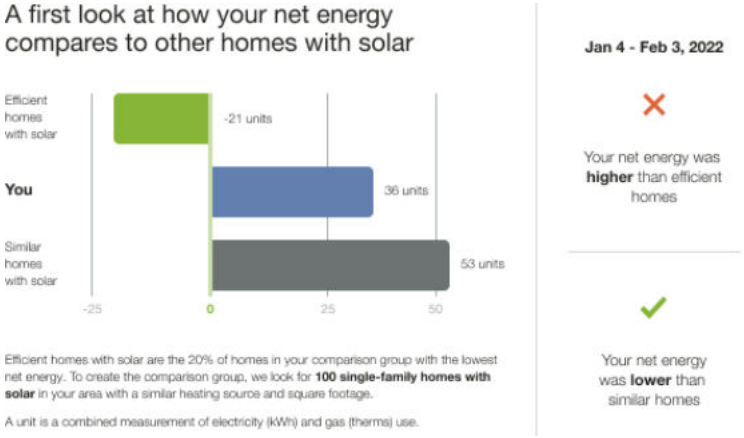
The appearance of the bar graph varies depending on the graph comparison state:

Positive Comparison State: All graph bars show positive readings, meaning that the customers used more energy than their panels produced. This image is an example of a positive comparison state.



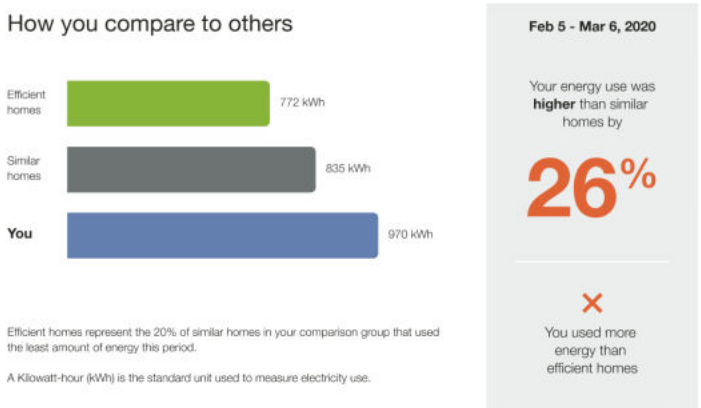
When the large number in the sidebar reaches a value of 101% or more, a positive alternate insight without a percentage is displayed to avoid comprehension issues. For example, "Nice! Your net energy was lower than efficient homes!"

Straddle Comparison State: In the straddle comparison state, the graph shows a mix of positive and negative reads. The module varies based on fuel type, language type, and whether the customer's "You" bar is positive or negative.

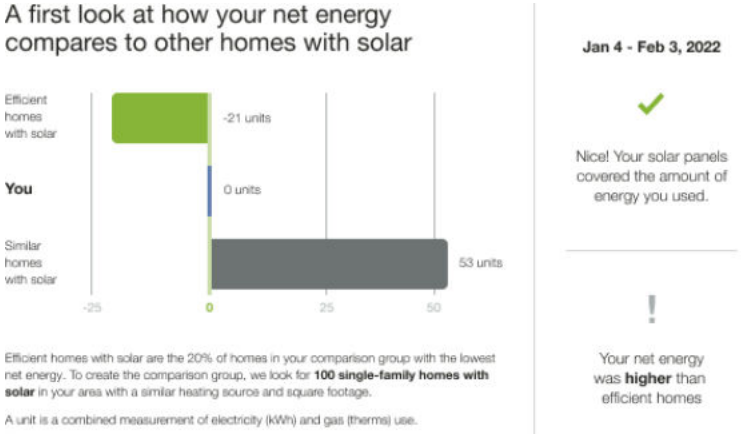


Negative Comparison State: If the customers used less energy than their panels produced, all graph bars show negative readings. The module varies depending on the customer's benchmark state and fuel type.

The following image is an example of a negative comparison state in a Good benchmark state.



The following image shows an example of a negative comparison state when the "You" value is rounded to zero.



Page Turn

The Page Turn module is included at the bottom of the front page of the report and contains a message and an arrow icon, prompting users to turn over the report for more information. The messaging of the module varies by Report Types and promotion type.

The Page Turn module is different than the Utility Info module, which appears in the footer on the back of the report.

Appears in: All Report Types.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Less than 100,000 per week

Customer Requirements

Category	Description
Billing Frequency	Not applicable.
Data Delivery Frequency	Not applicable.
Data Requirements	Not applicable.
Data History	Not applicable.
Data Coverage	Not applicable.
Supported Fuels	Not applicable.

Limitations

There are no applicable module limitations.

User Experience

This section describes the user experience for the Progress Report.

Message: Designed to motivate the customer to take action. "Want to reduce your home's energy use?"

Prompt: Encourages the customer to turn over the report and learn more.

Arrow Icon: Directs customers to the back of the report.

User Experience Variations

Page Turn by Report Type

The table below provides the page turn variations by report type.

Report	Report Version	Message	Prompt
Welcome and Announcement Report	Welcome	Turn over to explore your new energy-saving insights	Not applicable.
	Announcement	Turn over to explore your Home Energy Report insights and ways to save	
Promotion Report	Not applicable.	Curious about [End Use 1] and [End Use 2]?	Turn over for more ways to save.
Seasonal Report	Winter Seasonal	Ready to save more this winter?"	Turn over for ways to stay warm while you save
	Summer Seasonal	Ready to save more this summer?	Turn over for ways to stay cool while you save
Limited Income Report	Welcome	Turn over to explore your new energy-saving insights	Not applicable.
	Progress	Want to reduce your home's energy use?	Turn over for personalized savings advice.
Time of Use Report	Welcome	Turn over to explore your new energy-saving insights	Not applicable.
	Progress	Want to save more on your bill?	Turn over to explore your new energy-saving insights.
Solar Report	Welcome	Ready to start saving more?	Turn over for personalized insights.
	Progress	Save even more	Turn over for insights and tips.

Report	Report Version	Message	Prompt
Peak Focused Report	Welcome	Turn over to explore your new energy-saving insights	Not applicable.
	Progress	Want to reduce your home's energy use?	Turn over for personalized savings advice.
Electric Vehicle Report	Progress	Want to reduce your home's energy use?	Turn over for personalized savings advice.

Promotion Report

Heating and Cooling Combined: In a Promotion Report that features Heating and Cooling combined, the page turn copy is, "Looking for more ways to save? Turn over for personalized tips."

Gas-only: For customers with gas-only fuel type 'energy' is replaced with 'gas.' The page turn copy is altered to mention gas, "Want to reduce your home's gas use?"

Welcome and Announcement Report

Normative Comparison and Quadrant Placement: Utilities have the option to swap the placement of the Quadrant Module and normative comparison module (Efficiency Zone Module, Three-bar Normative Comparison, or Peak Focused Normative Comparison) in the Welcome and Announcement Report. In this instance, the page turn copy is, "Turn over to explore your new energy-savings insights."

Gas-only: For customers with gas-only fuel type 'energy' is replaced with 'gas.' The page turn copy is altered to mention gas, "Turn over to explore your new gas-saving insights"

Personal Tracker

The Personal Tracker provides customers with up to one year's comparison of their current year's usage to the previous year. It offers a range of data scenarios, displaying usage information across as few as three bills or as many as two full years of bills. The module includes an evaluative statement that assesses the customer's performance, a bar chart for visualization, seasonal helpers, and insights into why their energy use may have increased, decreased, or remained the same. This module may be used as a replacement for the Self-Comparison module located on the back of the Progress Report.

Appears in: Progress Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

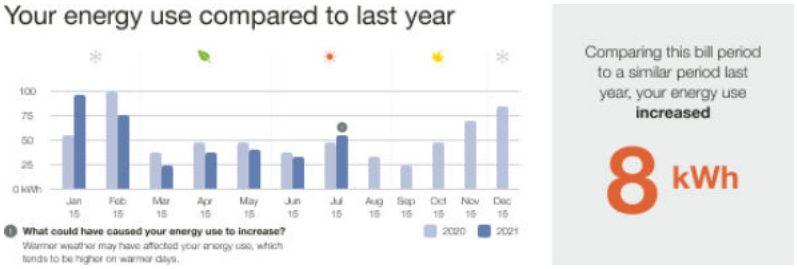
Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	Not applicable.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	**Progress Reports**: Electric-only, gas-only, dual fuel.

Limitations

- The module can be used as a replacement for the Self-Comparison module in the Progress Report.

User Experience

This section describes the Personal Tracker user experience of an electric-only customer, followed by how the user experience may vary.



Header: Informs the customer that the module is a comparison of their current energy use to the previous year.

Chart: Displays the customer's bills over time and provides a comparison to previous energy use if enough data is available. By default, it will compare the customer's energy usage month over month going as far back as the beginning of the previous year. It also supports customers with bimonthly or quarterly bill periods.

- **Unit of measurement**: Varies by fuel type: kWh, therms, and units.
- **Insight icon**: An insight icon positioned above the current month correlates to the secondary insight located below the chart.

Insight: The insight located next to the chart informs the customer if their energy use has increased or decreased since the previous bill period.

Secondary insight: Provides explanations for why their energy use may have increased or decreased compared to the previous billing period, particularly in relation to changes in temperature. The module uses weather insight calculations to determine whether the average temperature was higher or lower between the current and comparison billing periods. Based on this calculation, the Personal Tracker provides suggestions as to why the customer's energy use increased or decreased.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types (gas, electricity, dual fuel, and so on), available data, costs, locale, and other factors.

Fuel Type

The module varies by customer fuel type:

Dual Fuel: For dual-fuel customers, the module title and insights use the term "energy use." Measurements are presented in units.

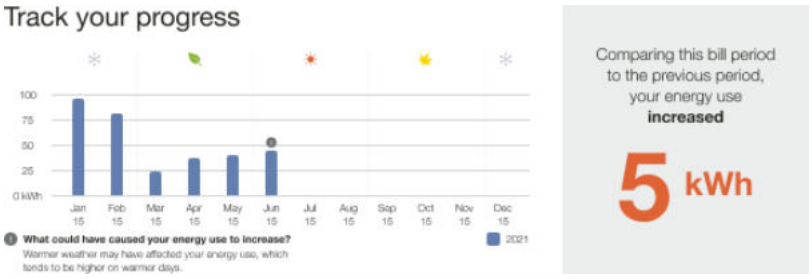
Gas: For gas customers, gas-specific language us used in the title and insight. The measurements are in therms.

Available data

The user experience is impacted by the amount of available data.

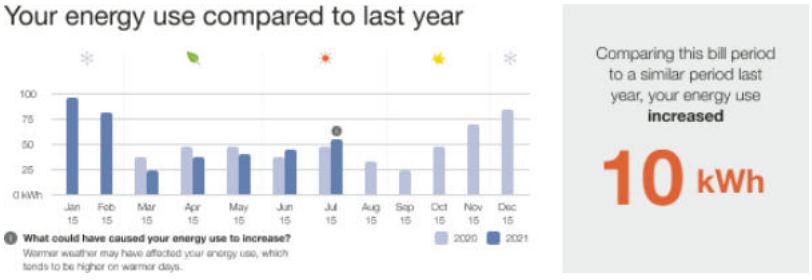
Less than 13 months of data

If less than 13 months of data is available, the header changes to 'Track your progress.' The current bill is compared to previous period since a year or less of data is available.



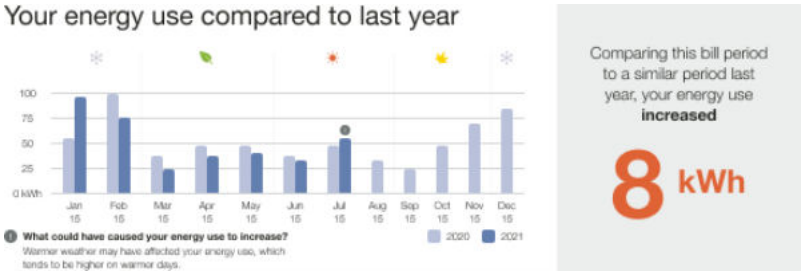
13 months or more of data with one January bill

If the customer has at least 13 bills available, but only one of them is from January, the bars for missing months of the previous year do not appear in the chart.



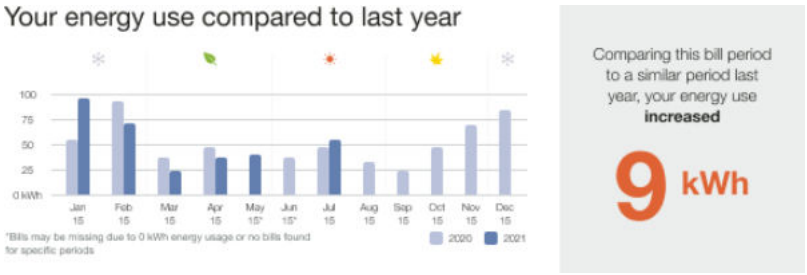
13 months or more of data with two January bills

If the customer has at least 13 bills available, including two January bills, the module emphasizes that the chart is a comparison with the previous year.



Missing Data - Missing Bill

In cases where a bill is missing, an asterisk appears next to the corresponding x-axis label, and a message at the bottom of the module explains the possible reasons for the missing data. For example "Bills may be missing due to 0 kWh energy usage or no bills found for specific periods.".



Missing Data - Missing Year Over Year Comparison

In cases where a customer has more than 13 months of data is available but a comparison with last year's billing period is not possible because data from similar billing period from last year is missing, the comparison takes place with the previous billing period value. There is no secondary insight in this use case or an information icon above the current month.

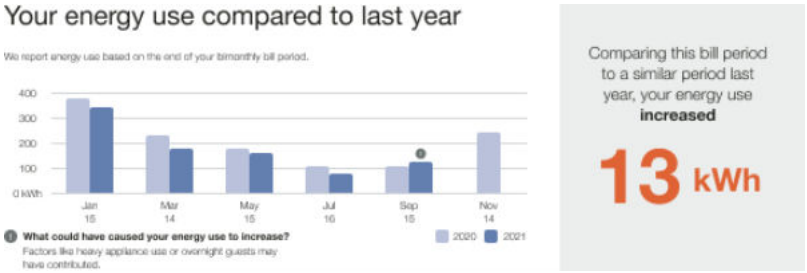
Missing Data - Missing Bill and Year Over Year Comparison

For cases where comparison with last year's similar billing period is not possible and we cannot compare to the previous bill period, the module fails.

Billing

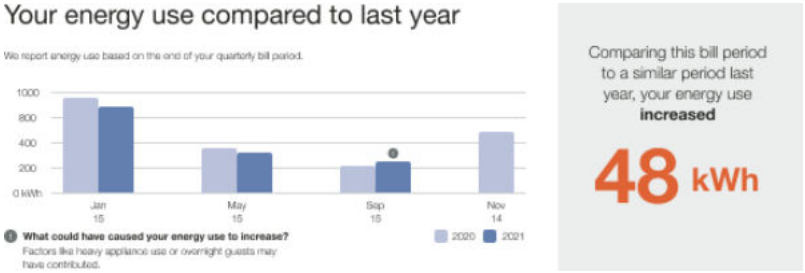
Bi-monthly Billing

If a customer has bi-monthly bills, the energy use bar will be plotted at the end of the two-month period. This results in fewer data points compared to monthly bills. The seasonal icons above the chart are replaced with a short explainer text, "We report energy use based on the end of your bimonthly bill period."



Quarterly Billing

If a customer has quarterly bills, the energy use data bar will be plotted at the end of the three-month period. This results in fewer data points compared to monthly or bi-monthly bills. The seasonal icons above the chart are replaced with a short explainer text, "We report energy use based on the end of your quarterly bill period."



Program Promotion Module

The Promotion module allows utilities to highlight a program related to key energy use categories, such as heating, cooling, water heating, appliances, lighting, and refrigeration. It is designed to help customers evaluate whether taking action is worth the potential savings. Oracle Utilities Opower partners with each utility to design a promotion module that appears on the front of the report and aligns with the specific program being promoted.

Appears in: Promotion Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Less than 100,000 per week.

Customer Requirements

Category	Description
Billing Frequency	Monthly or bi-monthly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.

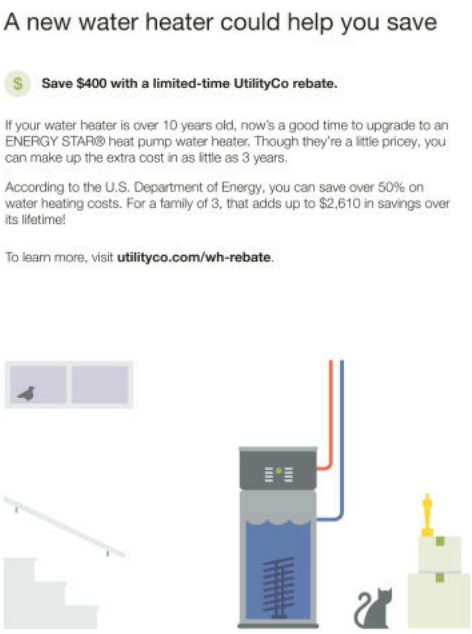
Category	Description
Data Requirements	To target the promotion to customers with a specific energy appliance or energy use pattern, the Oracle UtilitiesOpower platform requires data about how a customer uses energy in specific end-use categories such as heating or cooling. **Minimum**: The minimum requirement is to have average energy use data for households in a utility's region. This data is typically obtained from public data sources and is used as a baseline for the Home Energy Analysis survey. Customer responses to the survey can then be used to determine what appliances customers have or how their energy breaks down into specific categories, so that the promotion can be targeted to them. **Recommended**: The recommended approach is to use Oracle UtilitiesOpower data science models to generate more accurate appliance detection and disaggregation results. In this case, the data requirements include a combination of billed usage data, daily or subdaily AMI data, and weather data. Your Delivery Team will work with you to understand the specific requirements and help you identify the best approach for your situation.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Gas-only, electric-only, and dual fuel.

Limitations

- **Promotion Report Only**: This module is only available as part of the Promotion Report.

User Experience

This section describes the user experience a Promotion module designed for a hot water heater.



Header: Introduces the promotion and prepares the customer to learn about how they can save.

Rebate or Discount: Specifies how much the customer can save if they take advantage of the promotion.

Body Text: Explains the benefit of taking advantage of the promotion. For example, the greater focus for the water heater promotion is justifying the higher cost. Reputable information is also provided in the body text to help convince the customer of why the promotion is worthwhile.

Illustration: A set of customer-friendly images that encapsulate the promotion focus.

Link: Directs the customer to where they can access the promotion.

User Experience Variations

The user experience varies for customers depending on their energy use, service types, available data, costs, locale, and if the utility elects to promote an energy use category that is not the customer's largest category. The list below does not include all possible variations.

Heating and Cooling Combined Smart Thermostat: The heating and cooling combined smart thermostat promotion includes feel-good or community type messaging focused on the personal benefits of acting. For example, the promotion may talk about how installing a smart thermostat is a great way to manage heating and cooling use without giving up comfort, and how to set thermostat schedules from a smart phone. It may also include messaging about the dollar savings a customer can realize, and how their thermostat energy savings can equate to an impact on greenhouse emissions.

Heating-only Smart Thermostat: The heating-only smart thermostat promotion module includes feel-good or community type messaging. Its content is similar to the combined thermostat promotion describe above, but with a focus on the winter season.

Quadrants

The Quadrant modules echo the theme of the Announcement module, and provide the customer with context and rationale for the personalized insights included in the Welcome and Announcement Report, Time of Use Report, Limited Income Report, and Solar Report.

Announcement Quadrant

The Quadrant module in the Announcement Reportversion of the Welcome and Announcement Report includes four customized sections that echo the theme of the Announcement module, and provides the customer with context and rationale for the personalized insights included in the report.

Appears in: Welcome and Announcement Report

Requirements

Utility Requirements

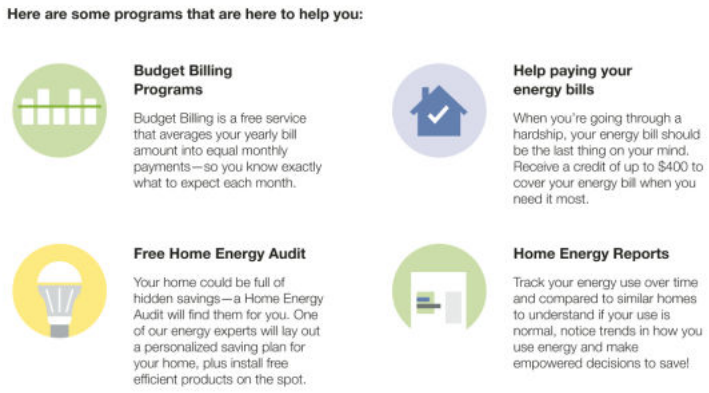
Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	Not applicable
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electric-only, gas-only, dual fuel.

User Experience

This section describes the user experience for a Quadrant module customized for the announcement version of the Welcome and Announcement Report Modules.



Feature Heading: A primary heading that reemphasize the focus of the report.

Quadrants: Four custom quadrants that include a heading and text that highlight the announcement goal, and orients customers to the four custom aspects of their report experience.

Images: Images that complement the each of the quadrant messages.

User Experience Variations

Blank Slot

Utilities have the option of replacing the Quadrant module with a custom module created by the Client Design team. The custom module must fit the primary feature specifications. See the Client Design Menu of Services for more information.

Welcome Quadrant

The Welcome Quadrant module can be included on the front or back of the report, and includes standardized copy designed to educate new and legacy customers on the key features and benefits of the report. The focus of the quadrant varies by report type.

Appears in: Welcome and Announcement Report Modules, Limited Income Report, Time of Use Report, Solar Report, Peak Focused Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	Not applicable.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	• **Welcome and Announcement Report, Limited Income Report, Time of Use Report**: Electric-only, gas-only, and dual fuel. • **Solar Report**: Electric-only, dual fuel. • **Peak Focused Report**: Electric-only.

Limitations

- **Peak Focused Report**: The Peak Focused Report is only available for the electric fuel type.

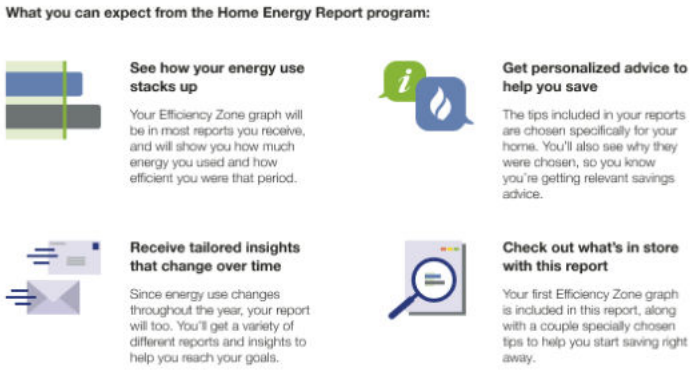
User Experience

This section describes the user experience for each report type.

Welcome and Announcement Report

The Welcome Quadrant introduces new customers to the four main components of the report: normative comparison, tips, variable insights, and how to get started.

This image is an example of a Quadrant module included in the Welcome and Announcement Report.

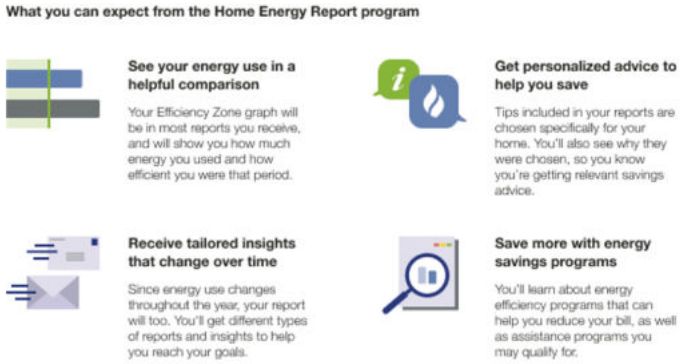


- **Feature Heading**: A primary feature heading that reemphasize the focus of the report. The heading varies slightly depending on whether the customer is new or legacy customer.
- **Top Left Quadrant - Normative Comparison**: This quadrant includes a headline explaining that the customer's energy use will be compared to others, along with a brief description of the normative comparison. The icon matches the type of normative comparison included in the customer's report.
- **Bottom Left Quadrant - Variable Insight**: This quadrant features a headline introducing personalized insights. The text explains that these insights will change throughout the year based on the customer's energy use.
- **Top Right Quadrant - Tips**: This quadrant includes a headline emphasizing energy-saving opportunities. The text explains that the tips are tailored to the customer and their home to provide relevant savings advice. The icon reflects the customer's fuel type.
- **Bottom Right Quadrant - Where to Begin**: This quadrant highlights that personalized insights are available on the back of the report. The text and icon reflect the customer's normative comparison type.

Limited Income Report

The Welcome Quadrant module in the Limited Income Report orients new customers to the four parts of the report experience: normative comparison, tips, variable insights, and how the report will help limited income customers reduce energy use and save money.

This image is an example of a Quadrant module included in the welcome version of the Limited Income Report.

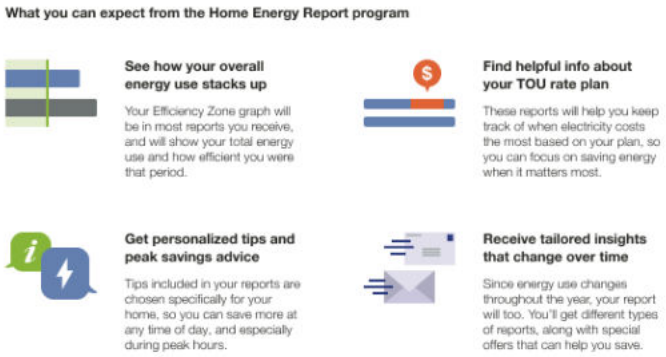


- **Feature Heading**: A primary heading that reinforces the focus of the report. The wording varies slightly depending on whether the customer is new or returning.
- **Top Left Quadrant - Normative Comparison**: This quadrant includes a headline explaining that the customer's energy use will be compared to others, along with a brief description of the normative comparison. The icon reflects the type of comparison shown in the report.
- **Bottom Left Quadrant - Variable Insight**: This quadrant features a headline introducing personalized insights. The text explains that these insights will change throughout the year based on the customer's energy use.
- **Top Right Quadrant - Tips**: This quadrant includes a headline highlighting energy-saving opportunities. The text explains that the tips are tailored to the customer and their home to provide relevant savings advice. The icon reflects the customer's fuel type.
- **Bottom Right Quadrant - Where to Begin**: This quadrant highlights that personalized insights are available on the back of the report, tailored for the limited income experience. The icon reflects the customer's normative comparison type. The text references this comparison and explains that the report can help customers learn about energy efficiency programs to reduce their bill, as well as assistance programs they may qualify for.

Time of Use Report

The Welcome Quadrant module included in the Time of Use Report educates new customers on the key features and benefits of the time of use report experience.

This image is an example of a welcome Quadrant module included in the Time of Use Report.



Primary Feature Heading: The default heading is "What you can expect from the Home Energy Report program."

Top Left Quadrant - Normative Comparison: This quadrant includes a headline explaining that the customer's energy use will be compared to others, along with an overview of the Efficiency Zone module and how it benefits the customer. The icon reflects the type of normative comparison shown in the report.

Bottom Left Quadrant - Where to Begin: This quadrant explains that the welcome report includes a normative comparison, insights, and tips to help the customer start saving energy. The icon reflects the customer's fuel type.

Top Right Quadrant - Time of Use Plan: This quadrant includes a headline explaining that the report takes the customer's time-of-use plan into account and helps them save energy when it matters most.

Bottom Right Quadrant - Variable Insight: This quadrant features a headline introducing personalized insights. The text explains that these insights will change throughout the year based on the customer's energy use.

Solar Report

The Welcome Quadrant module included in the Solar Welcome Report educates new customers on the key features and benefits of the solar report experience.

This image is an example of the module included in the Solar Welcome Report.

Primary Feature Heading: The default heading is "What you can expect in future reports."

Top Left Quadrant - Normative Comparison: This quadrant includes a headline explaining that the customer's energy use will be compared to other solar customers, along with an overview of the Three-Bar Neighbor Comparison module and how it benefits the customer.

Bottom Left Quadrant - Tailored Insights: This quadrant highlights that the report includes personalized insights that change seasonally. The icon reflects the customer's fuel type.

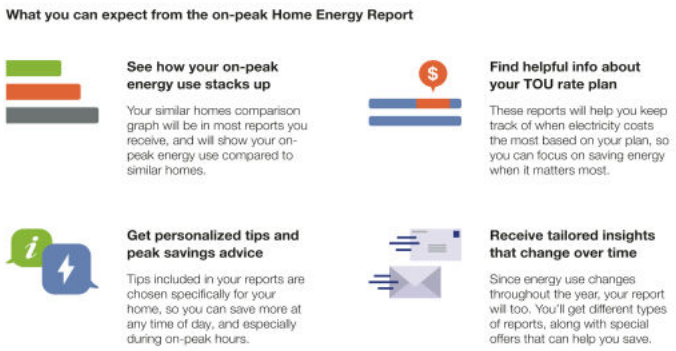
Top Right Quadrant - Tips: This quadrant explains that the report includes tips specifically chosen for the customer's home..

Bottom Right Quadrant - Offers: This quadrant includes a headline explaining that the report features rebates, programs, incentives, and other offers to help the customer save more and get the most out of their solar experience.

Peak Focused Report

The Welcome Quadrant module included in the Peak Focused Report educates new customers on the key features and benefits of the Time of Use report experience, with a focus on high-cost peak periods.

This image is an example of the module included in the Peak Focused Report.



Primary Feature Heading: The default heading is "What you can expect from the Home Energy Report program."

Top Left Quadrant - Normative Comparison: This quadrant includes a headline explaining that the customer's energy use will be compared to others, along with an overview of the Peak Focused Normative Comparison and how it benefits the customer. The icon reflects the type of normative comparison shown in the report.

Bottom Left Quadrant - Where to begin: This quadrant explains that the welcome report includes a normative comparison, insights, and tips to help the customer start saving. The icon reflects the customer's fuel type.

Top Right Quadrant - Time of Use plan: This quadrant includes a headline explaining that the report takes the customer's time of use plan into account and helps them save energy when it matters most.

Bottom Right Quadrant - Variable Insight: This quadrant features a headline introducing personalized insights. The text explains that these insights will change throughout the year based on the customer's energy use.

User Experience Variations

Customer Type

- **Legacy Customers**: Customers who have received earlier versions of the report are considered legacy customers. Their feature heading acknowledges updates to the program: "What you can expect from the new Home Energy Report program."
- **New Customers**: Customers who have not previously received a Home Energy Report are considered new customers. Their feature heading introduces the program: "What you can expect from the Home Energy Report program."

Normative Comparison Type

- **Top Left Quadrant - Normative Comparison**: The text and image match the Normative Comparisons included in the customer's report experience.
- **Bottom Right Quadrant - Where to Begin**: The quadrant text and icon reflects the customer's normative comparison type.

Fuel Type

- **Top Right Quadrant - Tips**: The top right tips quadrant icon reflects the customer's fuel type.
- **Blank Slot**: Utilities have the option of replacing the Quadrant module with a custom module created by the Client Design team. The custom module must fit the primary feature specifications.

Welcome Quadrant Placement

The Welcome Quadrant can be placed on the front or back of the Welcome Report, Limited Income Report, Peak Focused Report, and Solar Report. When the Welcome Quadrant appears on the back of the report, the Normative Comparisons appears on the front of the report.

Seasonal Breakout Module

The Seasonal Breakout module informs the customer what percentage of their energy use the previous season went toward cooling or heating. The purpose of this module is to highlight the how large a customer's heating or cooling costs can get, and prepare them for the seasonal insights and tips presented later in the report.

Appears in: Seasonal Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly or bi-monthly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	The Oracle Utilities Opower platform requires data about how much energy a customer used for cooling or heating in the previous summer or winter season. **Minimum**: The minimum requirement is to have average energy use data for households in a utility's region. This data is typically obtained from public data sources and is used as a baseline for the Home Energy Analysis survey. Customer responses to the survey can then be used to determine how their energy breaks down into heating and cooling categories. **Recommended**: The recommended approach is to use Oracle Utilities Opower data science models to generate more accurate heating and cooling disaggregation results. In this case, the data requirements include a combination of billed usage data, daily or subdaily AMI data, and weather data. Your Delivery Team will work with you to understand the specific requirements and help you identify the best approach for your situation.
Data History	At least 13 months of data history including historical billing data from the previous summer or winter season.
Data Coverage	Not applicable.
Supported Fuels	Electric-only, gas-only, dual fuel.

User Experience

This section describes the user experience of the Seasonal Breakout module for the Summer Seasonal Report.

Header: Highlights that cooling affects the customer's summer energy bills.

Insight: Quantifies how much of the customer's energy use went toward cooling during the previous summer, making it easy to understand at a glance.

Explainer: Clarifies that the calculation includes window units, central air, and fans.

Image: Includes a seasonally themed illustration within the module.

User Experience Variations

The user experience varies for customers depending on their energy use, service types, available data, costs, locale, and if the utility elects to promote an energy use category that is not the customer's largest category. Note that the list below does not include all possible variations.

Winter Seasonal Breakout Module

The Winter Seasonal Breakout module reflects heating usage.

Header: Highlights the impact of heating on the customer's winter energy bills. For example, "Heating has a big impact on winter energy bills."

Insight: Quantifies how much of the customer's energy use went toward heating during the previous winter, making it easy to understand at a glance. For example, "39% of your total energy went toward heating last winter." The percentage is displayed in a warm color to reflect heating. "Energy" is used for electric and dual-fuel customers, while "gas" is used for gas-only customers.

Image: Includes a seasonally themed illustration within the module.

Self-Comparison

The Self-Comparison module provides a concise, personalized explanation of why a customer's current bill may be higher, lower, or similar to a previous one. It includes a comparison of the customer's current energy use to their past usage, along with context for any differences, such as weather or billing period changes. The module may also highlight improvements and include a moment of recognition to reinforce positive behavior.

In the Solar Report, the Self-Comparison module features solar-specific messaging and design variations of the comparison graph to reflect scenarios such as negative net energy and net zero energy.

Appears in: Progress Report, Solar Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	Not applicable.
Data History	**Data History**: • A minimum of two historical bills to generate the bill period over the bill period self-comparison. • A minimum of 12 months of historical bill data to generate the year over year self-comparison.
Data Coverage	Not applicable.
Supported Fuels	• **Progress Report**: Electric-only, gas-only, dual fuel. • **Solar Report**: Electric-only, dual fuel.

User Experience

Progress Report

This image shows an example of the Self-Comparison module design for the Progress Report.

Header: Introduces a different type of comparison, focusing on how the customer's current usage compares to their own past usage rather than to neighbors or the Efficiency Zone.

Self-comparison bar chart: Displays the customer's energy use relative to their previous usage. The default view is a year-over-year comparison. If there is not enough data for a year-over-year view, the module compares the current bill to the most recent bill.

Explainer: Provides context to help the customer understand why their energy use may have changed or remained the same. Possible explanations include:

- Increased usage due to warm weather
- Increased usage due to cool weather
- Other factors not covered by the above scenarios

Insight: Quantifies the change in energy use, making it easy to understand at a glance. It uses established color cues, with orange indicating higher usage and green indicating lower usage, so customers can quickly interpret whether the change is positive or negative without relying solely on text or numbers.

Solar Report

This image shows an example of the Self-Comparison module design for the Solar Report.

Header: Identifies the module as a comparison of the customer's net energy use relative to the previous year.

Self-comparison bar chart: Shows the customer's current energy use compared to their past usage.

Explainer: Provides context to help the customer understand why their energy use may have changed or remained the same. Possible solar states include usage increased, usage decreased, or usage stayed the same. Each state can represent scenarios such as all net negative, all net positive, net zero, or a mix of net positive and net negative within the same graph.

Insight: Quantifies the change in energy use, making it easy to understand at a glance. It uses established color cues, with orange indicating higher usage and green indicating lower usage, so customers can quickly interpret whether the change is positive or negative without relying solely on text or numbers.

User Experience Variations

Headline and Body Text: The explainer headline and body text vary based on the customer's energy use, fuel type, and whether the comparison is year over year or bill over bill.

Available data - Solar Report: If a customer has fewer than 13 months of data, the module uses a fallback experience that compares the current bill period to the previous bill period.

HVAC Adjustment Module

The HVAC Adjustment module provides customers with a recommended seasonal thermostat setting aligned with U.S. Department of Energy guidelines. It also encourages customers to consider a smart thermostat to help automate energy savings on cooling.

Appears in: Seasonal Report

Requirements

Utility Requirements

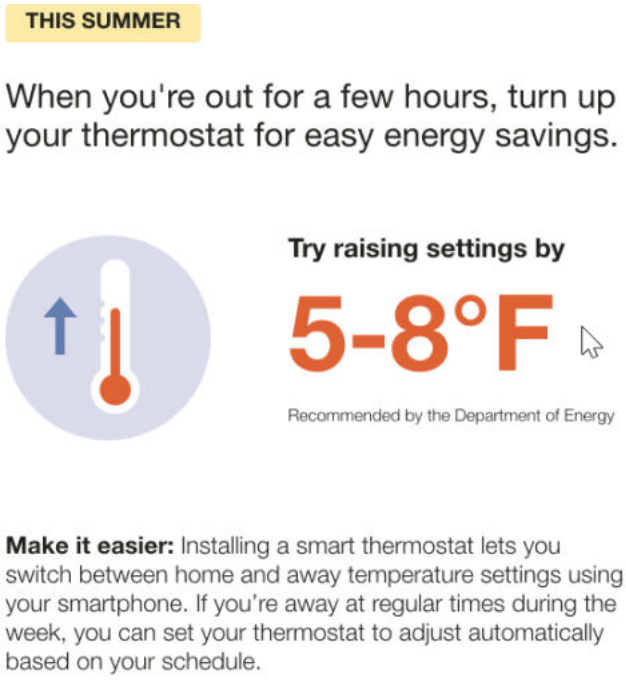
Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly or bi-monthly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	• AMI • Appliance Detection and Disaggregation
Data History	At least 13 months of data history.
Data Coverage	Not applicable.
Supported Fuels	Electric-only, gas-only, dual fuel.

User Experience

This section describes the user experience of the HVAC Adjustment module design for the Summer Seasonal Report.



Module Label: Identifies the season associated with the thermostat adjustment, for example, "This Summer."

Header: Encourages customers to adjust their thermostat while away from home to save energy.

Image: Includes an illustration paired with a prominent callout showing the recommended temperature adjustment.

Recommended Adjustment: Provides guidance on how the customer should modify their thermostat, based on Department of Energy recommendations.

Details: Encourages customers to simplify energy savings by using a smart thermostat to automate temperature adjustments.

User Experience Variations

The user experience varies for customers depending on their energy use, service types, available data, costs, locale, and if the utility elects to promote an energy use category that is not the customer's largest category. The list below does not include all possible variations.

Winter Thermostat Adjustment

The Winter Seasonal Report version of the HVAC Adjustment module encourages customers to adjust their thermostat at bedtime in alignment with U.S. Department of Energy recommendations. It also recommends using a programmable or smart thermostat to help automate energy savings on heating.

Time of Use 101

The Time of Use 101 module helps customers understand when electricity is most expensive based on their time of use rate plan. It provides key information, including whether prices differ on weekdays and weekends, how peak prices compare to off peak prices, the hours when electricity is most expensive, and a visual timeline showing off peak, partial peak, and peak periods. The version of the module a customer receives depends on their rate plan and the type of report:

Time of Use 101 for Welcome Reports: This version introduces customers to their specific rate plan at the time the report is generated and explains why reducing usage during peak hours is important. It may also include an example, such as avoiding high energy appliances like a dryer during peak times, to show how behavior changes can impact their bill. The content varies based on whether the customer has a simple or complex rate plan and whether they are known to have a clothes dryer.

Time of Use 101 for Progress Reports: This version both reinforces understanding of the customer's rate plan and highlights the importance of saving during peak periods. It typically includes a heading, weekday and weekend graphs, an explainer, a call to action, and seasonal details when applicable.

Appears in: Time of Use 101,Peak Focused Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly or bi-monthly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.

Category	Description
Data Requirements	The Time of Use rate plan. Information from the plan is needed to identify peak time periods and other basic rate details such as peak hours and any applicable peak time changes throughout the year.
Data History	Not applicable
Data Coverage	Not applicable.
Supported Fuels	• **Time of Use Report**: Electric-only, gas-only, dual fuel. • **Peak Focused Report**: Electric-only.

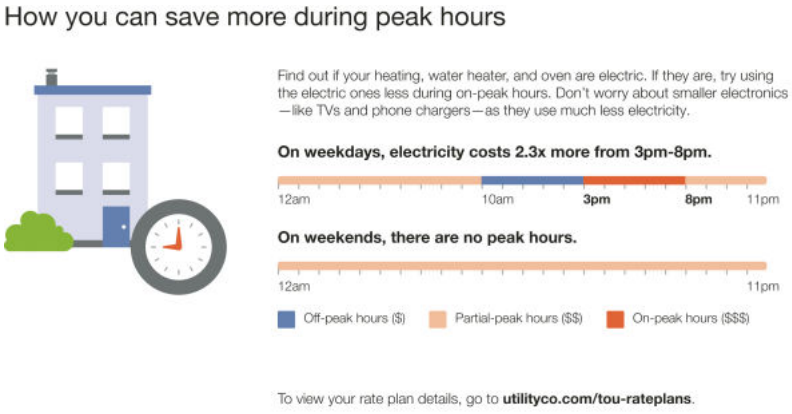
Limitations

- **Number of Rates**: A maximum of three rate types can be displayed at one time, such as peak, mid peak, and off peak, or super peak, peak, and off peak.
- **(Off Peak Hours (Welcome version only)**: For this report, super off peak and super saver rates are grouped into a single off peak category. For example, customers with multiple off peak or on peak periods will see all off peak times combined into one category on the timeline.
- **Peak Focused Report**: This report is only available for the electric fuel type.
- **Time of Use Rate Plan and Demand Charge:** The demand charge version of the module is available only to customers who have demand charges in addition to a time of use rate plan.

User Experience

Welcome Report

This section describes the user experience for a customer with the welcome version of the module, a weekly peak period, and no weekend or holiday peak periods.



Heading: Encourages customers to take simple steps to save energy during peak hours.

Image: A visual featuring a clock with peak hours highlighted to clearly communicate high-cost times.

Body Text: Identifies the dryer as one of the largest energy using appliances in the home and, therefore, costs a lot to run during peak hours.

Weekday Subheading and Graph: A dynamic, rate plan–specific graph showing how much energy costs increase during weekday peak hours. Includes:

- **Weekday Price Ratio**: Compares the highest and lowest energy rates (varies by plan).
- **Weekday Peak Hours**: Highlights the most expensive time period during weekdays.

Weekend Subheading and Graph: A dynamic, rate plan–specific graph indicating whether peak hours apply on weekends and holidays. Includes:

- **Weekend Price Ratio**: (If applicable) Compares the highest and lowest rates based on the plan.
- **Weekend Peak Hours**: (If applicable) Displays the most expensive time period on weekends.

Graph Labels: Clearly identify peak, mid-peak, and off-peak periods within the graphs.

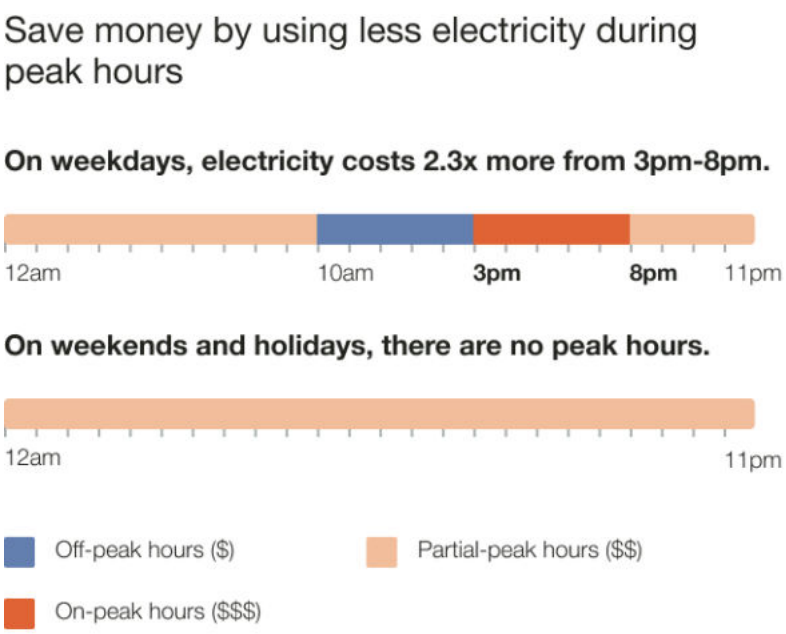
Cost Period Indicators:

- **High Cost Period**: Warning color highlights the most expensive time range (e.g., "On-peak hours ($$$)"), based on the customer's rate plan.
- **Medium Cost Period**: Warm color indicates mid-range pricing (e.g., "Partial-peak hours ($$)"), dynamically rendered.
- **Low Cost Period**: Cool color marks the least expensive times (e.g., "Off-peak hours ($)"), dynamically rendered.

Call to Action: Invites customers to view full plan details, with a link to the utility's rate plan page.

Progress Report

This section describes the user experience for a customer with the progress version of the module with a single, weekday peak, no weekend peak hours, and a seasonal variation.



Heading:Explains that customers can save money by using less energy during peak hours.

Weekday Subheading and Graph: Displays a dynamic subheading (based on the rate plan) showing how much more energy costs during weekday peak hours. The graph highlights the price ratio and applicable peak hours.

- **Weekday Price Ratio**: Compares the highest and lowest weekday rates (dynamic by plan).
- **Weekday Peak Hours**: Shows the most expensive weekday time period.

Weekend Subheading and Graph: Indicates whether peak pricing applies on weekends.

- **Weekend Price Ratio**:If applicable, compares the highest and lowest weekend rates (dynamic by plan).
- **Weekend Peak Hours**: Shows the most expensive weekend time period (if applicable).

Graph Labels: Identify peak, mid-peak, and off-peak periods.

- **High Cost Period**: Highlighted in a warning color; represents the most expensive time (e.g., "On-peak hours ($$$)").
- **Medium Cost Period**: Shown in a warm color; represents mid-range pricing (e.g., "Partial-peak hours ($$)").

- **Low Cost Period**: Shown in a cool color; represents the least expensive time (e.g., "Off-peak hours ($)").

Details Subheading: Explains why energy usage timing matters.

Details Text: Reminds customers that reducing usage during peak hours can lower bills and support cleaner energy delivery.

Call to Action: Encourages customers to view full plan details, with a link to the utility's rate plan page.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types (gas, electricity, dual fuel, and so on), available data, costs, locale, and other factors. For more information, see the Time of Use 101 description for Home Energy Reports in the Oracle Utilities Opower Energy Efficiency Cloud Service Overview and go to the User Experience Variations section.

Welcome Experience

Heading and Body Text: Varies depending on the report type, whether or not the customer has a dryer, and the number of timelines included in the report.

Timeline Variations: Varies based on the customer's rate plan and the type of days displayed in the sliding scale.

Progress Experience

Timeline Variations: Varies based on the customer's rate plan and the type of days displayed in the sliding scale.

Peak Focused Report

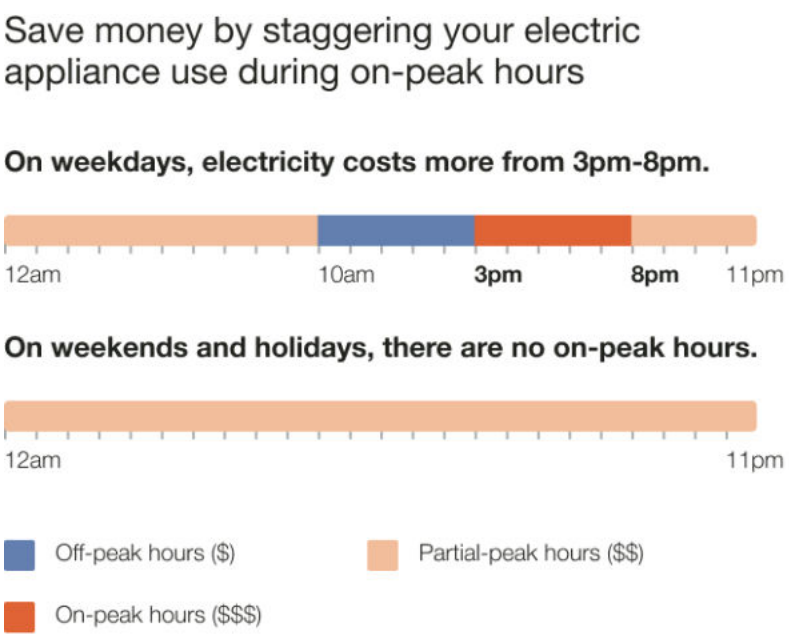
The welcome version of the Time of Use 101 module is included in the Peak Focused Report. The module educates customers about their on-peak use and offers educational insights into why saving energy during peak hours holds particular significance.

Demand Charge

The demand charge version of the module is included in the Peak Focused Report for customers who have a demand charges in addition to their Time of Use rates. The module educates customers about their rate plan's demand charge while emphasizing the critical role of minimizing peak demand to reduce costs. The module provides customers with information such as:

- Demand charges and their impact on overall costs.
- Whether electricity prices differ on weekdays and weekends.
- How much more expensive peak prices are than oï¬€-peak prices.
- The hours during which electricity is most expensive.
- A visual timeline that displays oï¬€-peak, partial-peak, and peak hours.

This image is an example of a progress version of the Time of Use 101 module with demand charges for a customer with a weekly peak and partial peak periods, and no weekend peak periods.



Heading: Informs customers that there are simple steps they can take to save energy during peak hours.

Weekday Subheading and Graph: Displays a dynamic subheading (based on the rate plan) explaining that energy costs are highest during weekday peak hours. The graph highlights the price ratio and relevant peak periods.

- **Weekday Price Ratio**: Compares the highest and lowest weekday rates (dynamic by plan).
- **Weekday Peak Hours**: Shows both the most and least expensive time periods during the week.

Weekend Subheading and Graph: Indicates (based on the rate plan) whether peak pricing applies on weekends.

- **Weekend Price Ratio**: If applicable, compares the highest and lowest weekend rates (dynamic by plan).
- **Weekend Peak Hours**: Shows the most expensive weekend time period (if applicable).

Graph labels: Identify peak, partial-peak, and off-peak periods.

- **High Cost Period**: Highlighted in a warning color; represents the most expensive time (e.g., "On-peak hours ($$$)").

- **Medium Cost Period**: Shown in a warm color; represents mid-range pricing (e.g., "Partial-peak hours ($$)").
- **Low Cost Period**: Shown in a cool color; represents the least expensive time (e.g., "Off-peak hours ($)").

Details Subheading: Introduces why the timing of energy use matters.

Details Body Text: Explains that electricity costs more during peak hours and that customers may incur a demand charge based on their highest hour of on-peak usage each billing period. Encourages reducing use of large appliances during peak hours to avoid higher charges.

Call to Action: Encourages customers to view full plan details, with a link to the utility's rate plan page.

Tip Modules

Tip modules present actionable energy savings tips for customers to follow. They vary by report type as well as available customer and utility data.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	There is no limit on the number of customers per utility.

Customer Requirements

Category	Description
Billing Frequency	Not applicable
Data Delivery Frequency	Not applicable

Category	Description
Data Requirements	To show tips related to customers' appliances or top end uses, the Oracle UtilitiesOpower platform requires disaggregation data. The minimum requirement for disaggregation data is having average energy use data for households in a utility's region. This data is typically obtained from public data sources and is used as a baseline for the Home Energy Analysis survey. Responses to the survey can then be used to determine what appliances customers have, or how customers' energy breaks down into specific categories, so that tips can be more effectively targeted. **Recommended**: The recommended approach is to use Oracle UtilitiesOpower data science models to generate more accurate appliance and disaggregation data. In this case, the data requirements include a combination of billed usage data, daily or subdaily AMI data, and weather data. Your Delivery Team will work with you to understand the specific requirements and help you identify the best approach for your situation.
Data History	Not applicable
Data Coverage	Not applicable
Supported Fuels	Electric-only, gas-only, and dual fuel.

Limitations

- **Promotion Tips**: The Promotion Tips module is only offered as part of the Promotion Report. See Promotion Report for report requirements.

User Experience

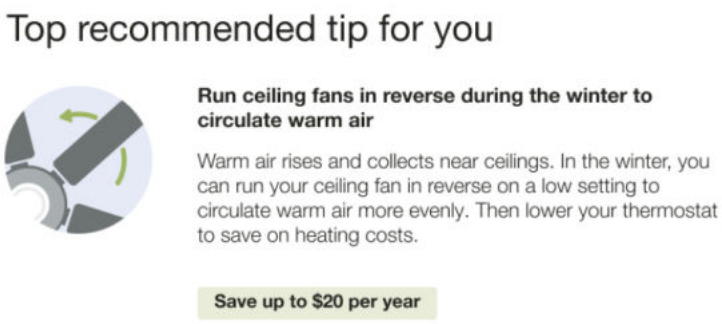
This section describes the user experience for tips in the different report types.

Progress Report Tips

Appears in: Progress Report

The Progress Report includes a single tip module on the back of the report which highlights personalized aspects of the tip experience.

This image shows an example of the progress report tip design.



Heading: Indicates that the tip has been personalized for the customer.

Context: Provides additional information to help the customer understand why the tip was selected. Contexts are typically shown at random, except for the "recent HEA completion" context, which appears immediately after a Home Energy Analysis is completed. Availability depends on the customer's AMI data and whether they have completed the Home Energy Analysis. See Home Energy Analysis.

Tip Title: Emphasizes future savings to motivate customer action.

Image: Includes an illustration that aligns with the tip content.

Tip Body: Provides guidance to help customers save energy.

Savings Estimate: Gives a clear estimate of potential cost savings, reinforcing the value of taking action.

Call to Action: The "Get more savings tips" button directs customers to the web portal for additional energy-saving recommendations.

Promotion Report Tips

Appears in: Promotion Report

The back of the Promotion report includes two tip modules. The tips use disaggregation or Home Energy Analysis data to provide customers with low or no-cost actions.

This image shows an example of the promotion report tip design.

Heading: "More ways you can save right now" builds on the front-of-report message ("X could help you save"). The language is state-agnostic and applies regardless of how categories appear in the customer's disaggregation.

End Use Category 1: Highlights one of the customer's top energy uses (based on the promotion use case).

End Use Category 2: Highlights a second top energy use (based on the promotion use case).

Usage Insight: Pairs each tip with an insight showing the percentage of the customer's total energy use for that category.

Insight Label: Indicates the insight reflects annual usage (all insights are annual).

Tip Title: Emphasizes future savings to motivate customer action.

Tip Body: Provides clear, actionable guidance to help customers reduce energy use.

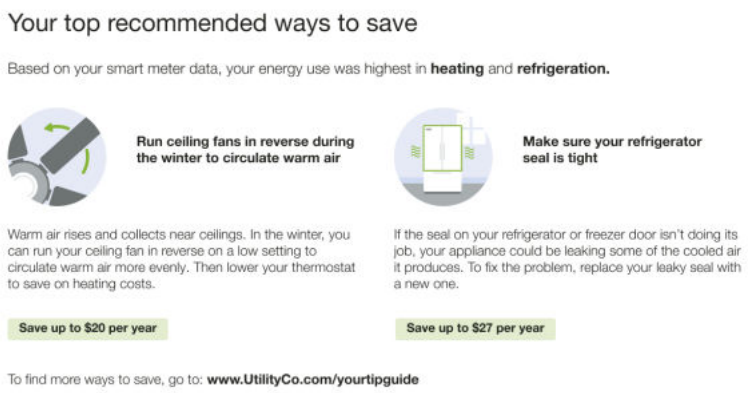
Savings Estimate: Calculates a personalized estimate of potential savings based on the customer's energy usage data..

Welcome Report Tips

Appears in: Welcome and Announcement Report, Time of Use Welcome Report, Limited Income Welcome Report, Solar Welcome Report

The Welcome tip module includes two tips that highlight the personalized aspects of the tip experience.

This image shows an example of the welcome and announcement report tip design.



Header: Indicates that the tips have been personalized for the customer.

Context: Provides additional information to help the customer understand why the tips were selected. Contexts are typically shown at random, except for the "recent HEA completion" context, which appears immediately after a Home Energy Analysis is completed. Availability depends on the customer's AMI data and whether they have completed the Home Energy Analysis. See Home Energy Analysis.

Tip Title: Emphasizes future savings to motivate customer action.

Tip Image: Includes an illustration that aligns with the tip content.

Tip Body: Provides guidance to help customers save energy.

Savings Estimate: Offers a clear estimate of potential cost savings, reinforcing the value of taking action.

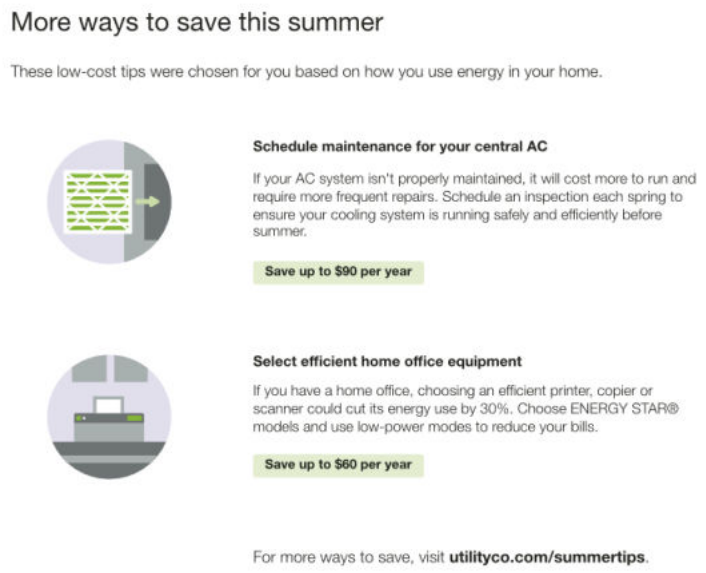
Call to action: Links to the web-based tips experience, encouraging further engagement with additional tools and recommendations.

Seasonal Report Tips

Appears in: Seasonal Report

The Seasonal Report includes two seasonally relevant tips designed to help customers reduce their energy use and encourages them to explore additional energy-saving tips on the web. The first tip focuses on ways to save on cooling during the summer season, while the second highlights savings opportunities for another targeted end use.

This image shows an example of the Seasonal Report tip design.



Header: Indicates that the tips are selected to help the customer reduce summer energy use.

Context: Explains why the tips were selected for the customer.

Tip 1: TA seasonally focused tip to help reduce cooling-related energy use during summer. This tip does not include thermostat adjustments to avoid overlap with the Thermostat Adjustment module.

- **Title**: Seasonally focused to motivate action.
- **Body**: Provides relevant, actionable summer energy-saving guidance.
- **Savings Estimate**: Personalized estimate based on the customer's energy usage.

Tip 2: Targets another area of energy use to help the customer save.

- **Title**: Seasonally focused to motivate action.
- **Body**: Provides relevant, actionable guidance.
- **Savings Estimate**: Personalized estimate based on the customer's energy usage.

Call to Action: Encourages customers to explore more tips online, linking to a seasonal tip guide when available.

Solar Progress Report Tips

Appears in: Solar Report

The Solar Progress Report tip presents a single tip module on the back of the report which highlights personalized aspects of the tip experience .

> **Note**
>
> The welcome version of the Solar Report includes a welcome report tip. See Welcome Report Tips for more information.

The following image is an example of the Solar Tip design for a Solar Progress Report.

Header: Indicates that the tip has been personalized for the customer.

Context: Explains why the tip was selected. Possible solar-related contexts include low-cost, free, great investment, Home Energy Analysis, and recent Home Energy Analysis.

Tip Title: Emphasizes future savings to motivate customer action.

Image: Includes an illustration that aligns with the tip content.

Tip Body: Provides guidance to help customers save energy.

Savings Estimate: Offers a clear estimate of potential cost savings, reinforcing the value of taking action.

Time of Use Report Tips

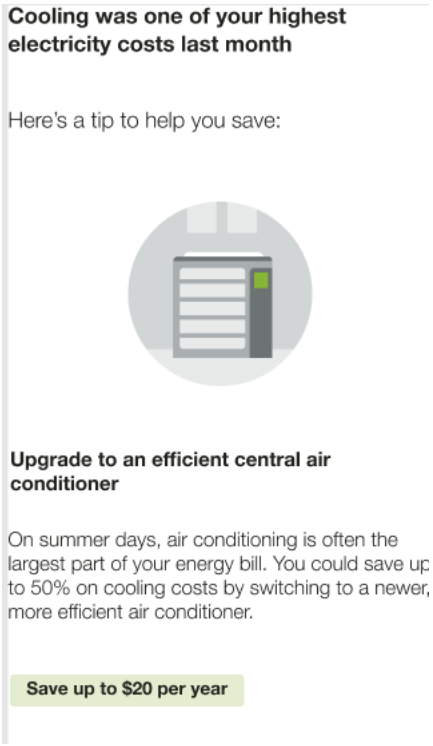
The Time of Use Report includes three rotating tip modules that highlight personalized aspects of the tip experience that can help customers on time of use plans save energy and money.

Disaggregation Tip Module

Appears in: Time of Use Report

The Disaggregation and Tip module highlights the customer's highest electricity end-use category and provides a single tip related to that end-use. The tip shown is determined by the customer's top energy use category.

The following image is an example of the Disaggregation tip for a cooling top category.



Headline: Highlights the cost category where the customer spent the most in the previous month. Updates dynamically based on their highest electricity use.

Tip Lead-in: Introduces how the customer can save energy and reduce future bills.

Illustration: Supports the tip with a relevant visual.

Tip: Selected based on the customer's top energy use category.

Tip Savings Estimate: Provides a personalized estimate of potential savings using the customer's energy data and Tip Manager insights.

Large Appliance Tip Module

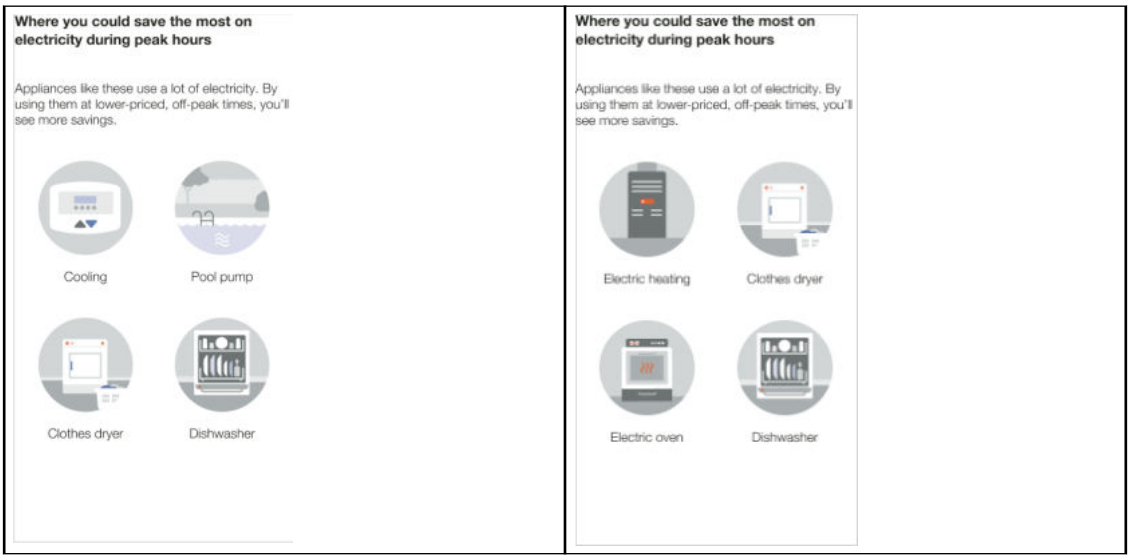
Appears in: Time of Use Report

The Large Appliance Tip module highlights four appliances that typically consume significant electricity and provides a link where customers can learn more about saving energy. It is designed to educate customers on time-of-use rate plans about which appliances to avoid using during peak hours, when electricity demand and costs are highest. The module has two season-specific states:

- **Hot weather**: Covers the spring and summer seasons.
- **Cold weather**: Covers the fall and winter seasons.

These images are examples of the Large Appliance Tip design for the hot and cold weather seasons.

Hot Weather	Cold Weather



Heading: Prepares the customer to learn where they can save the most electricity during peak hours.

Body Text: Reinforces that customers can save the most energy and money by using the featured appliances during off-peak hours.

Appliance Images: Displays four seasonally relevant appliances that customers should avoid using during peak hours.

Two Tip Module

Appears in: Time of Use Report

The Two Tip module presents customers with both a peak-savings tip and an anytime-savings tip. The peak-savings tip is clearly labeled to indicate when the customer should act, while the anytime tip offers general energy-efficiency guidance and may apply to any end-use category.

This image is an example of the Two Tip design.

Heading: Indicates that the tips are selected to help the customer save energy during both peak and off-peak hours.

Tip Titles: The first tip focuses on peak usage and is selected from available peak-specific tips. The second tip follows standard targeting logic to present a general savings tip relevant to the customer's household.

Illustration: Displays a visual from the tip illustration library that complements each tip.

Body: Uses existing copy from Tip Manager, tailored to the selected tips.

Cost Category: Shown in a green highlight below the illustration to convey the financial impact (for example, free, smart purchase, great investment).

Paired Tips

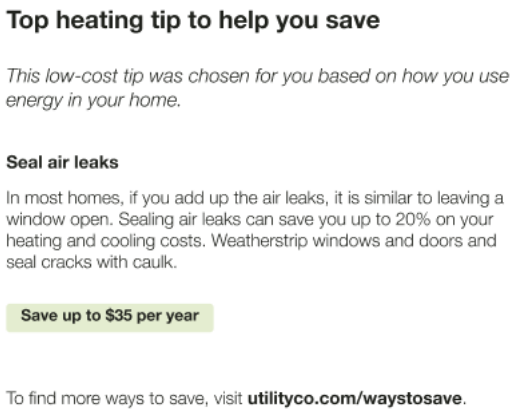
Appears in: Limited Income Report, Electric Vehicle Report

The Paired Tips module use disaggregation data and/or Home Energy Analysis data to provide customers with a tip related to the energy use highlighted in the What Uses Most module.

> **Note**

Paired tips must be combined with the What Uses Most module.

This image is an example of an air leak tip selected to pair with a top energy use highlighted in the What Uses Most module.



Heading: Indicates that the tip has been personalized for the customer.

Tip Title: Emphasizes future savings to motivate action and aligns with the customer's highlighted energy use in the What Uses Most module.

Tip Body:Provides guidance to help customers save energy.

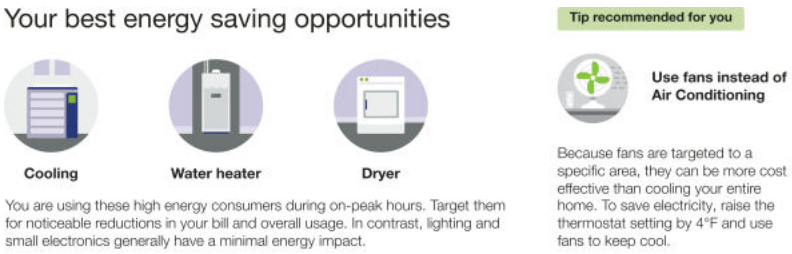
Savings Estimate: Offers a clear estimate of potential cost savings, reinforcing the value of taking action.

Call to Action: Directs customers to the web portal, where they can explore additional energy-saving tips.

Energy Literacy and Tip

Appears in: Peak Focused Report

The Energy Literacy and Tip module educates customers about why they are consuming energy during the high cost peak period, and provides guidance on what they can do to make a difference in their energy consumption. The module includes a list of two or three appliance categories that were detected during the high cost period, and a tip related to one of the categories that the customer can use to help reduce their energy consumption.



Heading: Invites customers to explore their best opportunities to save energy.

Disaggregation: Shows which appliance categories consume the most energy during peak hours.

- **Category images and label**: Displays labeled illustrations of the top three appliances used during the highest-cost period, ordered from highest to lowest energy consumption. Categories may include heating, cooling, dishwasher, dryer, electric vehicle, oven, pool pump, refrigerator, and water heater.

- **Disaggregation education**: Explains that these categories are highlighted because they are heavily used during peak hours, and reducing their usage can lead to noticeable bill savings.

Tip: Provides a specific action the customer can take to reduce energy use, tied directly to one of the highlighted categories (e.g., using fans instead of air conditioning when cooling is a top driver).

- **Tip label**:Draws attention to the recommended action.
- **Tip title**: Clearly states the suggested change.
- **Tip body**: Explains the benefit and provides clear, actionable guidance.

User Experience Variations

AMI and Appliance Detection and Disaggregation

If AMI, appliance detection, and disaggregation data are available, the tip is tailored to the customer's highest energy-use category. For example, if heating is the largest contributor to energy use, the tip will focus on heating.

Completed Home Energy Analysis

If the customer has previously completed a Home Energy Analysis and survey data is available, the tip copy notes that the recommendations are personalized based on their survey results.

Promotion Report Tip User Experience Variations

Promotional Report Tip - Utility Selects One End Use

Tips are displayed for the top two end uses (excluding the promotion end use).

Promotional Report Tip - Utility Selects Heating and Cooling Combined

Tips provide free and low-cost ways to save for heating and cooling as an alternative to the promotion on the front, which is likely a larger investment.

Seasonal Report Tips

Seasonal Report Tip - Winter Seasonal Report Tips

The Winter Seasonal Report tips are focused on actions that the customer can take to save energy and reduce their heating costs.

Seasonal Report Tip - No Savings

If there is not sufficient data to generate personalized savings estimates, the savings estimates do not appear in the tips module.

Seasonal Report Tip - Context

The tip context underneath the header has two states:

- **No Information**: The no information context is the most common user experience. The context informs the customer that the presented tips are low-cost. "These low-cost tips were chosen for you based on how you use energy in your home."
- **Recent Home Energy Analysis Completion**: The context informs the customer that the tips were selected based on the information that the customer provided in their recently.

Solar Report Tips

Solar Welcome Report Tip - Completed Home Energy Analysis

If the customer has completed their Home Energy Analysis, the tip context indicates that the tips are personalized based on the results of the customer's survey.

Time of Use Report Tips

Time of Use Report Large Appliance Tip - Seasonal Variations

- **Cold weather**: Combines the fall and winter seasons. By default, includes Heating (furnace), clothes dryer, oven, and dishwasher.
- **Hot weather**: Combines the spring and summer seasons. By default, includes Cooling (thermostat), pool pump, clothes dryer, and dishwasher.

Energy Literacy and Tip

Two Appliances Detected

If two appliances are detected in use during the highest cost period, they are ordered by the highest energy consumers.

Electric Vehicle Detected

If an electric vehicle is detected as one of the two or three highest energy consumers during the highest cost period it is included in the list of appliances.

Monthly Fallback

If on-peak data is not available, the module includes a list of the customer's top energy uses for the billing period. The disaggregation education text does not mention on-peak hours.

Time of Day Hourly Insight

The Time of Day Hourly Insight provides customers with a detailed view of when they use electricity and how their usage compares to a similar group. The module shows average weekday hourly consumption, highlights peak (highest-cost) and off-peak periods, and identifies the peak-hour window when the customer uses the most energy. It also includes a URL directing customers to learn more about their Time of Day rate plan.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.

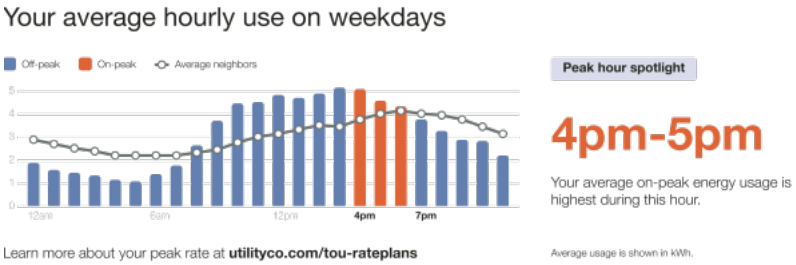
Category	Description
Data Requirements	• Hourly AMI usage data. • Hourly AMI usage data from similar homes. • Time of Use rate plan information identifying on-peak and off-peak time periods.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electric-only.

Limitations

- **Peak Focused Report**: This modules is only available as part of the Peak Focused Report.
- **Time of Use Rate Plan**: This module is only available to customers on Time of Use rate plans.
- **No Rate Data**: The no rate data variation of the module may be included in other report types.

User Experience

This section describes the user experience for a customer with two peak periods.



Heading: Highlights the customer's average weekday energy use by hour.

Time of Day Graph: Helps identify opportunities to save by showing average weekday usage, with emphasis on high-cost peak hours.

- **Cost Period Labels**: Provides a key to the graph elements. For example, "Off-peak," "On-peak," and "Average neighbors."
- **Hourly Bar Graph**: Displays the customer's hourly usage across off-peak and on-peak periods. Peak hours are highlighted to match the high-consumption time period.
- **Comparison Group Usage Line**: Shows the average hourly usage of a similar customer group. In "fair" states, this reflects average neighbor data.
- **Cost Period Start Times**: Mark the hourly intervals along the graph.
- **Learn More**: Encourages customers to explore peak rates further, with a link to additional information.

Insight Heading: Reinforces the focus on peak-hour energy use.

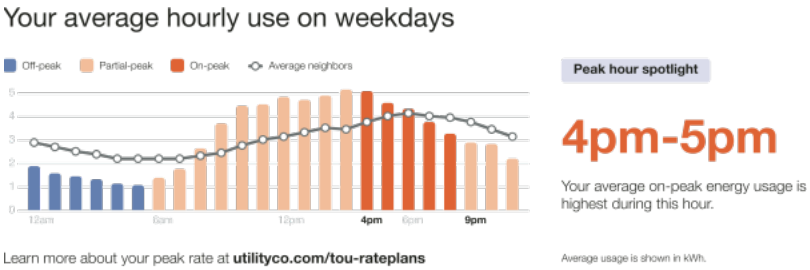
- **Highest Consumption Time Period**: Identifies when the customer's average on-peak usage is highest (dynamic by rate plan).

- **Insight Description**: Explains that this period represents the customer's highest average on-peak energy use.
- **Usage Measurement**: Specifies the units used in the graph.

User Experience Variations

Three Peak Periods

If there are three peak periods, three peak distinct periods appear in the graph and are identified in the cost period labels.



Hourly Bar Graph: Displays the customer's energy use across high ("on-peak"), medium ("partial-peak"), and low ("off-peak") cost periods. Colors are used to clearly distinguish each cost tier and draw attention to pricing differences.

- **High Cost Period**: Shown in a warning color to indicate the most expensive time range (dynamic by rate plan).
- **Medium Cost Period**: Shown in a warm color to represent mid-range pricing (dynamic by rate plan).
- **Low Cost Period**: Shown in a cool color to represent the least expensive time range (dynamic by rate plan).

Cost period labels: Provide a legend that identifies each cost tier and its corresponding color.

Comparison Group Usage Line Data

The data used for the comparison line on the chart varies based on the customer's usage state:

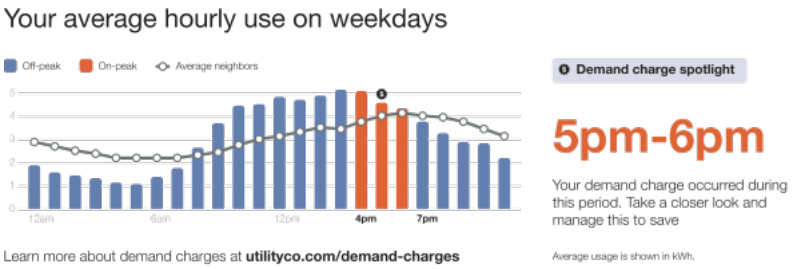
- **Fair**: Uses average neighbor data.
- **Good or Great**: Uses data from efficient homes.

The module varies in the following ways:

- **Comparison Group Usage Line**: Shows the comparison group's average hourly usage. For customers in a good or great usage state, the line is displayed in green.
- **Cost Period Labels**: Indicate the source of the comparison data:

- **Good or great**: "Efficient neighbors"
- **Fair**: "Average neighbors"

Demand Charge



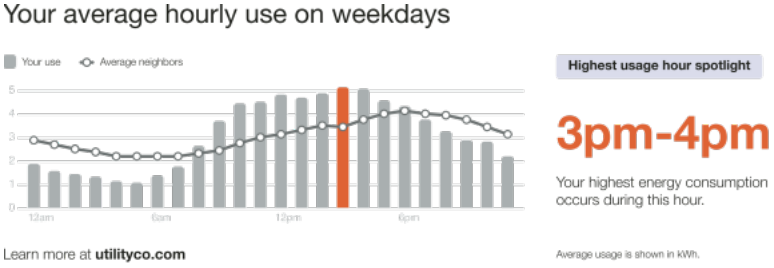
If the customer has demand charges, module varies in the following ways:

- **Demand Charge Icon**: A dollar icon appears at the hour of maximum on-peak usage within the billing period. The chart reflects average hourly usage across the billing period.
- **Insight Heading**: Emphasizes the focus on demand charge usage.
- **Highest Consumption Time Period** Identifies when the demand charge occurred during the billing period (dynamic by rate plan).
- **Insight Description**: Explains when the demand charge occurred and encourages the customer to learn how to reduce it.
- **Learn More Link**:Directs customers to the web portal for more information about demand charges.

No Rate Data

When there is no available rate data, or if the module is used in another report besides the Peak Focused Report, the module shows an hourly normative comparison and emphasizes the highest average usage hour.

> **Note**
>
> The no rate version of the Time of Day Hourly Insight module may be included in other report types for utilities that meet additional data requirements.



The module varies in the following ways:

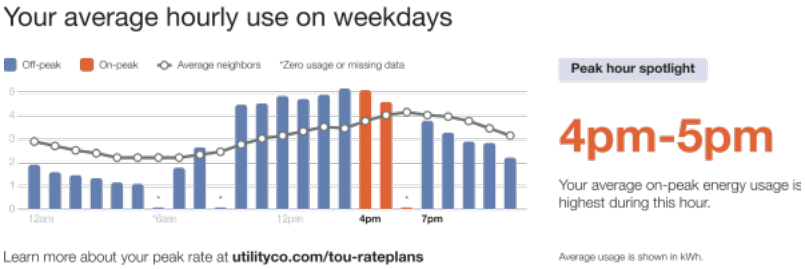
Time of Day Graph: Highlights the customer's average weekday energy use, helping identify opportunities to save. Peak hours are not shown.

- **Cost Period Labels**: Provides a simplified legend, including only "Your use" and "Average neighbors."

- **Hourly Bar Graph**: Displays the customer's hourly usage, with the highest-use hour highlighted to match the High Consumption Time Period. The x-axis defaults to 12am, 6am, 12pm, and 6pm.
- **Comparison Group Usage Line**: Shows the comparison group's average hourly usage, with data varying based on the customer's usage state.
- **Highest Consumption Time Period**: Identifies when the customer's energy use is highest (dynamic by rate plan).

Missing or No Data

If data is missing or unavailable, the module highlights the time periods where data is incomplete. The following image shows an example of the Time of Day Hourly Insight module for a demand charge customer with missing data.



The module varies in the following ways:

- **Asterisk**: Appears above the time periods with no data.
- **Cost Period Labels**: Include a label explaining the asterisk as "Zero usage or missing data."

Utility Info

The Utility Info module appears at the bottom of the back page of the Home Energy Report. The module contains sections for utility contact information, legal disclaimers, and additional resources.

Appears in: All Report Types.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Less than 100,000 per week

Customer Requirements

Category	Description
Billing Frequency	Not applicable.
Data Delivery Frequency	Not applicable.
Data Requirements	Not applicable.
Data History	Not applicable.

Category	Description
Data Coverage	Not applicable.
Supported Fuels	Not applicable.

Limitations

- **Save More Text**: The Save More Text element is required for postal compliance

User Experience

This section describes the Utility Info module user experience across all report types.

We're Here to Help: Provides utility customer service contact information, such as phone number, email, or website.

Save More Text: Includes a website address related to the Home Energy Report program.

Legalese: Contains utility legal disclaimers.

Logo: The utility logo appears in the lower-right corner of the report's back page within the Utility Info module and in the top-left corner of the report's front page.

What Uses Most

The What Uses Most module helps customers understand the top three energy uses in their home during the report period. One of these categories is highlighted at the top of the module.

A category is highlighted if it meets one of the following criteria:

- It is the customer's highest energy use.
- It is the customer's second-highest energy use.
- Its energy use is significantly above the regional average.

The highlighted category heading varies based on the scenario (highest use, second-highest use, or most above regional average) and is paired with a relevant energy-saving tip.

Appears in: Limited Income Report, Electric Vehicle Report

> **Note**
>
> While this module was designed for the limited income and electric vehicle customer experiences, it can be used for other audience segments as well. Contact your Delivery Team to discuss module options.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

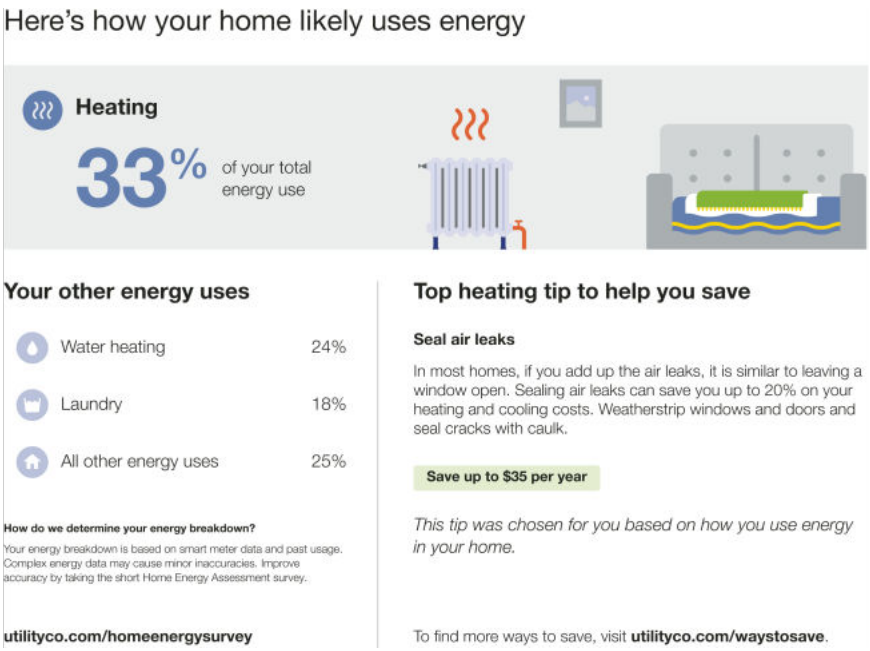
Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Not applicable.
Data Requirements	• **Minimum**: Weather data and at least six historical bills. • **AMI Requirements**: There are additional AMI data requirements to show advanced insights such as an appliance-level breakdown. Generally speaking, this requires about a years' worth of AMI data at hourly or sub-hourly resolutions.
Data History	• A minimum of six bills is required for Non-AMI customers. • A minimum of 60 days of AMI reads for AMI customers.
Data Coverage	Not applicable.
Supported Fuels	• **Limited Income Report**: Electric-only, gas-only, dual fuel. • **Electric Vehicle Report**: Electric-only, dual fuel.

Limitations

Report Type: This module is available for the Limited Income Report, and Electric Vehicle Reportby default, but may be included in other report experiences. Contact your Delivery Team for more information.

What Uses Most User Experience

This section describes the user experience for the What Uses Most module for a customer with heating as the highest energy use in the billing period.



Heading: Indicates the energy-use level of the highlighted category and notes that values are estimates.

Highlighted Usage Category: Displays the customer's top energy-use category and its percentage of total usage, identified through algorithmic analysis. This appears in a gray box at the top of the module..

Other Usage Categories: Lists the next two highest energy-use categories with their corresponding percentages, ordered from highest to lowest. A final category, "All other energy uses," represents the remaining consumption and is shown with a home icon.

- **Disaggregation explainer**: Clarifies that the categories are based on data model estimates and encourages customers to improve accuracy by completing the Home Energy Analysis. Includes a link to update their survey.

Paired Tip: Provides a relevant energy-saving tip tied to the highlighted category. Tips are tailored based on available data (e.g., Home Energy Analysis responses) to ensure relevance to the customer's home and equipment. See Paired Tips.

Call to Action: Directs customers to the Home Energy Analysis to provide more details and improve report accuracy.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types (gas, electricity, dual fuel, and so on), available data, costs, locale, and other factors. For more information, see the What Uses Most description for Home Energy Reports in the Oracle Utilities Opower Energy Efficiency Cloud Service Product Overview and go to the User Experience Variations section.

Highlighted Usage Category

The usage category highlighted in the module heading varies by highlighted category type and module state (highest energy use, second highest energy use, most above regional average). The following table includes an example of the possible heading variations for heating as the highlighted category.

Highlighted category	Module State - Highest energy use	Module State - Second highest energy use	Module State - Most above regional average
Heating	Here's how your home likely uses energy	Heating was one of your highest energy uses this period	**Your heating use was likely above the regional average**

Electric Vehicle Report

The What Uses Most module for the Electric Vehicle Report includes electric vehicle charging as one of the possible energy uses. If Electric Vehicle Charging is the customer's top energy category, a green leaf icon appears next to the top use category heading with a encouraging "smart, green choice" message below. The message is designed to positively reinforce the customer's decision, and ensure that they feel good about their environmentally friendly choices even when it may take up a significant portion of their energy use.

Heat Pump Usage

If the customer has indicated in the Home Energy Analysis that they use a heat pump for heating or cooling, the module varies as follows:

Top Use Category: If a heat pump is the customer's highest energy-use category, it is labeled as "Heat Pump." A green leaf icon appears next to the heading, along with a supportive "smart, green choice" message. This reinforces the customer's environmentally friendly decision, even if it represents a significant portion of their energy use.

Usage category: If heating or cooling with a heat pump appears among the listed categories, it is labeled as "Heat Pump" and displayed with a corresponding heat pump icon.

Calculations

Energy Use Categories

The energy-use category calculation varies based on data availability:

No Smart Meter or Limited Data: If a smart meter is unavailable or data is unreliable, categories are estimated using a combination of weather data, historical usage patterns, and Home Energy Analysis survey responses. These inputs allow data science models to approximate how energy is used across categories or appliances, helping identify opportunities to save.

Smart meter available: When smart meter data is available, it is used to analyze energy usage patterns throughout the day. Data science models detect patterns associated with specific appliances. For example, a refrigerator cycling on and off every 15–20 minutes. By identifying these patterns across common appliances, the models estimate per-appliance energy use and provide a breakdown to help customers understand where to focus their energy-saving efforts.

Delivery

Delivery refers to how Oracle Utilities sends Home Energy Reports to customers. The delivery information in this section is only applicable if the utility purchases an Oracle Utilities channel fee that includes printing or mailing of Home Energy Reports. See Oracle Utilities Opower *Channel Fees Guide* for more information.

Delivery Cadence

If the utility purchases the appropriate channel fee, Oracle Utilities and the utility mutually agree upon a report frequency for Home Energy Reports. Customers cannot adjust their own frequency, and utilities cannot adjust the frequency for individual customers.

Reports are generated using data from the latest utility bill for each report recipient. This means that the point at which the customer receives the report is dependent on the customer's individual billing dates. When customers receive a new bill and enough time has elapsed since the last report was generated, they become eligible to receive another report.

Delivery Options

It is possible to vary the frequency of reports for groups of customers over time. For example, customers with monthly billing data could be set up to receive a report every month for the first three months of the program, and then shift to bi-monthly reports thereafter.

Reports are sent only to customers who use a minimum amount of energy. This minimum energy use threshold is optimized for each Home Energy Report program.

For more information about the delivery cadence and delivery options for your program, contact your Delivery Team.

Providing Customer Support

Customer Service Representatives can perform common support tasks in the Oracle Utilities Opower Customer Service Interface:

This section gives instructions on how to carry out common customer service tasks using the Oracle Utilities Opower Customer Service Interface. The Customer Service Interface 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. Some of the most common support tasks related to Home Energy Reports include:

- Find and opening a customer's account
- Access a customer's web portal account
- View sent Home Energy Reports
- Manage a customer's report preferences
- Update information about a customer's home

Note: This guide assumes that you know how to sign in to the Customer Service Interface and open a customer's account. If you need instructions on how to perform these and other tasks in the CSI, see the Oracle Utilities Opower Customer Service Interface User Guide.

See the Oracle Utilities Opower Customer Service Interface - Program Management Product Overview for details.

Enrollment

Home Energy Reports are an opt-out program. In an opt-out program, customers are automatically enrolled in reports as long as they meet the eligibility criteria. Customers can unsubscribe from the reports later at any time.

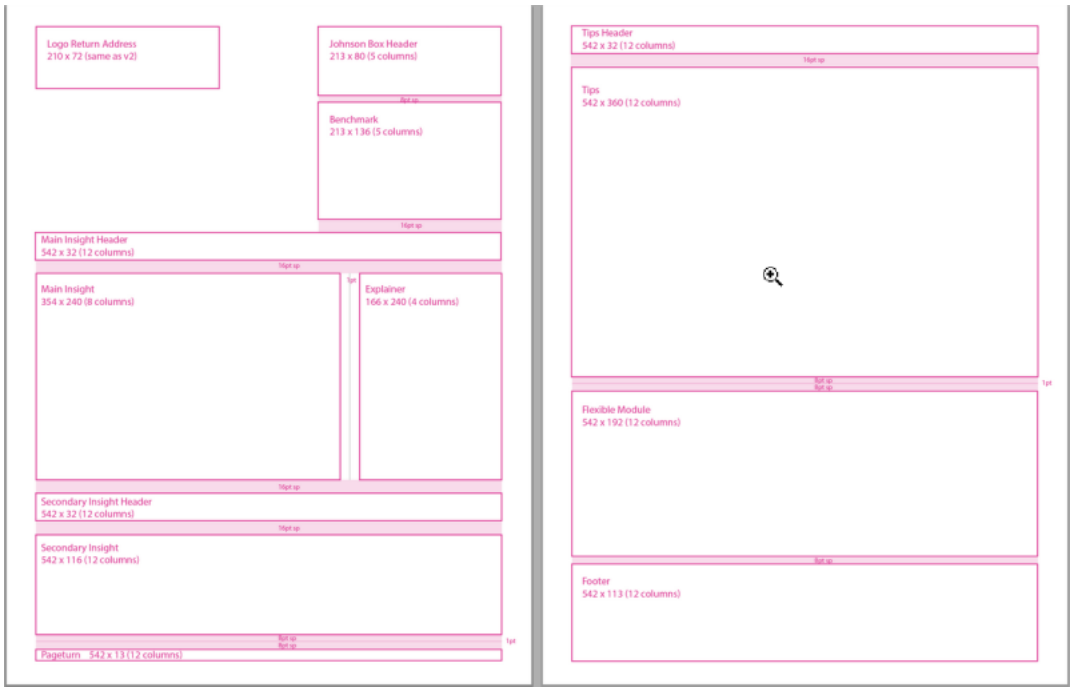
Report Layouts

Home Energy Reports include multiple report types with varying layouts and modules throughout the year, creating a dynamic and engaging customer experience. Each report type is designed to tell a cohesive story, helping customers better understand their energy use over time. Some modules appear across all report types, while others are specific to certain versions.

All report layouts are designed for standard U.S. letter size (8.5 x 11 inches, or 612 × 792 points).

Report Layout Example

Report layouts may differ by report type. The example below is for the Progress Report type and includes module placement and sizing information.



3

Email Home Energy Reports

Email Home Energy Reports are communications delivered via email to engage utility customers in understanding their home energy use. These reports offer a modern experience with bold visuals, varied layouts, and data-driven insights tailored to individual customer attributes. They include enhanced features such as the Energy Use Benchmark performance summary, disaggregation-based insights, and personalized tips focused on the customer's primary energy end-use categories.

Requirements and Limitations

The following data requirements and limitations apply to all utilities and customers in the Email Home Energy Reports program. These requirements must be met for a utility and a customer to participate in the program.

Utility Requirements and Limitations

- **Scale**: Scale restrictions may apply. The actual number of communications sent may be affected by attrition, opt-outs, customer eligibility, and data availability.
- **Localization**: Not all languages and locales are supported at this time. Contact your Oracle Utilities Sales Representative to confirm that Email Home Energy Reports are available in your market.
- **Data Integration**: Data must be sent to Oracle Utilities in the correct schema and at the appropriate frequency. See the Oracle Utilities Opower Legacy Billing Data Transfer Standards for details.
- **Billing Frequency**: The utility must bill their customers on a monthly, bi-monthly, or quarterly basis.

Customer Requirements and Limitations

- **Customer Type**: The customer must be residential.
- **Data History**: The customer must have at least one bill of historical billing data in the form of monthly, bi-monthly or quarterly read data.
- **Contact Information**: The customer's current email address must be available.
- **Supported Devices**: Oracle Utilities supports email clients that may be native to a specific device, such as the installed email client on the iPhone 6, as well as email client applications that may be accessed from any device or computer. Oracle Utilities supports and optimizes for the following email clients to view Email Home Energy Reports:
  - iPhone internal email client (iOS 10.0 and greater)
  - iPad internal email client (iOS 10.0 and greater)
  - Apple Mail (Mac OS X 10.10 and greater)
  - Android internal email client
  - Microsoft Outlook (2010 and greater)

- Outlook.com
- Yahoo! Mail
- Gmail.com
- Samsung Mail

For email clients that support multiple versions operating at the same time (for example, Apple iOS10 on iPhone5 or Microsoft Outlook 2010, 2012, and 2013), Oracle Utilities generally supports the most current major release as well as a number of previous major releases. For email clients that only provide a single version (for example, Gmail.com), Oracle Utilities supports the currently available version. Other email clients are not officially supported or tested by Oracle Utilities. Customers viewing Email Home Energy Reports on unsupported devices or applications may see user experience variations in their reports.

Customer Experience Overview

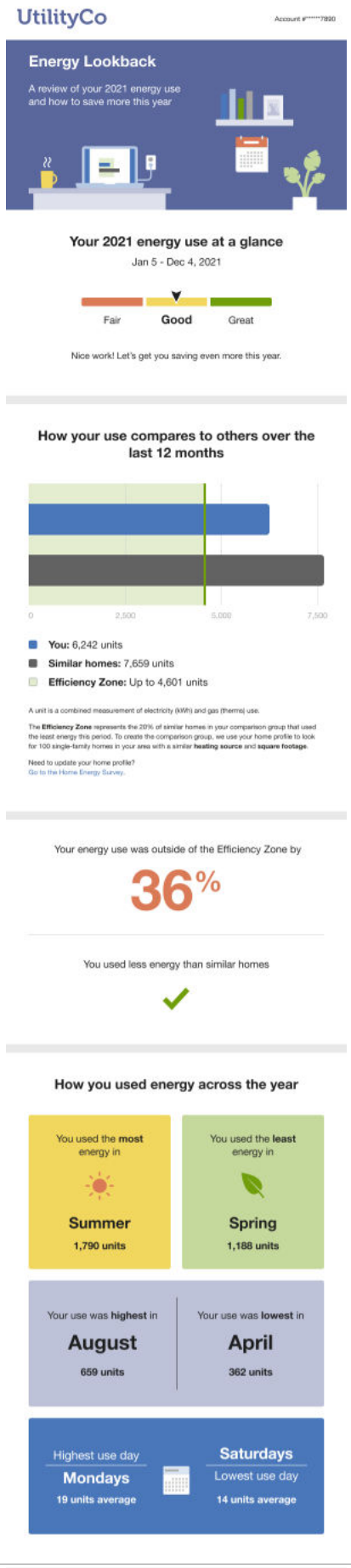
Email Home Energy Reports are communications sent through the email channel to engage utility customers about their home energy use. The reports provide a new, modernized experience with bold colors, a varied layout, and data-driven insights targeted to specific customer attributes.

Report Types

Email Home Energy Reports implement several report types with different layouts and modules that vary throughout the year to provide customers with a dynamic experience. The report types are designed to construct a story for the customer to follow as they learn about their energy use. Some report modules are common to all report types, while others only appear in a specific report type.

Annual Report

The Annual Report helps customers understand their energy use over the previous calendar year and highlights the most impactful actions they can take to save energy and money in the year ahead. It also includes a community message, reinforcing that individual efforts contribute to a larger collective impact.



See Report Modules for more information about how the experience varies by module.

Annual Report eHER Modules

Email Home Energy Report is built with predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details on the user experience.

The Annual Report includes the following modules:

- Subject Line
- Header
- Energy Use Benchmark
- Three-Bar Neighbor Comparison or Efficiency Zone
- Annual Secondary Insight
- Lookback Tips
- Marketing Modules
- Footer

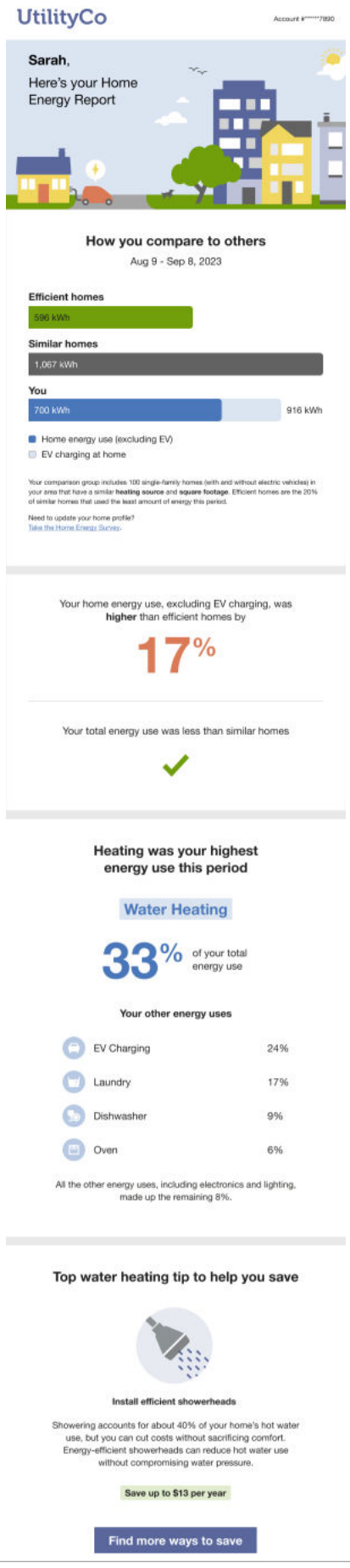
Electric Vehicle Report

The Electric Vehicle Report is tailored for customers with electric vehicles, addressing their unique energy needs and the impact of EV charging on overall usage. It provides specialized insights and explanations relevant to EV ownership and encourages customers to enhance their report accuracy by completing the Home Energy Survey.

User Experience

This section describes the Electric Vehicle Report. The report is built with a predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals.

This image is an example of the Electric Vehicle Report user experience for an electric-only fuel customer. Go to the individual module page for more details about the user experience.



Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	No limitations.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Daily, monthly, bi-monthly, or quarterly. See module-specific requirements.
Data Requirements	• Hourly AMI data and insights. • Electric vehicle confirmation. Contact your Delivery Team for more information.
Data History	See module-specific requirements.
Data Coverage	See module-specific requirements.
Supported Fuels	Electric-only and dual fuel.

Limitations

- **Electric Vehicle Disaggregation Data**: There are additional data requirements to show advanced insights such as Electric Vehicle disaggregation. Contact your Delivery Team for more information.
- **Efficiency Zone**: The Efficiency Zone is not available for this report type.

Report Modules

Email Home Energy Report is built with predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details on the user experience.

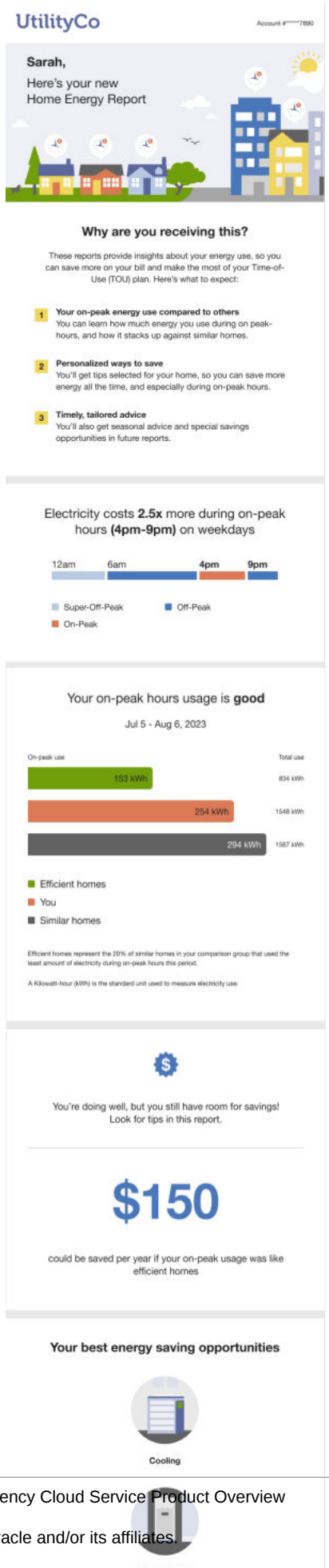
The Electric Vehicle Report includes the following modules:

- Subject Line
- Header
- Three-Bar Neighbor Comparison
- What Uses Most
- Paired Tips
- Marketing Modules
- Footer

Peak Focused Report

The Peak Focused Report helps customers understand their electricity usage, with an emphasis on peak periods under their Time of Use rate plan. It includes a range of modules designed to increase awareness of energy costs and encourage behavior changes during high-cost peak hours. There are two types of Peak Focused Email Home Energy Reports:

Peak Focused Welcome Report: The welcome version of the report introduces both new and existing customers to the peak-focused experience. As the first report sent, it emphasizes peak energy use and is designed to encourage positive behavior changes, provide actionable tools and insights, improve customer satisfaction, and drive energy savings.



Peak Focused Progress Report: The progress version of the report provides insights into the customer's electricity usage, with a focus on peak periods under their Time of Use rate plan. It is designed to encourage more energy-efficient behaviors and increase awareness of electricity costs.

Report Modules

Email Home Energy Report is built using a predefined mix of dynamic and static modules, designed to deliver a personalized story about each customer's energy use. The experience evolves over time, offering new insights based on customer attributes and utility goals. For more details, refer to the individual module pages.

Peak Focused Welcome Report

The Peak Focused Welcome Report includes the following modules:

- Subject Line
- Header
- Welcome
- Mini Time of Use Reminder
- Peak Focused Normative Comparison
- Energy Literacy and Tip
- Customer Feedback
- Footer

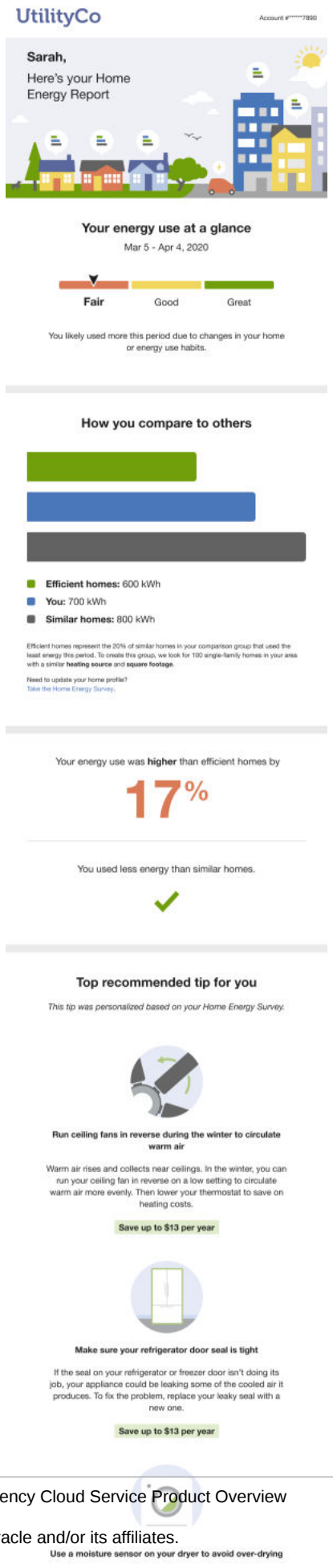
Peak Focused Progress Report

The Peak Focused Progress Report includes the following modules:

- Subject Line
- Header
- Mini Time of Use Reminder
- Peak Focused Normative Comparison
- Time of Day Hourly Insight
- Energy Literacy and Tip
- Customer Feedback
- Footer

Progress Report

The Progress Report uses insights and targeted energy-saving tips to encourage customers to maintain or improve their energy efficiency. Its design incorporates behavioral science principles such as normative comparison, curiosity, and anchoring to keep customers engaged over time. Features like the Energy Use Benchmark, neighbor comparisons, context-aware tips, and promotional modules all work together to support energy savings.



Report Modules

Email Home Energy Report is built with predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details on the user experience.

The Progress Report includes the following modules:

- Subject Line
- Header
- Energy Use Benchmark
- Three-Bar Neighbor Comparison or Efficiency Zone
- Progress Report Tips
- Mini Home Energy Analysis
- Customer Feedback
- Footer

Promotion Report

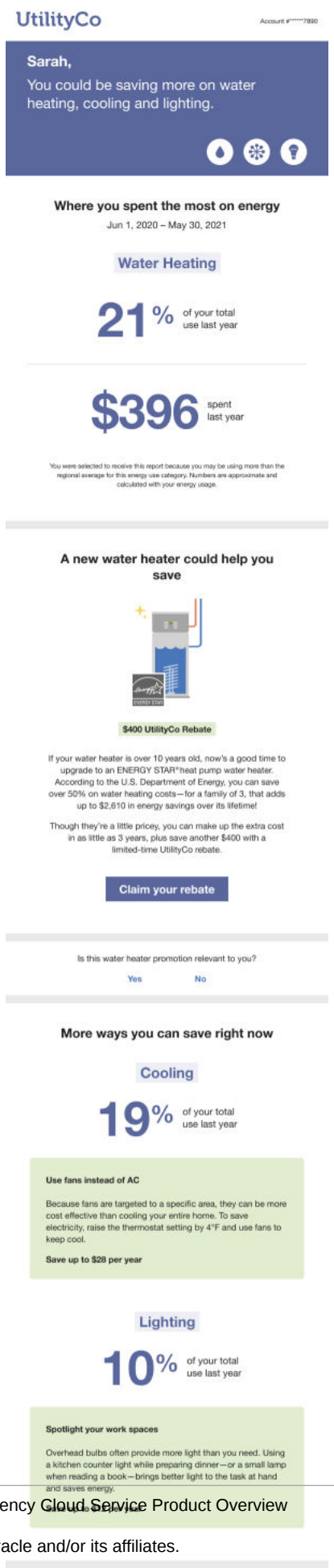
The Promotion Report type is built with a predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use, and to promote specific offerings and tips for them to act upon. Go to the individual module page for more details about the user experience.

The Promotion Report includes the following modules:

- Subject Line
- Header
- Disaggregation Main Insight
- Promotion Report Tips
- Promotion Module
- Customer Feedback
- Marketing Modules
- Footer

Report Modules

The Promotion Report provides personalized insights into specific energy uses within the customer's home to encourage participation in utility-offered promotions. It leverages Oracle Utilities Opower disaggregation capabilities to support the adoption of more efficient devices, appliances, and home upgrades.



UtilityCo

Account #******7890

Sarah,

You could be saving more on water heating, cooling and lighting.

Where you spent the most on energy

Jun 1, 2020 – May 30, 2021

Water Heating

21% of your total use last year

$396 spent last year

You were selected to receive this report because you may be using more than the regional average for this energy use category. Numbers are approximate and calculated with your energy usage.

A new water heater could help you save

$400 UtilityCo Rebate

If your water heater is over 10 years old, now's a good time to upgrade to an ENERGY STAR® heat pump water heater. According to the U.S. Department of Energy, you can save over 50% on water heating costs—for a family of 3, that adds up to $2,610 in energy savings over its lifetime!

Though they're a little pricey, you can make up the extra cost in as little as 3 years, plus save another $400 with a limited-time UtilityCo rebate.

Claim your rebate

Is this water heater promotion relevant to you?

Yes No

More ways you can save right now

Cooling

19% of your total use last year

Use fans instead of AC

Because fans are targeted to a specific area, they can be more cost effective than cooling your entire home. To save electricity, raise the thermostat setting by 4°F and use fans to keep cool.

Save up to $28 per year

Lighting

10% of your total use last year

Spotlight your work spaces

Overhead bulbs often provide more light than you need. Using a kitchen counter light while preparing dinner—or a small lamp when reading a book—brings better light to the task at hand and saves energy.

The report experience is determined by the promotion type selected by the utility. Oracle Utilities Opower works with utilities to choose the most appropriate promotion based on available disaggregation insights. Possible report variations include:

Customer's Top End Use Category: Highlights the customer's largest energy-use category.

Utility Preferred Category: Highlights a category selected by the utility, which may not be the customer's largest energy use.

Heating and Cooling Combined - Top Use: Combines heating and cooling as the main focus, representing the customer's largest energy uses over the past year.

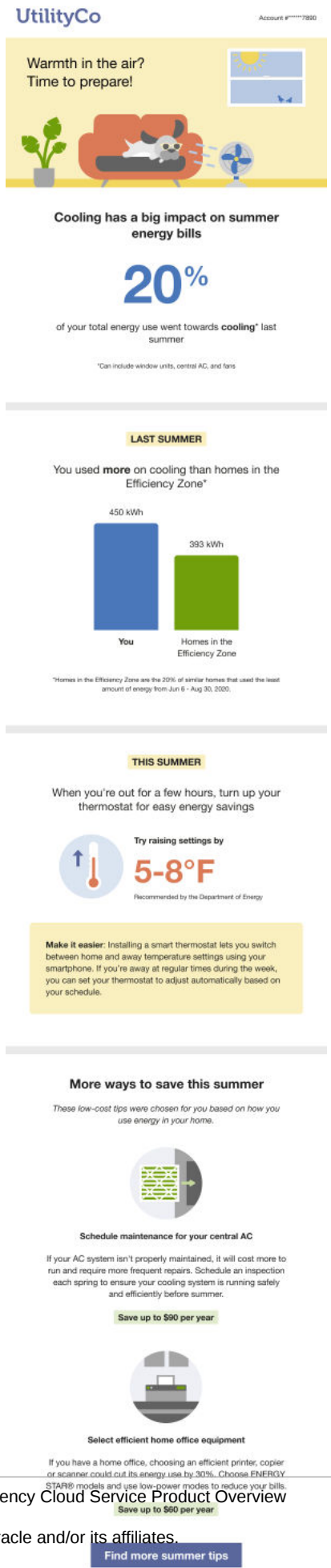
Heating and Cooling Combined – Utility Preferred: Combines heating and cooling as the main focus, even if they are not the customer's largest energy uses.

Seasonal Report

The Seasonal Report is designed to motivate customers to reduce energy use in the lead-up to extreme weather seasons, such as summer and winter. Sent before each season begins, it helps customers prepare and plan ahead. The report includes targeted tips and actions to lower heating or cooling usage, along with a recommended thermostat adjustment specific to the season. See the Seasonal Report Modules for more information about how the experience varies by module.

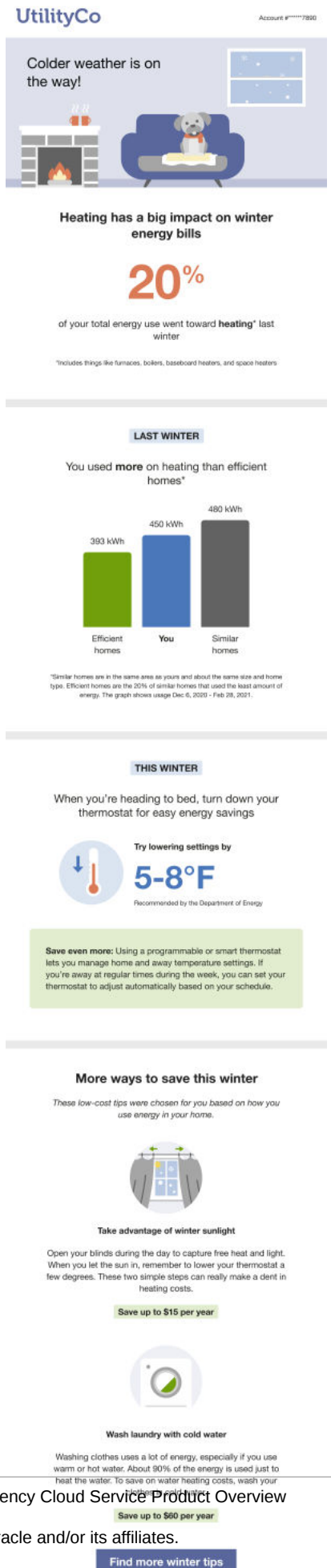
Summer Seasonal Report

The summer version of the Seasonal Report focuses on cooling, as it has the greatest impact on summer energy bills.



Winter Seasonal Report

The winter version of the Seasonal Report focuses on heating, as it has the greatest impact on winter energy bills.



Seasonal Report Modules

Email Home Energy Reports are built using a predefined mix of dynamic and static modules, carefully designed to tell a personalized story about each customer's energy use. The experience evolves over time, delivering new insights based on customer attributes and utility goals. For more details, see the individual module pages.

The Seasonal Report includes the following modules:

- Subject Line
- Header
- Seasonal Breakout
- Seasonal Normative Comparison
- HVAC Adjustment
- Seasonal Report Tips
- Seasonal Home Energy Analysis
- Customer Feedback
- Footer

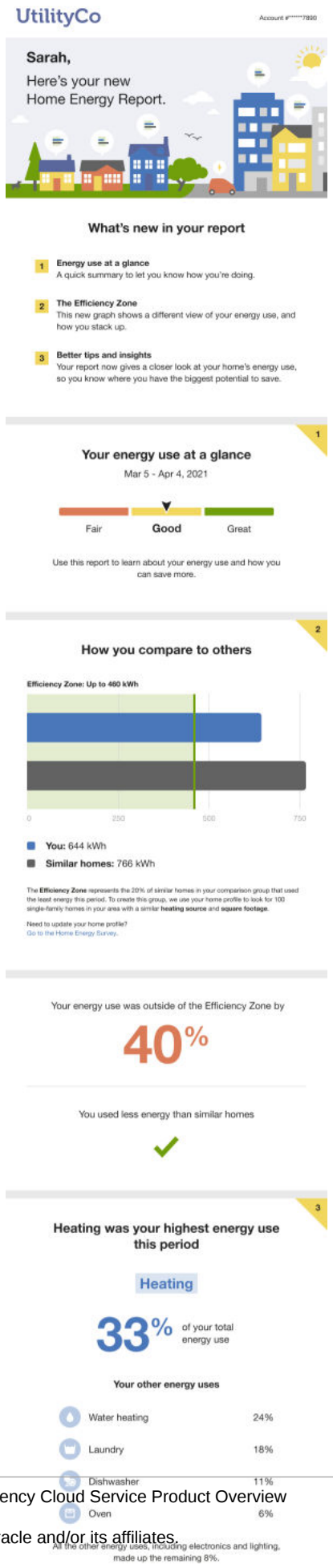
Limited Income Report

The Limited Income Report educates limited income customers about ways to be more energy efficient and presents opportunities for them to reduce their immediate and future bills. While the overall goal is to encourage energy efficiency, the report includes features that acknowledge the unique circumstances and needs of limited income customers. There are two types of reports: Limited Income Welcome Report and Limited Income Progress Report.

Limited Income Welcome Report

The Limited Income Welcome Report is the first report a new or legacy limited income customer receives as part of their Email Home Energy Report program experience. The report varies slightly depending on whether the customer is a new or legacy customer.

Legacy Customers: Customers who have received earlier versions reports in the past are considered legacy customers. The Welcome Report acknowledges how the report experience has changed.



New Customers: Customers who have never received an Email Home Energy Report are considered new customers. The Welcome Report introduces new customers to their report insights.

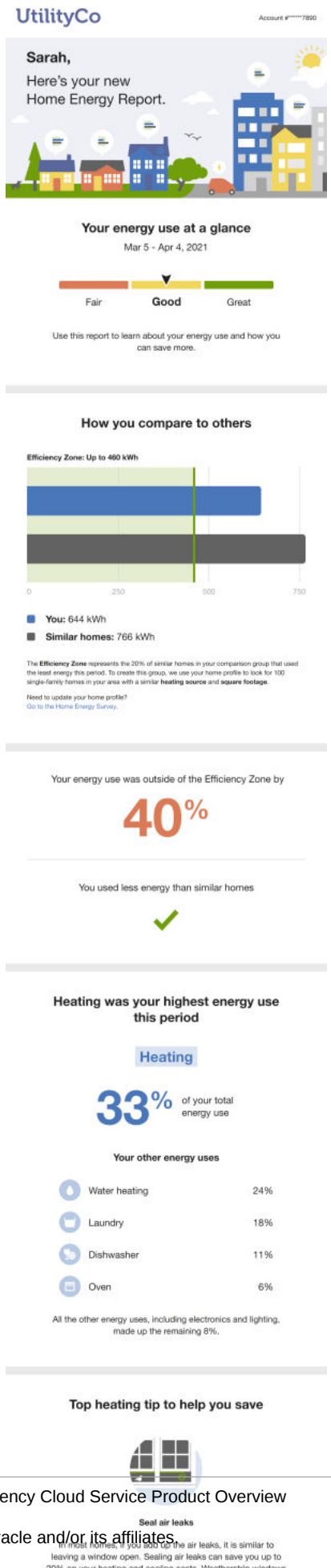
Note

New customers do not include customers who move from one audience segment to another.

See the Limited Income Report Modules for more information about how the experience varies by module.

Limited Income Progress Report

The Limited Income Progress Report is focused on general energy efficiency and money saving goals for limited income customers.



See the Limited Income Report Modules for more information about how the experience varies by module.

Limited Income Report Modules

Email Home Energy Reports are built using a mix of dynamic and static modules that work together to tell a personalized story about a customer's energy use. The content evolves over time, delivering new experiences and insights based on customer attributes and utility goals. For more details, see the individual module pages.

Limited Income Welcome Report Modules

The modules included in the Limited Income Welcome Report vary depending on whether the customer is a new or legacy customer.

The Limited Income Welcome Report includes the following modules:

- Subject Line
- Header
- Welcome
- Energy Use Benchmark
- Three-Bar Neighbor Comparison or Efficiency Zone
- What Uses Most
- Paired Tips
- Mini Home Energy Analysis
- Footer

Limited Income Progress Report Modules

The Limited Income Progress Report includes the same modules as the Welcome report, except it omits the Welcome module and includes Marketing Modules.

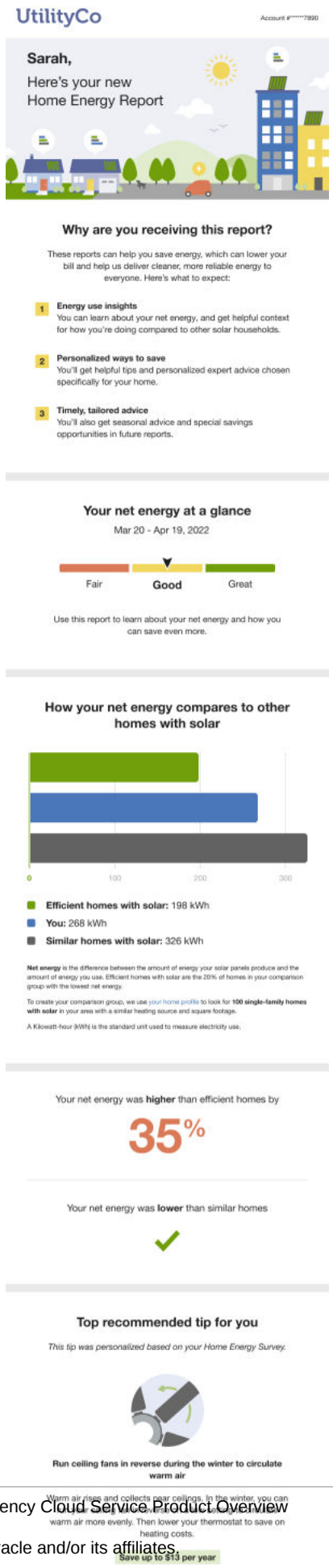
Solar Report

The Solar Report provides a personalized report experience that is focused on improving energy savings behaviors and customer satisfaction for solar customers. The report takes into account the impact of solar on the customer's energy use and acknowledges how their solar use contributes to the public good. There are two types of solar reports: the welcome report and progress report.: Solar Welcome Report and Solar Progress Report.

See the Report Modulesfor more information about how the experience varies by module.

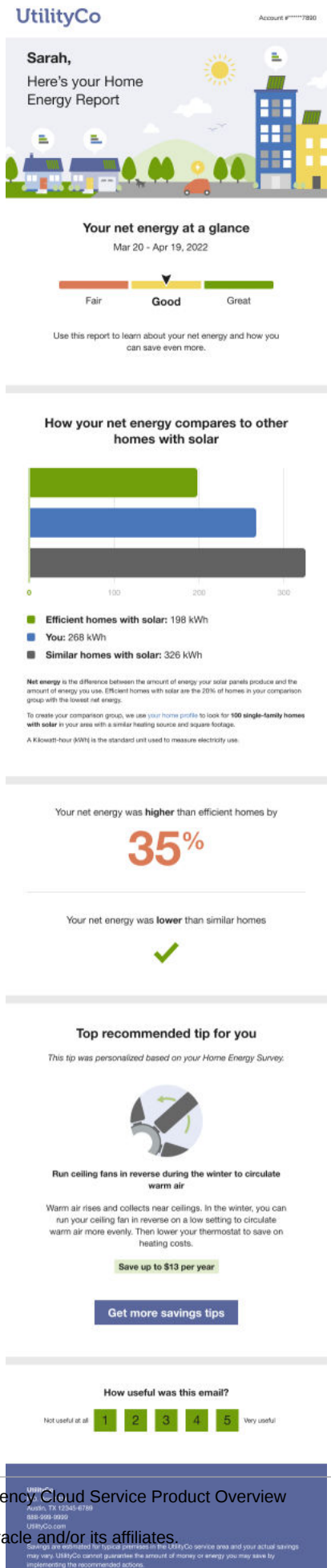
Solar Welcome Report

The first report a solar customer receives. It introduces solar-specific neighbor comparisons and sets expectations for future reports.



Solar Progress Report

The progress report is focused on general energy efficiency and money saving goals for solar customers.



Report Modules

Email Home Energy Report is built with predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details on the user experience.

Solar Welcome Report

The Solar Welcome Report includes the following modules:

- Subject Line
- Welcome
- Header
- Energy Use Benchmark
- Three-Bar Neighbor Comparison
- Solar Report Tips
- Customer Feedback
- Footer

Solar Progress Report

The Solar Progress Report includes the following modules:

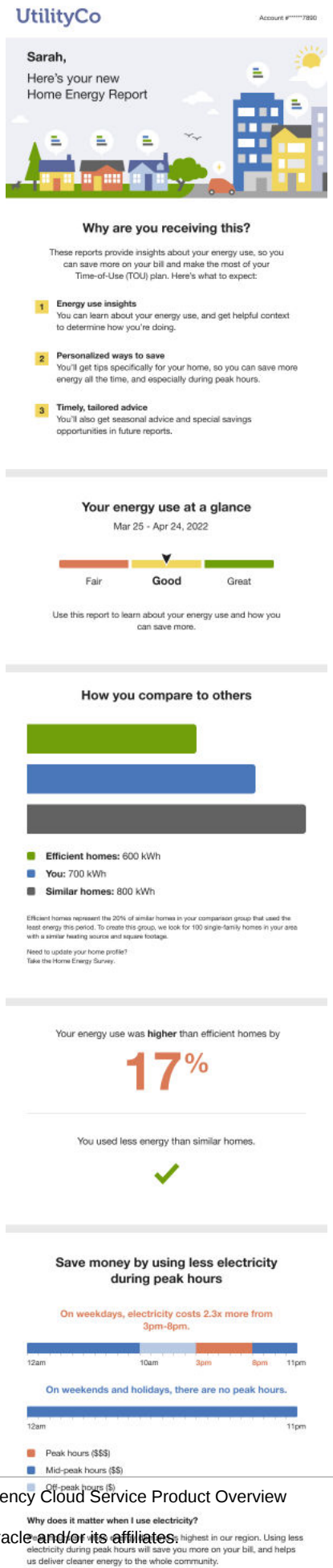
- Subject Line
- Header
- Energy Use Benchmark
- Three-Bar Neighbor Comparison
- Solar Report Tips
- Customer Feedback
- Footer

Time of Use Report

The Time of Use Report provides customers on a time of use energy plan with a email report experience that is focused on overall energy savings and rate education. The Time of Use Report experience includes welcome and progress report types.

Time of Use Welcome Report

The Time of Use Welcome Report is the first report a customer on a time of use plan receives. It welcomes the customer to the program and tells them what they can expect from their reports.



See the Time of Use Report Modulesfor more information about how the experience varies by module.

Time of Use Progress Report

The Time of Use Progress Report is focused on general energy efficiency and money saving goals for customers on time of use plans.

See the Time of Use Report for information about how the experience varies by module.

Time of Use Report Modules

Email Home Energy Reports are built using a predefined mix of dynamic and static modules, carefully designed to tell a personalized story about each customer's energy use. The experience evolves over time, delivering new insights based on customer attributes and utility goals. For more details, see the individual module pages.

Time of Use Welcome Report

Time of Use Progress Report

The Time of Use Progress Report includes the same modules as the Welcome report, except it omits the Welcome module and replaces it with the Energy Use Benchmark module.

Time of Use Welcome Report Modules

The Time of Use Welcome Report includes the following modules:

- Subject Line
- Header
- Welcome
- Three-Bar Neighbor Comparison or Efficiency Zone
- Time of Use 101
- Time of Use Report Tips
- Mini Home Energy Analysis
- Customer Feedback
- Footer

Time of Use Progress Report Modules

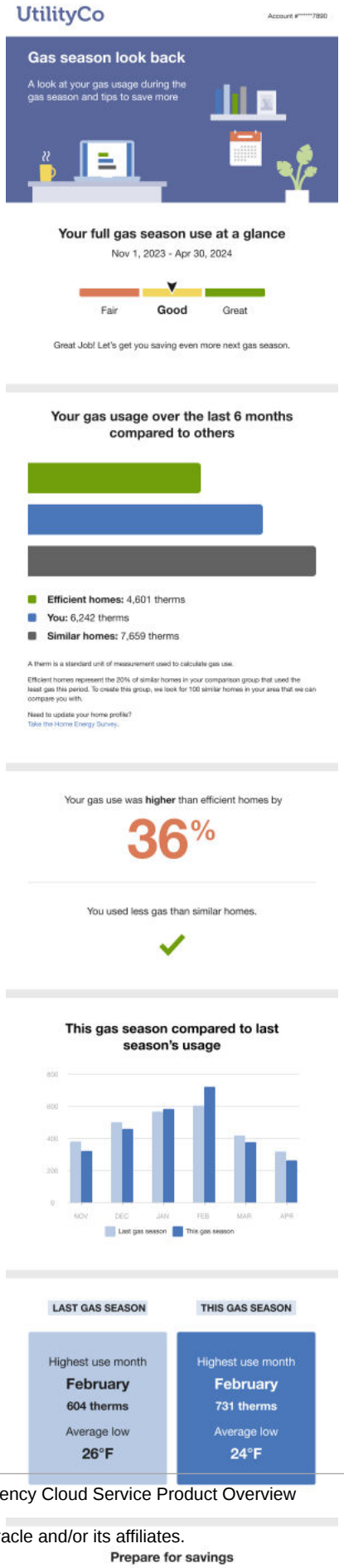
The Time of Use Progress Report includes the following modules:

- Subject Line
- Header
- Three-Bar Neighbor Comparison or Efficiency Zone
- Time of Use 101
- Time of Use Report Tips
- Mini Home Energy Analysis
- Customer Feedback
- Footer

Usage Lookback Report

The Usage Lookback Report helps gas-only customers understand their energy use during the previous heating season. It includes modules designed to provide a broader view of consumption and encourage behavior changes to reduce energy use. Key features include a benchmark module comparing total seasonal usage to similar and efficient homes, a normative comparison spanning the full season, and a Personal Tracker that shows how current usage

compares to past seasons. The report also includes practical, year-round energy-saving tips and a Community Message highlighting the collective impact of saving energy.



See the individual Report Modules for more information about how the experience varies by module.

Report Modules

Email Home Energy Reports are built using a predefined mix of dynamic and static modules, carefully designed to tell a personalized story about each customer's energy use. The experience evolves over time, delivering new insights based on customer attributes and utility goals. For more details, refer to the individual module pages.

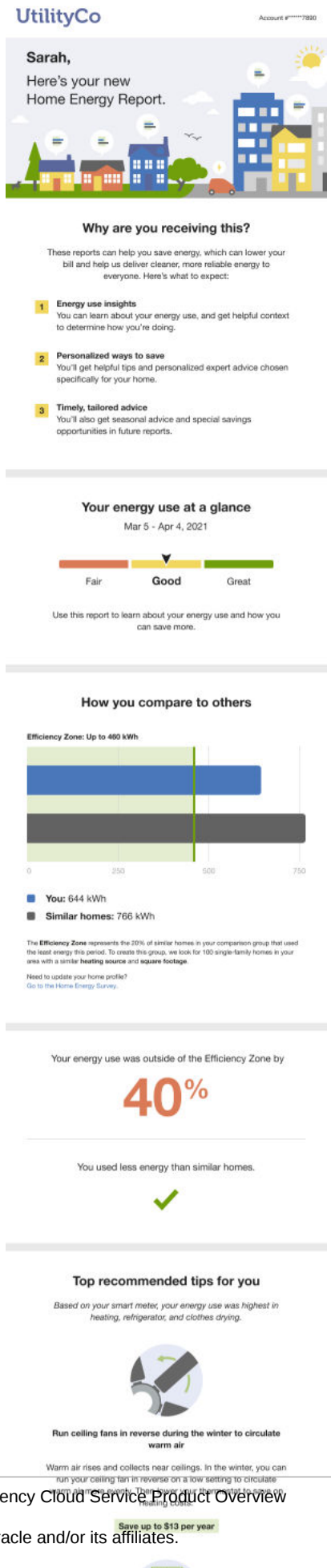
The report includes the following modules:

- Subject Line
- Header
- Energy Use Benchmark
- Three-Bar Neighbor Comparison
- Personal Tracker
- Lookback Tips
- Community Marketing Module
- Footer

Welcome Report

The Welcome Report introduces both new and existing Email Home Energy Report recipients to the report experience. It builds on the Progress Report structure and includes an additional Welcome module at the top, which varies slightly depending on whether the customer is new or returning.

New Customers: Customers who have never received an Email Home Energy Report are considered new customers. Their Welcome Report includes a module at the top that introduces them to the report experience.



Legacy Customers: Customers who have received a previous version of the Home Energy Report are considered legacy customers. Their Welcome Report includes a module at the top highlighting updates, such as new and improved tips and insights. These updates are numbered, with corresponding markers shown in the upper-right corner of relevant modules throughout the email.

See the Report Modules for more information about how the experience varies by module.

Report Modules

Email Home Energy Report is built with predefined mix of dynamic and static modules carefully crafted to tell customers a personalized story about their energy use. It provides new experiences and insights that vary over time, depending on specific customer attributes and utility goals. Go to the individual module page for more details on the user experience.

The Welcome Report includes the following modules:

- Subject Line
- Header
- Welcome
- Energy Use Benchmark
- Three-Bar Neighbor Comparison or Efficiency Zone
- Welcome Report Tips
- Mini Home Energy Analysis
- Customer Feedback
- Footer

Report Modules

All email reports consist of modules. Modules are separable pieces of content that communicate some type of relevant and engaging information to the customer. Modules can be complex, providing dynamic information about a customer's energy use, or simple, containing a static image and hyperlinks. See each module description for details.

Annual Secondary Insight

The Annual Secondary Insight provides customers with an overview of their energy use trends throughout the year. It includes a summary of their highest and lowest time periods by season, month, and day of the week. The goal of this module is to provide the customer with easily accessible insights about their annual use.

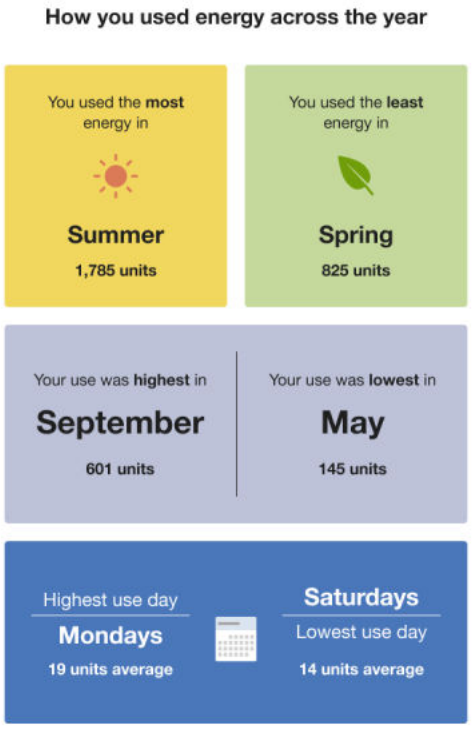
Appears in: Annual Report

Requirements

Category	Description
Billing Frequency	Monthly or bi-monthly .
Data Delivery Frequency	Monthly or bi-monthly .
Data Requirements	Interval (AMI) data is required for the Day-of-the-Week Insight card.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electricity, gas, and dual fuel.

User Experience

The Annual Secondary Insight provides customers with an overview of their energy use trends throughout the year. The below image shows an example of the module for an electricity customer who receives an Annual Report and has 12 months of data.



Header: Introduces the module and highlights the customer's energy usage trends over the year.

High/Low Season Cards: Show the seasons in which the customer used the most and least energy, supported by dynamic, seasonally appropriate illustrations.

- **Season Insight**: Identifies the seasons with the highest and lowest energy usage.
- **Season Usage Details**: Provides specific usage values for the high and low seasons to give clearer context on performance.

High/Low Month Cards: Highlight the months with the highest and lowest energy usage. The accompanying insight names these months and includes their usage values.

Day-of-Week Insight Card: Identifies which days of the week have the highest and lowest average energy usage, along with the average usage for each day.

User Experience Variations

The user experience varies for customers depending upon their service types, available data, costs, and locale.

No AMI Data

Daily meter reads are required to include the day-of-the-week insight. If a customer does not have AMI, the day-of-the-week insight is omitted.

Incomplete Seasonal Data

If a customer has incomplete seasonal data, the highest or lowest use season is estimated.

Incomplete Monthly Data

If a customer has incomplete data for a high or low month, the highest or lowest use month is estimated.

Incomplete Monthly and Seasonal Data

If a customer has incomplete data for a high or low month and the high or low season, the insights for at least two of the insight cards are estimated.

Customer Feedback

The Customer Feedback module is an optional module that can be included to solicit feedback about the Email Home Energy Report. It asks customers how useful they found the report and provides a way to gather feedback that can be used to improve the report experience. The module questions vary by report type.

Appears in: Peak Focused Report, Progress Report, Promotion Report, Seasonal Report, Solar Report, Time of Use Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, and quarterly.
Data Delivery Frequency	Not applicable.
Data Requirements	Not applicable.
Data History	A minimum of three historical bills.
Data Coverage	Not applicable.
Supported Fuels	Gas-only, electric-only, and dual-fuel.

Limitations

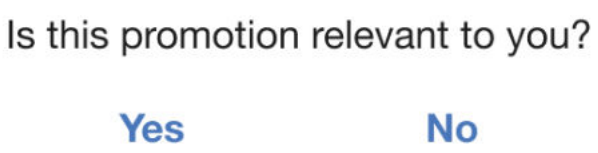
- **Mini Home Energy Analysis**: This module should not be used in the same report at a Mini Home Energy Analysis.
- **Frequency**: The module should not be used no more than once a quarter in the Promotion Report.

User Experience

The module varies slightly depending on report type.

Promotion Report

When used in the Promotion Report, the module asks customers whether the promotion is helpful. After selecting a response, customers are directed to a confirmation page in the Energy Efficiency Web Portal, where they are thanked for their input. The page also notes that their feedback is used to improve the product.



Progress Reports

The image below shows an example of the Customer Feedback module that could appear in the Progress Report, Seasonal Report, Time of Use Report, and Solar Report. A question at the top of the module asks the customer if the email is helpful. The customer can rate the usefulness of the email on a scale of one to five, where one means not useful at all and five means very useful.

Disaggregation Main Insight

The Disaggregation Main Insight module uses personalized insights about a specific end use in the customer's home to encourage engagement with a utility promotion. It highlights categories where the customer's usage exceeds the regional average, helping them better understand their consumption and motivating them to take action to reduce it. The module can focus on the customer's largest end-use category or a utility-selected category to reinforce the promotion. Oracle Utilities Opower partners with utilities to design these marketing modules in a way that enhances the overall report experience.

Appears in: Promotion Report

Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.

Category	Description
Data Requirements	Energy disaggregation data is required to get an estimate of the categories where a customer uses the most energy. **Minimum**: The minimum data requirement is average energy use data for the households in a utility's region. This data is typically obtained from public data sources. The module then uses the customer's responses to the Mini Home Energy Analysis survey to adjust the average energy use values and yield personalized disaggregation results. **Recommended**: The recommended approach is to use weather data and at least six historical bills, as this will provide more accurate disaggregation results. Additional data requirements may apply depending on the utility's setup, configuration, and whether any advanced data science models are used.
Data History	A minimum of one historical bill. Additional data history requirements apply depending on the utility's setup, configuration, and any data science model usage.
Data Coverage	Not applicable.
Supported Fuels	Electricity, gas, and dual fuel.

User Experience

This image shows an example of the Disaggregation Main Insight module.

Heading: Captures the customer's attention and introduces the promotion topic, preparing them to engage with the insight.

Date Range: Dynamically reflects the relevant billing period.

Spent Last Year: Shows the total cost the customer incurred for the highlighted category over the past year.

Total Energy Use: Indicates the percentage of the customer's total energy usage or cost represented by this category.

Promotion Text: Describes the promotion associated with the disaggregation insight.

Explainer:: Provides context on how the data was calculated and why the customer was selected to receive this promotion.

User Experience Variations

The user experience may vary based on factors such as the customer's energy usage, service type, available data, costs, location, and whether the utility chooses to promote an end-use category other than the customer's largest one.

Utility Preferred End Use

If the utility decides to promote an end use that is not the customer's largest end use category, the header introduces the category more generically as a place to save without saying where it ranks in the customer's overall use.

Energy Use Benchmark

The Energy Use Benchmark module provides a personalized, at-a-glance visualization of the customer's energy use. It consists of three sections of a gauge to indicate the customer's overall status as it relates to their energy use: Fair, Good, and Great. The customer's status on the gauge is determined by their performance relative to both comparison points in the Normative Comparisons.

> **Note**
>
> he Energy Use Benchmark module must be used in context with the Normative Comparisons

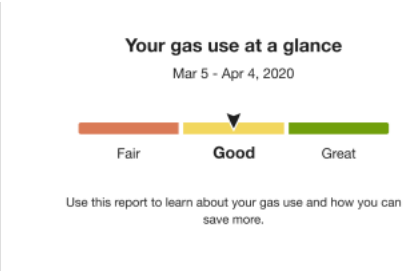
Appears in: Progress Report, Welcome Report, Limited Income Report, Annual Report, Time of Use Report, Solar Report, Usage Lookback Report

Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	Billed usage data from the utility.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electricity, gas, and dual fuel.

User Experience

The Energy Use Benchmark module provides a personalized, at-a-glance view of the customer's energy usage. It features a three-tier gauge that indicates the customer's overall status: Fair, Good, or Great.



Heading: Informs the customer that the benchmark provides an at-a-glance view of their energy use. The wording varies based on the customer's fuel type.

Energy Use Benchmark: Displays a three-segment gauge—Fair, Good, and Great—showing the customer's performance relative to comparison points (similar homes and the efficiency

zone). An arrow indicates the customer's position within the appropriate segment. Each segment is color-coded:

- **Orange (Fair)**: Usage is higher than both similar homes and the efficiency zone (efficient homes).
- **Yellow (Good)**: Usage is lower than similar homes but higher than the efficiency zone.
- **Green (Great)**: Usage is lower than the efficiency zone threshold.

Benchmark Copy: Provides contextual messaging based on the customer's current status and any changes since their last report. It may offer guidance on how to improve or reinforce positive performance, and in some cases, reiterates the customer's fuel type.

User Experience Variations

The user experience varies for customers depending upon their service types, available data, costs, and locale. Note that the following list indicates the primary user experience variations, not all possible variations.

Usage Lookback Report Variation

The Benchmark module in Usage Lookback Report provides an at-a-glance rating of the customer's gas use from all available bill periods over the previous gas season.

The benchmark module used in the Usage Lookback Report varies from the standard Progress Report in several ways:

- **Heading**: Reinforces that the report reflects the full gas and heating season, rather than a single billing period.
- **Time Period**: Aggregates the customer's energy usage across all available billing periods during the gas and heating season to provide an overall rating.
- **Benchmark Copy**: Acknowledges past gas usage while encouraging actions to improve future performance.
- **Benchmark States**: See Energy Use Benchmark States.

Energy Use Benchmark States

The copy below the gauge changes depending on the customer's current state and any differences since their last report.

States for the Progress, Welcome, Limited Income, and Time of Use Reports

- **Good State:** Explains how to use the report.
- **Low to Higher Use State:** Helps the customer consider what may have changed.
- **High to Lower Use State:** Congratulates the customer for lowering their use compared to neighbors.

- **Great State:** Congratulates the customer for being efficient
- **Fair State:** Explains how to use the report
- **Fuel Type** The customer's fuel type is displayed in the header and benchmark copy, "Your <fuel variation> use at a glance."
  - **Dual Fuel:** The benchmark header uses the term 'energy.'
  - **Electric-Only:** The benchmark header uses the term 'electricity' and the benchmark copy uses the term 'energy.'
  - **Gas-Only**: The benchmark header uses the term 'gas.'

States for the Annual Report

The Benchmark module in Annual Reportcollates the customer's energy usage data from all available bill periods over the previous calendar year to provide an at-a-glance rating of their usage.

- **Heading**: The heading identifies the year being reported. For example, "Your 2021 energy use at a glance."
- **Benchmark Copy**: The text below the benchmark has an annual focus that introduces the customer to the goals of the report by acknowledging past and future actions. For example, "Thanks for tracking your energy use with us. Let's get you saving this year!"

States for the Solar Report

The Benchmark module in the Solar Report includes unique copy and logic for net negative energy states experienced by solar customers. There are four energy states:

- **Fair**: Net energy was positive and more than similar homes.
- **Good**: Net energy was positive and less than similar homes, net energy was negative and more than similar homes, or net energy was negative and more than efficient homes, but less than similar homes.
- **Great**: Net energy was positive or negative and an efficient home.
- **State Change (Higher Use to Lower Use)**: Benchmark state has changed from Fair to Good or Good to Great since the last report.

States for the Usage Lookback Report

The benchmark copy in Usage Lookback Report below the gauge changes depending on the customer's current state. Possible states include:

- **Fair**: Thanks for tracking your gas use with us. Let's get you saving for next gas season!
- **Good**: Great Job! Let's get you saving even more next gas season.
- **Great**: Great job being efficient! Let's see how low your gas use can go next gas season.

Dog-Ears

For customers on the legacy version of email Home Energy Reports, a dog-ear visual element corresponding to the "energy use at a glance" bullet of the Welcome module appears in the upper right corner of the Energy Use Benchmark module. This can only appear in the Welcome Report and Limited Income Report.

Home Energy Analysis

The Home Energy Analysis modules prompt customers to answer simple questions about their home characteristics and energy habits to enhance their report experience. The specific module a customer receives varies by report type.

Mini Home Energy Analysis: Prompts customers to answer a short set of questions directly within the report. See the Mini Home Energy Analysis for more information.

Seasonal Home Energy Analysis: Encourages customers to complete the full Home Energy Analysis to improve their report experience. It includes a call-to-action button that directs customers to the survey in Digital Self Service - Energy Management where they can complete the full survey. See the Seasonal Home Energy Analysis for more information.

Mini Home Energy Analysis

The Mini Home Energy Analysis module prompts customers to answer simple questions about their home characteristics and energy habits directly within the Email Home Energy Report v3. It provides an additional opportunity for customers to share information that can be used to enhance their report experience, even if they do not complete the full Home Energy Analysis survey online.

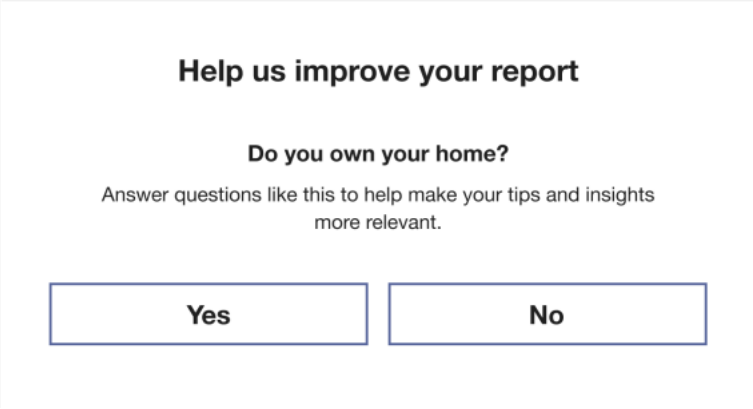
Appears in: Progress Report, Welcome Report, Limited Income Report, Time of Use Report

Requirements

No customer or utility data is required to generate the Mini Home Energy Analysis module. The only requirement is that the utility must work with Oracle Utilities Opower to launch the Home Energy Analysis survey online so customers can be redirected to it.

User Experience

The image below is an example of one of the questions in the Mini Home Energy Analysis module.



Header: Informs the customer that the Mini Home Energy Analysis provides an opportunity to improve their report experience.

Question: Presents simple yes-or-no questions that the customer has not yet answered in the full Home Energy Analysis survey online.

Benefit Text: Highlights that responding to the questions helps improve the accuracy of the report and its recommendations.

Response Option Buttons: Allow the customer to answer "Yes" or "No." Selecting a response redirects them to the appropriate follow-up experience. in the full Home Energy Analysis survey where they can respond to additional questions.

User Experience Variations

The user experience may vary depending on which questions are included and the order in which they are presented. The available options include:

Default behavior: Questions are selected from a predefined list, with the first unanswered question shown first.

Customized question list: The utility can work with Oracle Utilities Opower to reorder or remove questions. The first unanswered question from the updated list is then presented.

Confirmation experience: The module can be configured to ask a single binary question to confirm specific information about the customer's home (for example, whether they use a heat pump). There are two approaches to configuring a confirmation experience:

- **Multiple questions**: The sequence is adjusted to begin with a confirmation question. After it is answered, additional questions from the list may appear in future reports. Once all questions are answered, the module no longer appears.
- **Single-question list**: The module includes only one confirmation question. After it is answered, the module is removed from future reports.

Seasonal Home Energy Analysis

The Seasonal Home Energy Analysis module encourages customers to complete the Home Energy Analysis survey in order to improve their Seasonal Report insights. The module creates an additional opportunity for customers to provide information that can improve the information they receive.

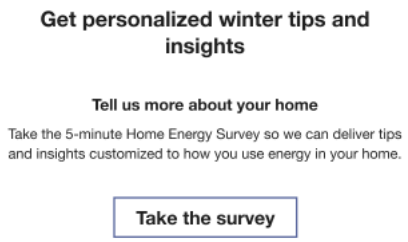
Appears in: Seasonal Report

Requirements

No customer or utility data is required to generate the Seasonal Home Energy Analysis module. The only requirement is that the utility must work with Oracle Utilities Opower to launch the Home Energy Analysis survey online so customers can be redirected to it.

User Experience

This image shows an example of the Seasonal Home Energy Analysis module.



Header: Dynamically adjusts based on the season.

Subheader: Emphasizes the action the customer should take to receive more accurate tips and insights.

Body Text: Encourages the customer to complete the survey to improve the quality of their report.

Call to Action: Includes a button that directs the customer to the Home Energy Analysis survey online.

Home Profile

The Home Profile highlights the customer's progress in completing the Home Energy Analysis survey and reinforces the benefits of finishing it. The module includes a summary of known and unknown home attributes, a completion percentage indicator, and a link to access the Home Energy Analysis.

Appears in: Progress Report, Welcome Report

Requirements

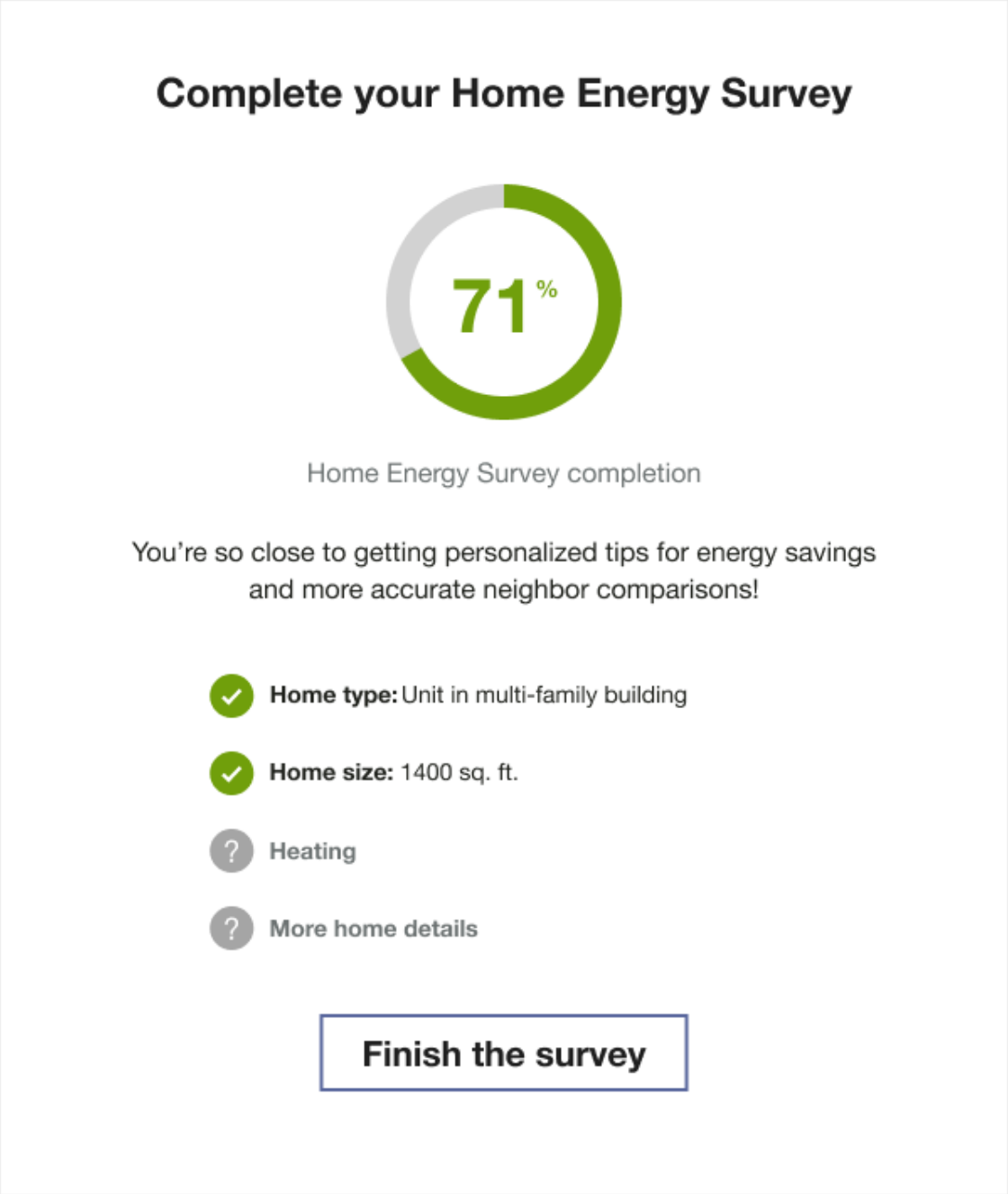
There are no utility or customer-specific requirements to display this module. Results from the status of the survey are used to determine what is shown in the module.

Limitations

The Home Profile module can only be used in the Welcome Report and Progress Report. It can also be used as a replacement for the Mini Home Energy Analysis in the Welcome Report.

User Experience

The image below is an example of the user experience for a customer who has not yet completed their Home Energy Analysis survey.



Title: Reminds the customer of their current survey completion status.

Percent Complete Wheel:Displays the percentage of the Home Energy Analysis survey the customer has completed. For example, if 50% is complete, half of the wheel is filled, with "50%" shown at the center.

Explanation: Encourages the customer to complete the survey to receive more accurate insights in their report.

List of Attributes: Shows four home attributes. Known attributes are marked with a green check, while unknown attributes are indicated with a gray question mark.

Button Provides quick access to the Home Energy Analysis directly from the report, without requiring the customer to log in.

User Experience Variations

The user experience may vary for customers and utilities based on factors such as service type, available data, costs, locale, and other considerations.

Home Energy Analysis Not Attempted

If the customer has not yet begun their Home Energy Analysis, the module displays a zero percentage and encourages them to start their survey so that their report includes more accurate insights.

Title: Prompts the customer to start the survey.

Percent Complete Wheel: Displays zero percent completion.

Explanation: Encourages the customer to take action and update their home profile.

List of Attributes: Shows four home attributes, each marked with a gray question mark to indicate unknown information.

Button: Provides quick access to the survey without requiring login, with messaging that reinforces starting theHome Energy Analysis.

Home Energy Analysis Recently Completed

If the customer has recently completed the survey, the module reinforces their progress and highlights the accuracy of their insights.

Title: Congratulates the customer on completing the survey.

Percent Complete Wheel: Displays 100 percent completion.

Explanation: Confirms that their personalized tips and comparisons are accurate and encourages updates if anything changes.

List of Attributes: Shows four home attributes, each marked with a green check to indicate known information.

Button: Provides quick access to the survey, inviting the customer to view their Home Energy Analysis from the report without having to log in to their account. The title of the button invites the customer to use the QR code to view their Home Energy Analysis.

Home Energy Analysis Completed

If the survey was completed previously but not updated recently, the module encourages the customer to review and update their information.

Title: Asks whether the customer has made any changes to their home.

Computer Icon: Replaces the percent complete wheel with a computer icon.

Explanation: Encourages the customer to update their survey to ensure accurate tips and insights.

List of Attributes: Shows four home attributes, each marked with a green check to indicate known information.

Button: Provides quick access to the Home Energy Analysis, with messaging that encourages reviewing and updating their responses.

HVAC Adjustment

The HVAC Adjustment module provides customers with a recommended thermostat adjustment for the season. It also includes an additional recommendation to purchase a smart thermostat in order to automate seasonally appropriate savings on heating or cooling.

Appears in: Seasonal Report

Requirements

No utility or customer data is required to generate this module.

User Experience

The image below shows an example of the HVAC Adjustment experience for a customer who receives the summer Seasonal Report.

Module Label: Indicates the season relevant to the recommended thermostat adjustment.

Header: Encourages customers to adjust their thermostat while away from home to save energy.

Image: Features an illustration paired with a prominent callout highlighting the recommended temperature adjustment.

Recommended Adjustment: Provides guidance on how to adjust the thermostat, based on recommendations from authoritative sources such as the Department of Energy.

Details: Encourages customers to simplify energy savings by using a smart thermostat to automate temperature adjustments.

User Experience Variations

Winter Seasonal Report HVAC Adjustment

The winter version of the HVAC Adjustment module differs from the summer version in several ways. The label reflects the winter season, and the header encourages customers to lower their thermostat at night to save energy. An accompanying illustration highlights the recommended temperature adjustment, reinforcing the guidance to reduce thermostat settings.

Marketing Modules

Marketing modules encourage customers to engage with utility- or Oracle Utilities–specific products and programs. These modules are selected from a library of content designed and tested to optimize conversions and customer satisfaction. They can be lightly customized in both text and visuals to align with utility needs. For example, modules may be tailored to promote utility-specific programs (such as home audits), products or features, processes, rebates, and calls to action (such as URLs, phone numbers, or both).

Appears in: Promotion Report, Progress Report, Limited Income Report, Annual Report, Electric Vehicle Report, Usage Lookback Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Not applicable.
Data Requirements	Some marketing modules depend on certain types of customer data. For example, to target a marketing module to customers with a specific energy appliance or energy use pattern, the Oracle Utilities Opower platform requires data about what appliances are present at the customer's home or how a customer uses energy in specific end-use categories such as heating or cooling. The minimum data requirement for targeting purposes is to have average energy use data for households in a utility's region. This data is typically obtained from public data sources and is used as a baseline for the Home Energy Analysis survey. Customer responses to the survey can then be used to determine what appliances customers have or how their energy breaks down into specific categories, so that marketing modules can be targeted to them. Additional AMI data requirements apply in cases where the marketing modules rely on advanced Oracle Utilities Opower data science models to generate appliance detection or disaggregation insights. Your Delivery Team will work with you to understand the specific requirements in these cases, and help you identify the best approach for your situation.

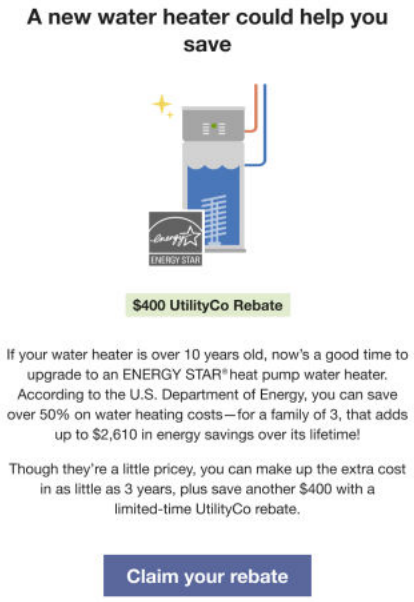
Category	Description
Data History	Depending on which Oracle Utilities Opower data approach is used, one of the following data history requirements will apply: • One historical bill from the last bill period or previous to last bill period. • A minimum of 60 days of AMI reads for AMI customers. • A minimum of six historical bills for non-AMI customers.
Data Coverage	Depending on which Oracle Utilities Opower data approach is used, the data coverage requirements may include subdaily AMI data and temperature data points.
Supported Fuels	Electricity-only, gas-only, dual fuel.

User Experience

Flexible Marketing Modules

Flexible marketing modules may be used in either a Promotion Report, Progress Report, or Electric Vehicle Report. Flexible marketing modules are designed to align with the goals of the report type in which they are included.

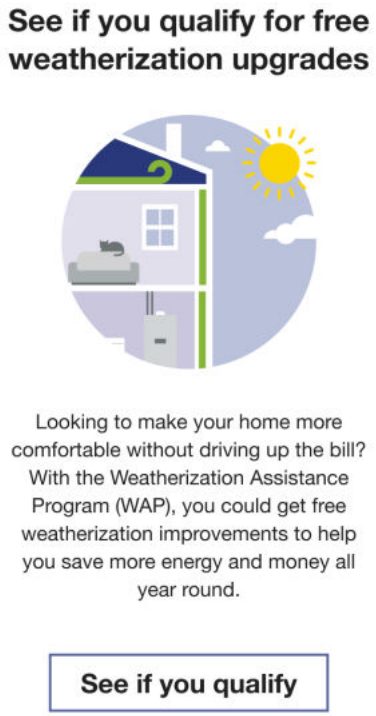
The following image is an example of a flexible marketing module promoting an appliance. This can be shown to customers who have taken the Home Energy Analysis survey and have identified what appliances they have. It can also be shown to customers if a data-driven method has been used to identify the appliances at a customer's site, such as through the use of Oracle Utilities Opower data science models.



The following image is an example of a flexible marketing module focusing on lowering electric vehicle costs.

Limited Income Marketing Module

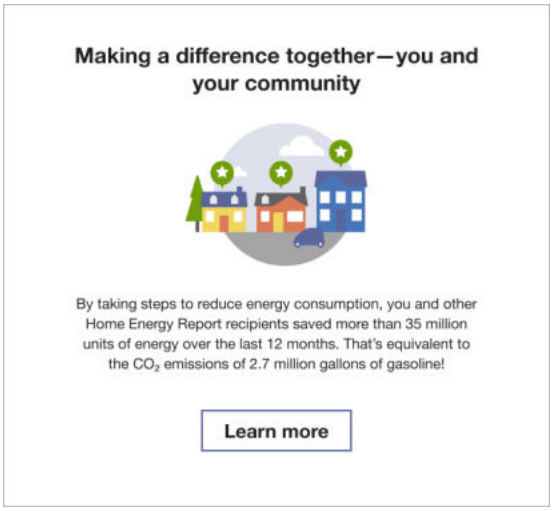
Marketing modules specific to the limited-income experience can be included in the Limited Income Report. Default module types include testimonials, community assistance, budget billing, and weather assistance. The following image is an example of a weather assistance marketing module.



Community Marketing Module

The Community Marketing Message is included in the .Annual Report, and the Usage Lookback Report. The goal of the module is to remind the customer that their energy savings

have an impact beyond their own bills, and encourage the customer to keep saving energy in the year ahead.



Mini Time of Use Reminder

Positioned in the top right of the progress version of the Peak Focused Report, the Mini Time of Use Reminder module serves as the customer's first point of reference for understanding peak electricity cost periods within their Time of Use plan. It clearly displays the cost multiplier for high-cost periods and their corresponding time windows, and includes a color-coded timeline for easy identification of peak hours. The module can also adapt to different utility peak schedules and billing structures, such as demand charges.

Appears in: Peak Focused Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Note applicable.

Customer Requirements

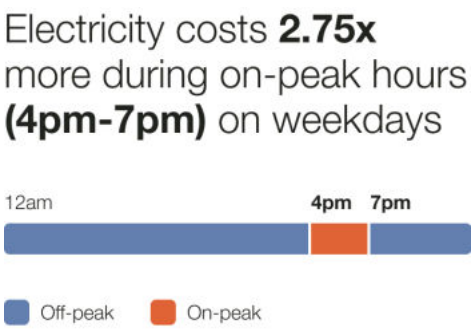
Category	Description
Billing Frequency	Monthly or bi-monthly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	AMI data and rate metadata.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electric-only.

Limitations

- **Peak Focused Report only**: This module is only available as part of the Peak Focused Report.
- **Time of Use Rate Plan**: This module is only available to customers on Time of Use rate plans.
- **Demand Charge**: This module supports customers on Time of Use plans with demand charges.

User Experience

This section describes the user experience for a customer with two peak periods.



Header: Informs customers of the cost multiplier during peak periods and the corresponding time range.

- **Weekday Price Ratio**: Displays the cost multiplier applied during the peak period.
- **High Cost Period Label**: Shows the rate plan–specific name for the high-cost perio. For example, "peak" or "on-peak".
- **Weekday High Cost Period Start Time**: Indicates when the peak period begins. For example, 4pm.
- **Weekday High Cost Period End Time**: Indicates when the peak period ends. For example, 7pm.

Cost Period Bar: Provides a visual timeline of high- and low-cost periods.

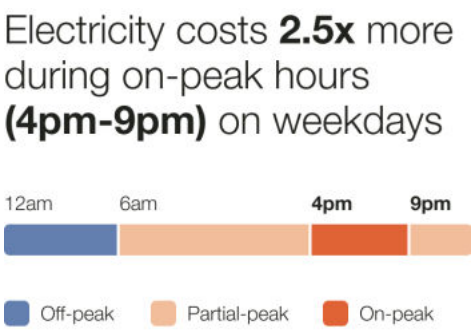
- **High Cost Period Color**: Uses a warning color to highlight peak times. In the example image, the "on-peak" period is indicated by a dark orange warning color.
- **Low Cost Period Color**: Uses a warning color to highlight peak times. In the example image, "off-peak" is indicated by a cool blue color.
- **High Cost Start and End Times**: Displays the start and end times of the peak period directly on the timeline.

Cost Period Legend: Explains the color coding used in the cost period bar.

User Experience Variations

Three Peak Periods

This image is an example of the Mini Time of Use Reminder module for a customer with three peak periods.



If the customer has three cost periods, the user experience is adjusted as follows:

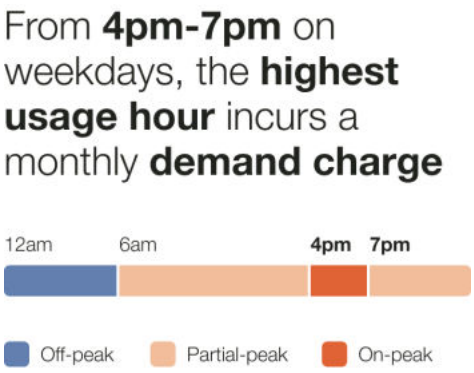
Cost Period Bar: Displays a visual timeline of low-, medium-, and high-cost periods.

- **High Cost Period Color**: Highlighted with a warning color to signal peak pricing. In the example image, the "on-peak" period is indicated by a dark orange warning color.
- **Medium Cost Period Color**: Represented with a secondary color to indicate mid-tier pricing. In the example image, the "partial-peak" period is indicated by a light orange color that is lighter than the high cost period warning color.
- **Low Cost Period Color**: Shown with a cool, light color to indicate off-peak pricing. In the example image, "off-peak" is indicated by the blue color.
- **Cost Start and End Times**: Start and end times for each cost period are labeled directly on the bar.

Cost Period Legend: Explains the color coding used in the timeline. If multiple segments share the same color, they are represented by a single legend item.

Demand Charge

This image is an example of the Mini Time of Use Reminder module for a customer with demand charge rate in addition to the Time of Use plan.



If the customer is on a demand charge plan, the user experience is adjusted as follows:

Header: Indicates when the demand charge period occurs.

Weekday High Cost Period Start Time: Shows when the peak (demand charge) period begins. For example, 4pm.

- **Weekday High Cost Period End Time**: Shows when the peak period ends. For example, 9pm.

- **Cost Period Bar**: Provides a visual timeline of cost periods, emphasizing when demand charges apply.

Cost Period Colors: Use color cues to highlight the most important times to reduce energy usage.

- **High Cost Period Color**: A warning color indicates the peak period when demand charges apply. For example, dark orange.
- **Medium Cost Period Color**: A secondary color (for example, light orange) represents mid-tier pricing periods. For example, light orange.
- **Low Cost Period Color**: A cool color indicates the lowest-cost, off-peak periods.. For example, cool blue.

Cost Period Legend: Explains the color coding used in the cost period bar.

Footnote

If the footnote is configured, it appears below the cost period legend. An asterisk appears in the heading next to the peak day.

Normative Comparisons

Normative Comparison modules compare a customer's energy usage to their own past usage or to that of similar homes. These modules are designed to help customers understand how their usage compares and motivate them to reduce energy consumption. Types of normative comparisons include:

- **Three-Bar Neighbor Comparison**: Compares the customer ("You") to two groups: "Similar Homes" and "Efficient Homes." The results are displayed in a horizontal bar chart to show how the customer's usage stacks up against others.
- **Efficiency Zone**: Displays the customer's usage alongside similar homes within a bar graph, highlighting a green "efficiency zone." If the customer's usage falls within or below this zone (to the left of the threshold line), they are considered efficient. The threshold represents the average usage of the top 20% most efficient similar homes for that billing period and updates with each report.
- **Seasonal Normative Comparison**: Compares the customer's heating or cooling energy use from a previous season to that of similar homes.
- **Peak-Focused Normative Comparison**: Provides total electricity usage alongside peak usage to help customers better understand how their peak consumption compares to their overall energy use.

> **Note**
>
> Utilities have the option of including either the Efficiency Zone or the Three-bar Neighbor Comparison module in some report experiences. It is recommended that utilities with a savings focus include a Three-Bar Neighbor Comparison in their report experience.

The design of the modules varies by the customer's report type and program design. Go to the individual module page to learn about the details of each module experience.

Three-Bar Neighbor Comparison

The Three-Bar Neighbor Comparison is designed to motivate customers to save energy by showing how their usage compares to others. It compares the customer ("You") to two groups, "Similar Homes" and "Efficient Homes," and displays the results in a horizontal bar graph. A brief message highlights how the customer's usage compares to efficient homes in their area. An informational section below the graph explains that "Efficient Homes" represent the top 20% most efficient similar homes in the customer's comparison group for that billing period, along with details on how to read the chart. An insight statement beneath the module indicates the customer's performance category, such as "Good," "Great," or "Using More Than Average."

The neighbor comparison in Digital Self Service – Energy Management mirrors the customer's report experience. For example, customers who see the Efficiency Zone in their report will also see the Efficiency Zone in Digital Self Service – Energy Management. For more information about the web version of the neighbor comparison, see Digital Self Service Energy Management Neighbor Comparison.

Appears in: Progress Report, Welcome Report, Limited Income Report, Annual Report, Time of Use Report, Solar Report, Electric Vehicle Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Maximum of 300,000 a week.

Customer Requirements

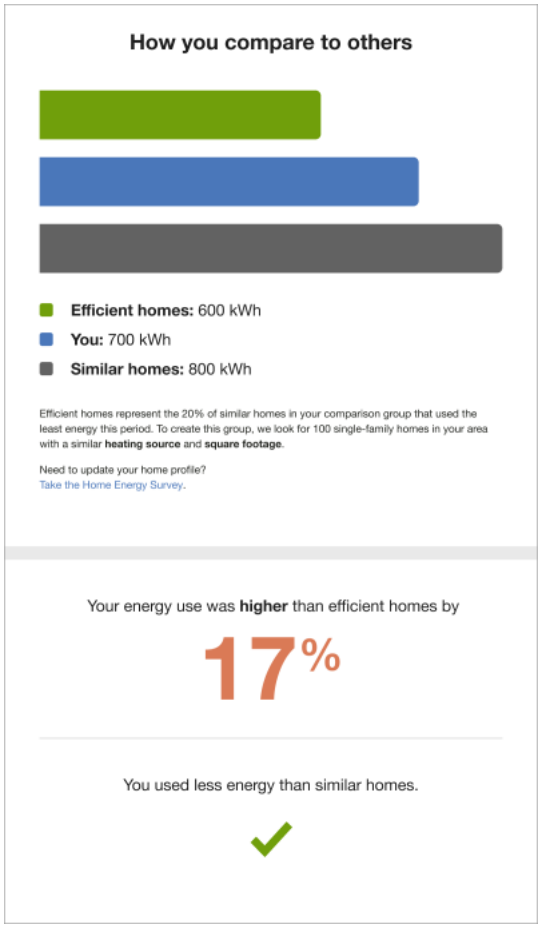
Category	Description
Billing Frequency	Monthly, bi-monthly, quarterly.
Data Delivery Frequency	Monthly and bi-monthly.
Data Requirements	Billing data and third-party data.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electric, gas, and dual fuel.

User Experience

This section describes the user experience for the Three-bar Neighbor Comparison Module. The module varies by report type, service type, and other factors. See the User Experience Variations for additional information about the variations.

Progress Three-Bar Neighbor Comparison Graph

This image is an example of the Three-bar Neighbor Comparison module, which is a part of most standard report types.



Heading: Informs the customer that the Three-Bar Neighbor Comparison shows how their energy use compares to similar homes.

Bar Chart: Displays the energy usage for each group in the comparison, typically ordered from lowest to highest.

- **You:** Represents the customer's energy use, usually shown in a color aligned with the utility's brand.
- **Similar Homes:** Shows the average energy use of comparable households, typically displayed in a neutral color such as gray.
- **Efficient Homes:** Represents the usage threshold for the most efficient 20% of similar homes. This is typically shown in green, a color commonly associated with energy efficiency. The value reflects the 20th percentile of similar homes, rather than an average, and is used to define the efficiency benchmark.

Legend: Appears below the graph and identifies which elements represent the customer's usage, efficient homes, and similar homes.

Explainer Text: Describes the data used in the comparison and provides guidance on how customers can update or refine this information through the Home Energy Analysis..

- **Great:** Less than or equal to Efficient Homes.
- **Great:** Close to Efficient Homes.
- **Good:** About the same as Similar Homes.
- **Good:** Lower than Similar Homes.

- **Fair:** More than Similar Homes.

Top Insight: Highlights the percentage difference between the customer's usage and efficient homes. For example, "29% more electricity than efficient homes". The percentage color reflects performance: green for "Good" or "Great," and orange for "Fair." By default, the percentage is capped at 100%; if exceeded, alternative messaging is used to maintain meaningful insights. See the User Experience Variations for more information.

Bottom Insight: Explains how the customer's usage compares to all neighbors (including efficient homes), aligning with the performance categories of Great, Good, and Fair.

> **Note**
>
> Occasionally, the customer's previous bills do not coincide exactly in time with the previous bills of the customer's efficient homes. In order to arrive at the similar homes averages, it is necessary to align the similar homes energy use amounts with the customer's energy use amounts. In these scenarios, the application pro-rates, or "time-shifts," the similar homes bills to align with the customer bills by determining and adjusting for the amount of overlap. The time-shifted neighbor bills are then used to determine the neighbor averages.

Solar Three-bar Neighbor Comparison

The Three-bar Neighbor Comparison for the Solar Report accommodates net zero and excess generation (negative) reads. The graph may vary based on factors such as the customer's benchmark status, fuel type, terminology used for neighbors and similar homes, and whether the customer has positive, negative, or net-zero energy usage.

This image is an example of the Three-bar Neighbor Comparison module included in the Solar Report.

The module in the Solar Report differs from the Progress Report in the following ways:

Bar Chart: The bar chart shows a customer's net energy usage compared to other homes with solar. The comparison groups follow the same logic as the standard experience but are limited to homes with solar. To help orient the customer, the graph includes three increment indicators and a net-zero marker, with one increment indicator appearing before the net-zero point.

Bar Graph Categories:

- **Efficient Homes with Solar**: Represents the usage threshold for the most efficient 20% of similar homes with solar.
- **Similar Homes with Solar**: Shows the average energy use of comparable homes with solar.
- **You**: Indicates the customer's energy use.
- **Graph Comparison State**: States are determined by whether the customer has positive, negative, or net zero energy use.
  - **Positive Comparison State**: In a positive comparison state, all graph bars show positive readings, meaning that the customers used more energy than their panels produced.
  - **Straddle Comparison State**: In the straddle comparison state, the graph shows a mix of positive and negative reads. The module varies based on fuel type, language type, and whether the customer's "You" bar is positive or negative.

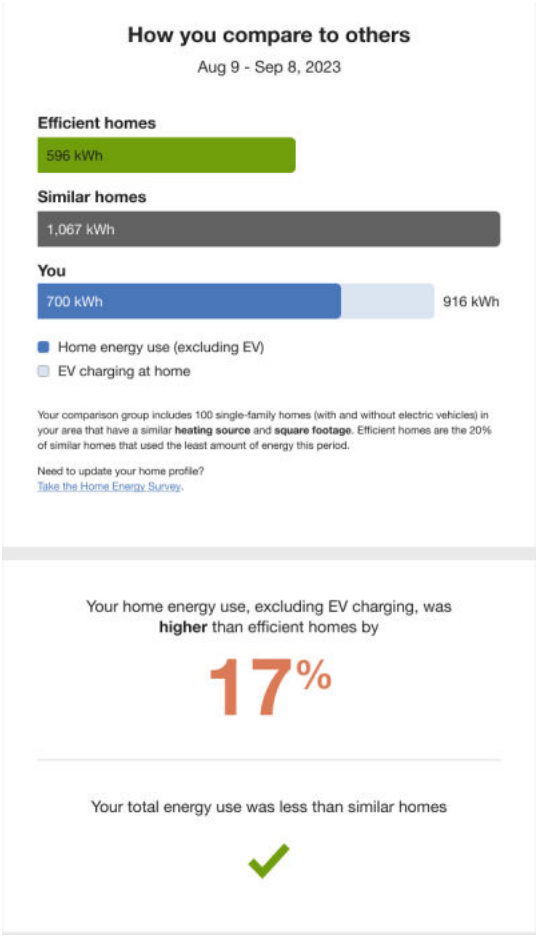
  - **Negative Comparison State**: If the customers used less energy than their panels produced, all graph bars show negative readings. The module varies depending on the customer's benchmark state and fuel type.

- **Legend**: Indicates what portions of the graph indicate the customer's home energy use , efficient homes with solar, and similar homes with solar.
- **Explainer Text**: The solar Three-bar Neighbor Comparison module includes definitions of net energy, comparison groups, and fuel used in the insights.
- **Top Insight**: The top insight is a large, color-coded percentage that shows the customer's usage relative to similar homes. By default, the percentage is capped at 100%. If this threshold is exceeded, alternative messaging is used to ensure the insight remains meaningful and impactful. See the User Experience Variations for more information.
- **Bottom Insight**: If the customer uses more energy than their solar panels produced, the secondary insight will display a gray exclamation point.

Electric Vehicle Three-Bar Neighbor Comparison

The Three-Bar Neighbor Comparison for Electric Vehicle Reports is tailored to highlight the impact of electric vehicle charging on overall home energy use. The graph may vary based on factors such as benchmark status, fuel type, and whether "similar homes" or "neighbors" terminology is used.

This image is an example of the Three-Bar Neighbor Comparison module included in the Electric Vehicle Report.



Heading: Indicates that the customer's energy use is being compared to other homes.

Billing period: Displays the dates covered by the report.

Bar chart: Shows the customer's energy use compared to other single-family homes, which may or may not include electric vehicles. The comparison follows the standard methodology but incorporates the impact of electric vehicle charging. The chart includes the following categories:

- **Efficient Homes**: Represents the usage threshold for the most efficient 20% of similar homes.
- **Similar Homes**: Shows the average energy use of comparable households.
- **You**: Highlights the customer's energy use in relation to the comparison groups. It reflects total home energy use and electric vehicle charging, while also distinguishing usage excluding EV charging.

Comparison State: The chart presentation varies based on the customer's performance:

- **Fair**: Home energy use (excluding EV charging) is higher than efficient homes and similar homes.
- **Good**: Home energy use (excluding EV charging) is lower than similar homes but higher than efficient homes.
- **Great**: Total energy use (excluding EV charging) is lower than efficient homes.
- **Near**: Usage is within approximately ±5% of efficient homes or similar homes.

Legend: Appears below the chart and identifies which portions represent home energy use excluding EV charging and energy used for EV charging.

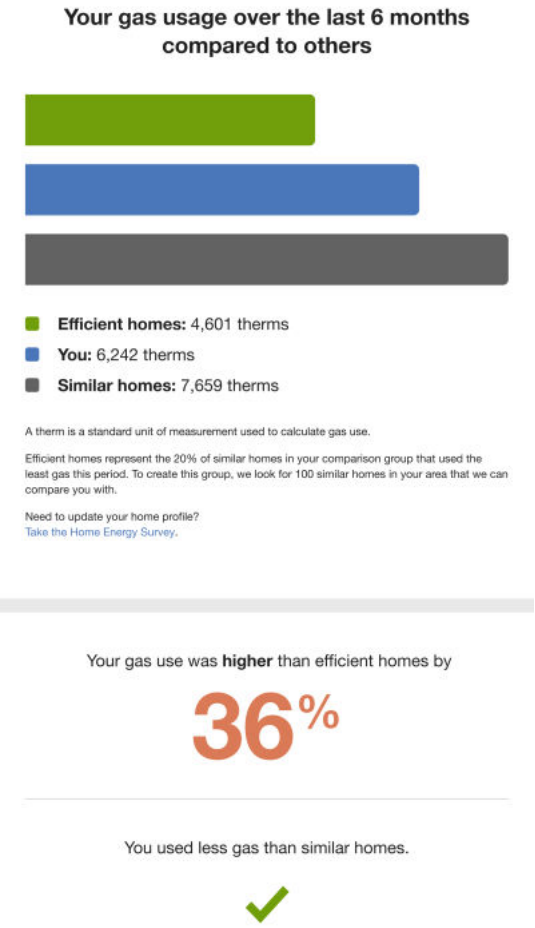
Explainer Text: Describes the comparison group and defines efficient homes. The content varies based on available customer data, such as square footage, heating source, home type, and fuel type.

Top Insight: Displays a color-coded percentage showing how the customer's usage compares to efficient homes. The color reflects performance (Great, Good, or Fair). By default, the percentage is capped at 100%; if exceeded, alternative messaging is used to ensure the insight remains clear and meaningful. See the User Experience Variations for more information.

Bottom Insight: The second insight tells the customer how their usage compared to compared to all neighbors, including efficient neighbors.

Usage Lookback Three-Bar Neighbor Comparison

The Usage Lookback Report helps gas-only customers understand their energy use during the previous heating season. This image shows an example of the Three-Bar Neighbor Comparison module as it appears in the report.



The Three-Bar Normative Comparison module in the Usage Lookback Report differs from the Progress Report in the following ways:

- **Heading**: Specifies the time period covered by the chart, often including the full duration or the starting month.
- **Bar Chart**:Displays energy usage over a longer timeframe, rather than the typical monthly or bi-monthly period shown in a Progress Report..

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types (gas, electricity, dual fuel, and so on), available data, costs, locale, and other factors.

Gas-Only and Dual Fuel

Gas-only and dual-fuel customers see different energy units in the Three-Bar Neighbor Comparison module. For gas-only customers, electricity units (kWh) are replaced with therms, while dual-fuel customers see usage displayed in "units."

Seasonal Report

The Seasonal Report includes the Seasonal Normative Comparison by default, instead of the three-bar Neighbor Comparison. The Three-bar Neighbor Comparison may be used in place of the default module. See the Seasonal Normative Comparison for more information.

Annual Report

The annual version of the module differs from the Three-Bar Neighbor Comparison in the following ways:

- **Heading**: Specifies the months for which the chart covers.
- **Bar Chart**: Displays how much energy each group in the comparison used during the months included in the Annual Report.

Seasonal Lookback Report

The seasonal lookback version of the Three-Bar Neighbor Comparison module differs from the in the following ways:

- **Heading**: Copy includes the count of months for the date range that is configured, or the start month for the date range that is configured.
- **Bar Chart**: Displays how much energy each group in the comparison used during the months included in the report. Therms are used as the unit of measurement for gas customers.

Insight Statements

The insight statements provide the customer with a summary of their energy use compared to efficient homes or average neighbors. The insight statements can vary depending on the report type, benchmark state, fuel type, and percentage insight threshold. By default, the percentage insight threshold for the top insight is >100%. When the threshold is exceeded, alternative insight statements are used to ensure that the insights have a material impact on the user.

The following table provides an example of how the insight statement can vary for an electric-only or dual-fuel customer in a "Good" benchmark state.

Comparison Language	Insight Type	Example Insight
Similar Homes	Standard	**Top Insight** Your energy use was higher than efficient homes by 48% **Bottom Insight** You used less energy than similar homes
Similar Homes	Alternative	**Top Insight** Your energy use was higher than efficient homes **Bottom Insight** You used less energy than similar homes
Neighbors	Standard	**Top Insight** Your energy use was higher than efficient neighbors by 48% **Bottom Insight** You used less energy than average neighbors
Neighbors	Alternative	**Top Insight** Your energy use was higher than efficient neighbors **Bottom Insight** You used less energy than average neighbors

Efficiency Zone

> **Note**
>
> Some report types have the option of including either the Efficiency Zone or a Three-Bar Neighbor Comparison in their report experience. While the Efficiency Zone increases customer satisfaction over the Neighbor Comparison, savings are higher in programs that include the Neighbor Comparison module. For this reason, it is recommended that utilities with a savings-focus include a Neighbor Comparison in their report experience instead of the Efficiency Zone.

The Efficiency Zone module is designed to motivate customers to save energy by showing how their usage compares to similar homes. It reframes the "Efficient Homes" concept from the Neighbor Comparison to improve customer understanding and satisfaction while still encouraging energy efficiency. The module includes a bar graph that compares the customer's usage and similar homes' usage against an Efficiency Zone, along with insights that help put the customer's performance into context. Usage at or below the threshold is considered within the "efficiency zone." The Efficiency Zone threshold represents the average usage of the most efficient 20% of similar homes for that billing period and may vary from one report to the next.

> **Note**
>
> The normative comparison in Digital Self Service - Energy Management mirrors the customer's report experience. For example, a customer that receives the Efficiency Zone in their report will also see an Efficiency Zone in the web portal.

Appears in: Progress Report, Welcome Report, Limited Income Report Annual Report, Time of Use Report

Requirements

Utility Requirements

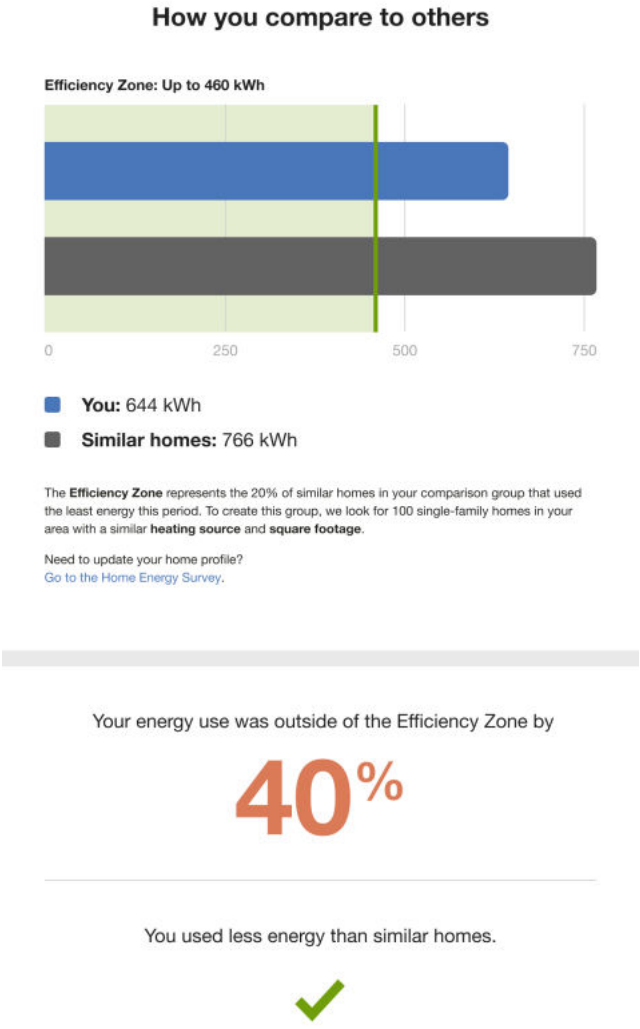
Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	Billed usage data.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electricity, gas, and dual fuel.

User Experience

This image shows an example of the Efficiency Zone module.



Heading: Introduces the comparison with the title "How you compare to others," inviting customers to explore their energy use in more detail.

Threshold: Displayed above the graph, the threshold label (for example, "Up to 500 kWh") represents the Efficiency Zone limit. This threshold is based on the average usage of the most efficient 20% of similar homes for that billing period and updates with each report. A light green shaded area and a darker green vertical line visually indicate the range and boundary of the Efficiency Zone.

Graph: Shows the customer's energy use ("You") compared to Similar Homes, with the Similar Homes bar representing the average usage of comparable households.

Hero Insight: A large, color-coded percentage that highlights the customer's usage relative to Similar Homes.

- Green indicates the customer is within the Efficiency Zone (aligned with a "Great" state).

- Orange indicates the customer is outside the Efficiency Zone (aligned with a "Fair" state).

The hero insight has three primary states:

- **Great:** In the Efficiency Zone
- **Good or Fair:** Outside the Efficiency Zone
- **Fair:** Higher than Similar Homes

Explainer Text: Describes the data used in the comparison and provides guidance on how customers can update or refine this information through the Home Energy Analysis.

Secondary Insight: Appears below the hero metric and varies based on the customer's usage. Customers within the Efficiency Zone or using less than similar homes see a positive indicator (such as a green check), while those outside the zone see a negative indicator (such as an orange "X"), signaling an opportunity to improve. There are several possible states:

- **Great:** In the Efficiency Zone
- **Great:** Near the Efficiency Zone
- **Good:** Lower than Similar Homes
- **Good:** About the same as Similar Homes
- **Fair:** Not in the Efficiency Zone

Customer Bill Alignment: In some cases, a customer's billing periods do not align exactly with those of their comparison groups. To ensure accurate comparisons, similar homes' energy usage is adjusted to match the customer's billing periods. This is done by pro-rating, or "time-shifting," the data based on the degree of overlap between billing cycles. The adjusted values are then used to calculate the averages for similar homes.

User Experience Variations

The user experience varies for customers depending upon their service types, available data, costs, and locale. Note that the following list indicates the primary user experience variations, not all possible variations.

Fuel Type

Gas-only and dual-fuel customers see variations in both the units and language used in the Efficiency Zone module. For gas-only customers, electricity units (kWh) are replaced with therms, while dual-fuel customers see usage displayed in "units." The insight text is also adjusted accordingly: "electricity" is replaced with "natural gas" for gas-only customers and "energy" for dual-fuel customers.

Explainer Text

The explainer text varies depending on the available customer data.

- **Full Data:**If square footage, heating source, home type, and fuel type are available, the text reads: "To create this group, we look for 100 single-family homes in your area with a similar heating source and square footage."
- **Home Size Data:**If square footage, home type, and fuel type are available, the text reads: "To create this group, we look for 100 single-family homes in your area with a similar square footage."
- **Minimum Data:**If only home type and fuel type are available, the text reads: "To create this group, we look for 100 single-family homes in your area that we can compare you with."

Substituting the Neighbor Comparison for the Efficiency Zone

Utilities have the option of including a version of the Three-Bar Neighbor Comparison in their report instead of the Efficiency Zone module. Substituting the Neighbor Comparison for the Efficiency Zone module does not impact the Energy Use Benchmark.

Welcome Report and Limited Income Welcome Report (for Legacy Customers)

The upper right corner of the module includes a number that corresponds to the Efficiency Zone highlight in the Welcome.

Annual Report

The Efficiency Zone for the Annual report includes the following variations:

- **Heading:** The heading is, "How your use compares to others over the last [XX] months."
- **Hero Insight**: The hero insight graph shows usage for the previous 12 months (or portion thereof) instead of the usual one or two month summary.

Peak Focused Normative Comparison

The Peak Focused Normative Comparison module helps customers understand how their energy use compares to their neighbors. It compares the customer ("You") to "Efficient Neighbors" and "Average Neighbors," and assigns a performance category such as Fair, Good, or Great to indicate how their electricity use compares. Results are displayed in a horizontal bar graph, along with total electricity usage values to provide context for how peak usage relates to overall consumption. Based on the customer's performance category, an insight message below the graph either highlights opportunities for additional savings or recognizes strong performance relative to neighbors.

Appears in: Peak Focused Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Maximum of 300,000 a week.

Customer Requirements

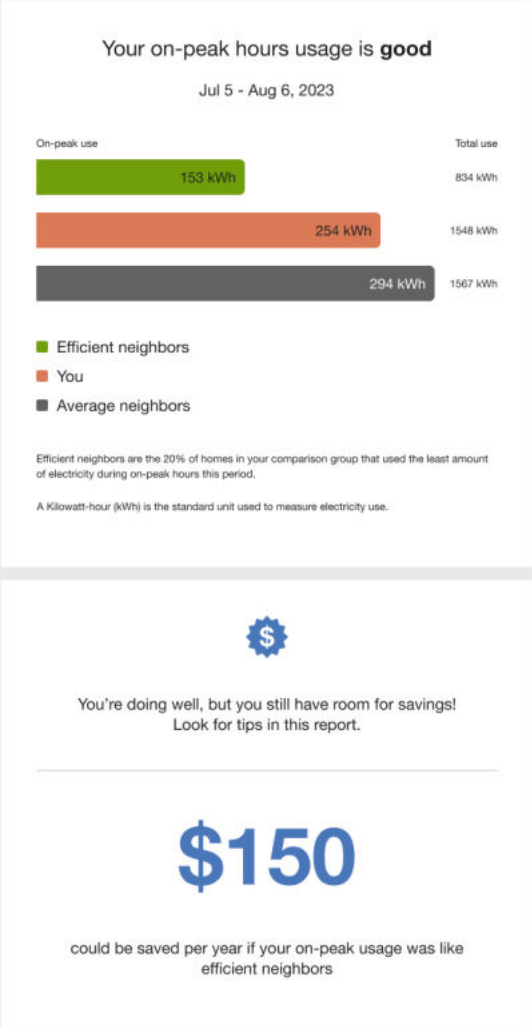
Category	Description
Billing Frequency	Monthly or bi-monthly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	Billing data and third-party data.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electric-only.

Limitations

This modules is only available as part of the Peak Focused Report for customers on Time of Use rate plans. It also supports customers who receive demand charges on their Time of Use rate plans.

User Experience

This section describes the user experience for a customer with good usage.



Header: Informs the customer that the module compares their on-peak energy use to that of their neighbors.

Bar Chart: Displays energy usage for each comparison group, typically ordered from lowest to highest.

- **You**: Represents the customer's energy use, usually shown in a color aligned with the utility's brand.
- **Average Neighbors**: Shows the average energy use of all neighbors, typically displayed in a neutral color such as gray.
- **Efficient Neighbors**: Represents the usage threshold for the most efficient 20% of neighbors. This is typically shown in green, a color associated with energy efficiency. The value reflects the 20th percentile rather than an average, and is used to define the efficiency benchmark.

Explainer Text: Appears below the chart and explains how the comparison is calculated. It defines efficient neighbors as the 20% of similar homes that use the least energy and clarifies the units used in the comparison.

Insight Statement: Appears alongside the chart and explains the customer's performance. Each performance state includes tailored top and bottom insights.

- **Billing Period**: Displayed at the top of the insight section, indicating the timeframe covered.
- **Top Insight**: Shows either a percentage or a message indicating how much more or less energy the customer used compared to efficient neighbors. The color reflects the customer's performance.
- **Bottom Insight**: Provides additional context, either highlighting potential savings or reinforcing performance. The savings version estimates annual cost differences using the customer's Time of Use rate, while the percentage version shows how usage compares to neighbors.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types (gas, electricity, dual fuel, and so on), available data, costs, locale, and other factors.

Insight Statement Variations

Insight messaging adjusts based on how the customer's cost or savings compares to defined thresholds:

- **Monetary**: Used when cost or savings values exceed the defined threshold.
- **Fallback**: Used when cost or savings values do not exceed the threshold.
- **Alternative insights**: Used when the fallback state is active and the usage percentage exceeds 99%.

Neighbors and Similar Homes Language

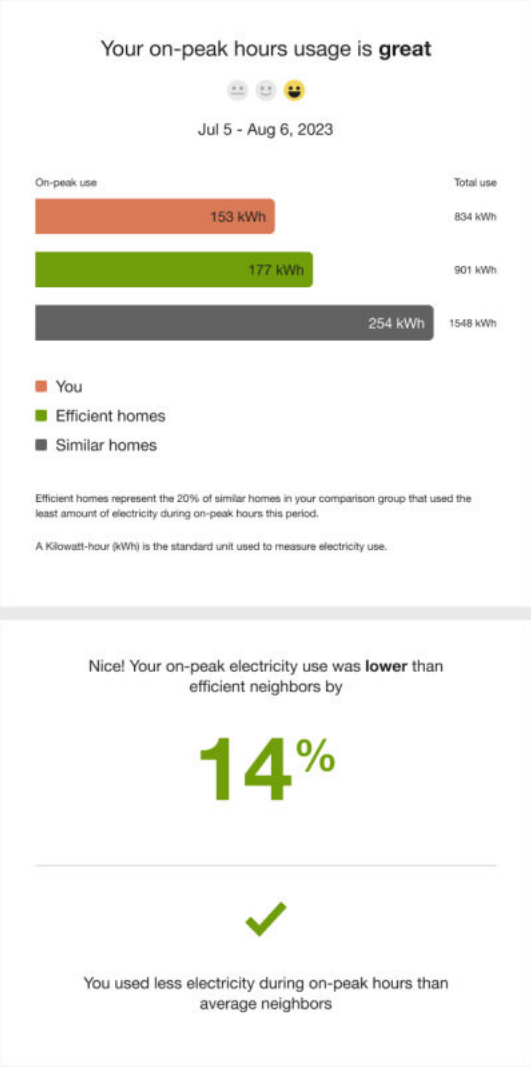
Utilities can configure the module to use either "similar homes" or "neighbors" terminology. This allows the comparison to better align with customer context. For example, "neighbors" may be less clear in rural areas with dispersed homes or in dense urban settings with diverse housing types. While the terminology can change, the underlying comparison group remains the same; only the wording in the insights is adjusted.

Icons

Utilities can choose to include an icon set displayed alongside the main insight heading. Each set visually represents the customer's performance state (Fair, Good, or Great), matching the normative comparison result. Available options include:

- No icons (Off)
- Smiley icons (neutral or thinking expressions)
- Leaf icons
- Medal icons

The following image is an example of the module with neutral smiley icons enabled for a customer in the "great" usage state.



The following is an example of the thinking comprehension-focus smiley icons for the "fair" usage state.

The following is an example of the environmental-focus leaf icons for the "good" usage state.

The following is an example of the competitive medal icons for the "great" usage state.

Seasonal Normative Comparison

The Seasonal Normative Comparison module compares the customer's cooling or heating energy use from the previous season against that of other homes. This comparison motivates them to reduce cooling energy use during the upcoming extreme weather season.

Appears in: Seasonal Report

Requirements

Utility Requirements

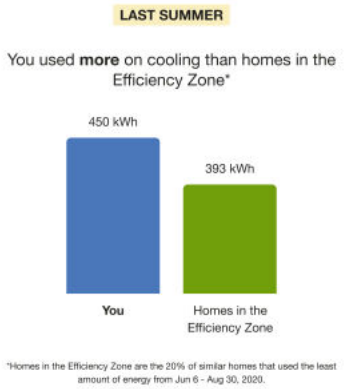
Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	Energy disaggregation data is required to get an estimate of the customer's heating and cooling usage. **Minimum**: The minimum requirement is average energy use data for the households in a utility's region. This data is typically obtained from public data sources. The module then uses the customer's responses to the Home Energy Analysis survey to adjust the averages and yield personalized results about the customer's heating or cooling usage. **Recommended**: The recommended approach is to use weather data and at least six historical bills, as this will provide more accurate heating and cooling disaggregation results. Additional data requirements may apply depending on the utility's setup, configuration, and whether any advanced data science models are used.
Data History	A minimum of one historical bill. Additional data history requirements apply depending on the utility's setup, configuration, and any data science model usage.
Data Coverage	Not applicable.
Supported Fuels	Electricity, gas, and dual fuel.

User Experience

This section describes the summer Seasonal Normative Comparison experience for a customer whose program includes an Efficiency Zone.



Normative Message Label: Identifies the comparison season, such as last summer or winter.

Insight: Appears above the bar chart and summarizes whether the customer used more or less energy, by fuel type, compared to efficient homes during the selected season.

Bar Chart: Displays the energy usage for each group in the comparison.

You: Represents the customer's energy use, typically shown in a color aligned with the utility's brand.

Homes in the Efficiency Zone: Shows the average energy use of neighbors within the Efficiency Zone, typically displayed in green. The label aligns with the version of the normative comparison used in the customer's report.

Explainer:Appears below the chart and defines the Efficiency Zone, along with the relevant seasonal date range.

User Experience Variations

The user experience varies for customers depending upon their service types, available data, costs, and locale. Note that the following list indicates the primary user experience variations, not all possible variations.

Winter Seasonal Variation

The winter version of the Seasonal Neighbor Comparison compares the customers heating energy use from the previous winter to other homes in order to motivate them to reduce heating energy use during the upcoming winter. It varies from the summer version of the report in the following ways:

- **Normative Message Label**: Identifies the comparison season. For example, "Last Winter."
- **Insight**: A state-dependent insight focused on heating use summarizes the information in the bar chart. For example, "You used more on heating than homes in the Efficiency Zone."

Normative Comparison Type

The type of normative comparison used in this module is consistent with the comparison graph used in the customer'sProgress Report. For example, customers who receive aThree-Bar Neighbor Comparison as part of their Progress Report receive a three-bar Seasonal Neighbor Comparison. "Efficient homes" is used for Neighbor Comparison recipients in the insight, graph label, and explainer areas for each data state.

Insight Variations

The module insight varies depending on the graph state. The following table provides an example of how the module changes for a customer whose program includes an Efficiency Zone.

Graph State	Insight
Less than efficient homes	You used less on [cooling/heating] than homes in the Efficiency Zone
More than efficient homes	You used more on [cooling/heating] than homes in the Efficiency Zone
Same as efficient homes	Nice work! You used about the same amount of energy on [cooling/heating] as homes in the Efficiency Zone

Personal Tracker

The Personal Tracker is an optional module that compares a customer's current energy usage to the previous year, covering up to a full year of data. Depending on available data, it can display as few as three billing periods or as many as two full years. The module includes an evaluative statement summarizing the customer's performance, a bar chart for visualization, seasonal context, and insights explaining why energy use may have increased, decreased, or remained consistent. Its goal is to provide clear, actionable insights that help customers better understand their energy use and make informed decisions to improve efficiency.

Appears in: Progress Report, Usage Lookback Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	Billed usage data.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	**Progress Reports**: Electric-only, gas-only, dual fuel.

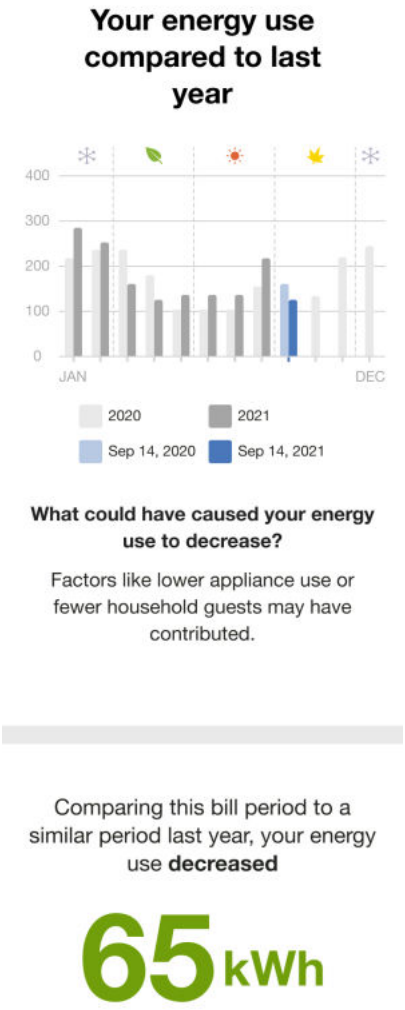
Limitations

The module can only be used in the Progress Report.

User Experience

Progress Report

This section describes the Progress Report user experience for an electric-only customer.



Header: Informs the customer that the module compares their current energy use to the previous year.

Bar chart: Displays the customer's energy usage over time and, when sufficient data is available, compares it to the previous year. The chart supports different billing cycles, including monthly, bimonthly, and quarterly periods, and typically shows usage month over month back to the start of the prior year.

- **Unit of Measure**: Varies by fuel type, such as kWh, therms, or units.
- **Legend**: Distinguishes between current and previous year data, as well as the current billing period and the corresponding period from the previous year.

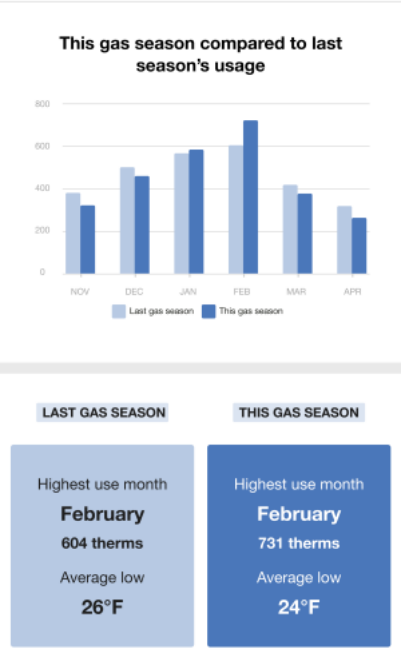
- **Seasonal Icons**: Appear above the chart to indicate the season for each billing period.

Insight: Appear above the chart to indicate the season for each billing period.

Secondary Insight: Provides additional context for changes in energy use, often related to temperature differences between billing periods. Using weather-based calculations, the module explains whether higher or lower average temperatures may have influenced the increase or decrease and offers relevant guidance.

Usage Lookback Report

The Personal Tracker module for the Usage Lookback Report provides customers with a comparison of their current gas and heating season's usage to the previous season.



Header: Informs the customer that the module compares the current gas and heating season to the previous year's season.

Bar chart: Displays the customer's gas usage over the current heating season and compares it to the same period from the previous year. The module supports monthly and bimonthly billing periods. An algorithm aligns billing data across years to calendar months, ensuring an accurate year-over-year comparison.

- **Unit of Measure**: Gas usage is displayed in therms.
- **X-axis**: Each bar is labeled by the month containing the majority of days in the billing period. For example, a bill from January 29 to February 28 would appear under February.
- **Legend**: Distinguishes between data from the current season and the previous season.
- **Insight:** Appears below the chart and highlights the highest-usage month for both the current and previous heating seasons, including
  - Highest use month
  - Number of therms used
  - Average low temperature

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types (gas, electricity, dual fuel, and so on), available data, costs, locale, and other factors.

Fuel Type

The module varies by customer fuel type:

Dual Fuel: For dual-fuel customers, "energy use" is used in the module title and insights. The measurements are in units.

Gas: For gas customers, gas-specific language us used in the title and insight. The measurements are in therms.

Energy States

The copy of the first and second insight varies depending on the customer's energy state and fuel type.

Energy State	Primary Insight	Secondary Insight
Energy use decreased compared to last billing period	What could have caused your [gas/energy/net energy] use to decrease? Changes in your household this period, like using less hot water than usual or fewer people at home, may have lowered your [gas/energy/net energy] use.	Comparing this bill period to a similar period last year, your [gas use/energy/net energy] use decreased XX [therms/ units/kWh]
Energy use increased compared to last billing period	What could have caused your [gas/energy net energy] use to increase? Changes in your household this period like using more hot water than usual or a long-term guest may have contributed.	Comparing this bill period to a similar period last year, your [gas/energy/ net energy] use increased XX [therms/units/ kWh]
Energy use is similar to last billing period	How could you lower your [gas/energy use/net energy] use? Upgrade to water-efficient appliances. If your appliances use less water, you won't be spending as much on water heating.	Comparing this bill period to a similar period last year, your [gas/energy/net energy] use was XX [therms/units/kWh]

Bi-Monthly or Quarterly Billing

Customers with bimonthly billing: Each energy use bar is plotted at the end of the two-month billing period, resulting in fewer data points than monthly billing. In this case, the seasonal icons above the chart are replaced with a short explanatory message: "We report energy use based on the end of your bimonthly bill period."

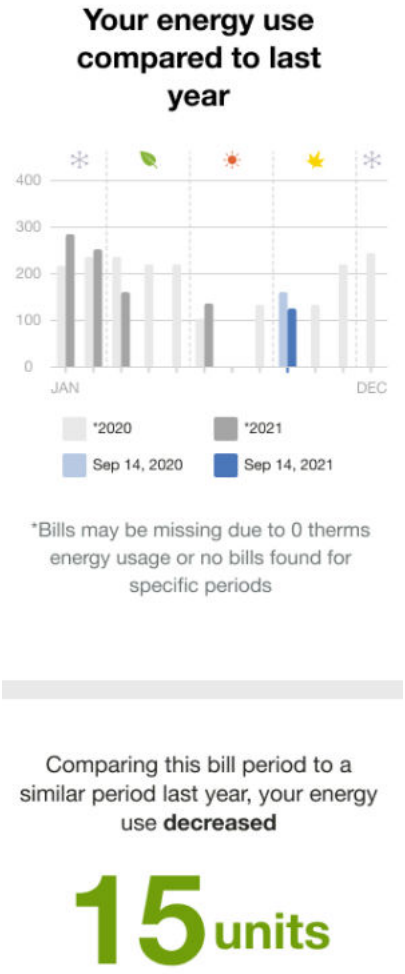
Customers with quarterly billing: Each energy use bar is plotted at the end of the three-month billing period, resulting in fewer data points than monthly or bimonthly billing. Similarly,

the seasonal icons are replaced with the message: "We report energy use based on the end of your quarterly bill period."

Available Data

Fewer than 13 months of data are available

The header changes to "Track your progress." If data is missing for either the current year or the previous year, a single bar is centered on the corresponding x-axis position. A message below the graph explains possible reasons for the missing data, and asterisks in the legend indicate which years have incomplete data.

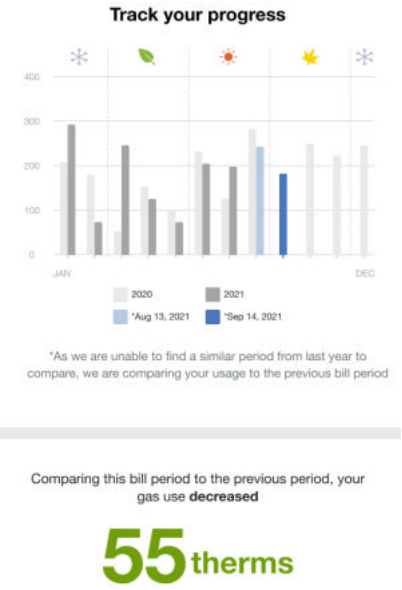


More than 13 months of data are available but a year-over-year comparison is not possible

More than 13 months of data are available but a year-over-year comparison is not possible due to missing data from the same billing period in the previous year, the module instead compares the current period to the most recent prior billing period.

For example, if data for September 2020 is missing, the module compares September 2021 usage to August 2021. The primary insight clarifies that this comparison is used because a

matching period from the previous year is unavailable. The secondary insight then indicates whether the customer's usage increased or decreased relative to that prior period.



Module failure

The module fails if comparison when the last year's similar billing period and previous bill period is not possible.

Promotion Module

The Promotion module enables the utility to promote a program of their choice that is related to the available disaggregation categories: heating, cooling, water heating, appliances, lighting, and fridge. The module is designed to help the customer understand the cost and benefits of taking advantage of the program. Oracle Utilities Opower works directly with the utility to design the promotion module on the front of the report to be specific to the report promotion.

Appears in: Promotion Report

On this page:

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Not applicable.

Category	Description
Data Requirements	To target the promotion to customers with a specific energy appliance or energy use pattern, the Oracle Utilities Opower platform requires data about how a customer uses energy in specific end-use categories such as heating or cooling. **Minimum**: The minimum requirement is to have average energy use data for households in a utility's region. This data is typically obtained from public data sources and is used as a baseline for the Home Energy Analysis survey. Customer responses to the survey can then be used to determine what appliances customers have or how their energy breaks down into specific categories, so that the promotion can be targeted to them. **Recommended**: The recommended approach is to use Oracle Utilities Opower data science models to generate more accurate appliance detection and disaggregation results. In this case, the data requirements include a combination of billed usage data, daily or subdaily AMI data, and weather data. Your Delivery Team will work with you to understand the specific requirements and help you identify the best approach for your situation.
Data History	Depending on which Oracle Utilities Opower data approach is used, one of the following data history requirements may apply: • One historical bill from the last bill period or previous to last bill period. • A minimum of 60 days of AMI reads for AMI customers. • A minimum of six historical bills for non-AMI customers.
Data Coverage	Depending on which Oracle Utilities Opower data approach is used, the data coverage requirements may include subdaily AMI data and temperature data points.
Supported Fuels	Electric-only, gas-only, dual fuel.

User Experience

This image shows an example of a Promotion module featuring a hot water heater.

Header: Introduces the promotion and prepares the customer to learn how they can save.

Rebate or Discount: Highlights the amount the customer can save by taking advantage of the promotion.

Illustration: Provides a visual representation of the promotion.

Body Text: Describes the cost savings, energy efficiency, environmental benefits, and comfort improvements associated with the promotion.

Call to Action: Includes a button that directs the customer to access the promotion.

User Experience Variations

The user experience varies for customers depending on their energy use, service types, available data, costs, locale, and if the utility elects to promote an end use that is not the customer's largest end use category.

Heating and Cooling Combined

The combined heating and cooling messaging may include feel-good or community-oriented themes that emphasize the personal benefits of taking action. For example, a promotion might highlight how installing a smart thermostat helps manage heating and cooling without sacrificing comfort, including the ability to adjust settings from a smartphone. It may also emphasize potential cost savings and explain how reduced energy use can contribute to lowering greenhouse gas emissions.

Seasonal Breakout

The Seasonal Breakout module shows what percentage of a customer's energy use during the previous summer or winter was dedicated to cooling or heating. Its purpose is to highlight how significant these seasonal costs can be and to prepare the customer for the related insights and tips presented later in the report.

Appears in: Seasonal Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

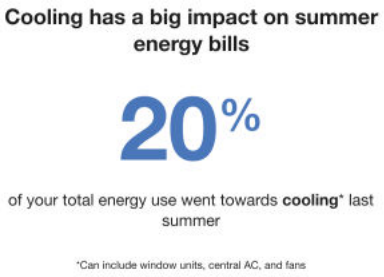
Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Not applicable.
Data Requirements	The Oracle Utilities Opower platform requires data about how much energy a customer used for cooling or heating in the previous summer or winter season. **Minimum**: The minimum requirement is to have average energy use data for households in a utility's region. This data is typically obtained from public data sources and is used as a baseline for the Home Energy Analysis survey. Customer responses to the survey can then be used to determine how their energy breaks down into heating and cooling categories. **Recommended**: The recommended approach is to use Oracle Utilities Opower data science models to generate more accurate heating and cooling disaggregation results. In this case, the data requirements include a combination of billed usage data, daily or subdaily AMI data, and weather data. Your Delivery Team will work with you to understand the specific requirements and help you identify the best approach for your situation.

Category	Description
Data History	Depending on which Oracle Utilities Opower data approach is used, one or more of the following data history requirements will apply: • Billed usage data from the previous summer or winter season. • A minimum of 60 days of AMI reads for AMI customers. • A minimum of six historical bills for non-AMI customers.
Data Coverage	Depending on which Oracle Utilities Opower data approach is used, the data coverage requirements may include subdaily AMI data and temperature data points.
Supported Fuels	Electricity-only, gas-only, dual fuel.

User Experience

The image below is an example of the module for a customer who receives the summer Seasonal Report.



Header: Highlights that cooling usage significantly impacts the customer's summer energy bills.

Insight: Indicates the percentage of energy used for cooling during the previous summer.

Explainer: Clarifies that the calculation includes common cooling appliances such as window units, central air systems, and fans.

User Experience Variations

Winter Seasonal Report

The winter version of the Seasonal Report focuses on the impact that heating had on the customer's previous winter energy bills. The explainer text below the insight notes that the calculation considers furnaces, boilers, baseboard heaters, and space heaters.

Subject Line, Header, and Footer

The subject line and header are used to engage the customer and brand the communication. The footer provides customers with links to manage preferences and unsubscribe from the email channel. It also contains the utility address, necessary legal text, and optional app download and social media links. The user experience varies by report type.

Appears in: All Report Types

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Not applicable.
Data Delivery Frequency	Not applicable.
Data Requirements	For the Promotion Report, the Oracle Utilities Opower platform requires data about how much energy customers used in specific end-use categories, such as heating or cooling, so that the top three categories can be highlighted. **Minimum**: The minimum requirement is to have average energy use data for households in a utility's region. This data is typically obtained from public data sources and is used as a baseline for the Home Energy Analysis survey. Responses to the survey can then be used to determine a breakdown of how customers used energy in different categories. **Recommended**: The recommended approach is to use Oracle Utilities Opower data science models to generate more accurate energy use disaggregation results. In this case, the data requirements include a combination of billed usage data, daily or subdaily AMI data, and weather data. Your Delivery Team will work with you to explain the specific requirements and help you identify the best approach for your situation.
Data History	Depending on which Oracle Utilities Opower data approach is used, one of the following data history requirements may apply for the Promotion Report header: • One historical bill from the last bill period or previous to last bill period. • A minimum of 60 days of AMI reads for AMI customers. • A minimum of six historical bills for non-AMI customers.
Data Coverage	Depending on which Oracle Utilities Opower data approach is used, the data coverage requirements for the Promotion Report header may include subdaily AMI data and temperature data points.

Category	Description
Supported Fuels	All fuel types.

User Experience

The user experience for the subject line, header, and footer varies slightly depending on the report type.

Subject Line

The subject line is designed by Oracle Utilities to engage customers. All subject lines include a customer's name, as our research has shown that including the customer's name results in a higher open rate.

Annual Report: The default subject line is designed to shift the customer's focus to their energy use over the last calendar year. "[first name, last name], here's your [YYYY] Energy Lookback"

Usage Lookback Report: "[first name, last name] Your Home Energy Report is here"

Electric Vehicle Report: Utilities have the choice of using a standard default subject line each time: "[first name, last name] Your Home Energy Report is here."

Limited Income Report: The subject line varies by report type:

- **Limited Income Welcome Report**: "[first name], check out your new Home Energy Report"
- **Limited Income Progress Report**: Utilities have the choice of using a standard default subject line ("[first name, last name] Your Home Energy Report is here") or choosing dynamic subject lines that vary based on customer state.

Peak Focused Report: The default subject lines are designed to acknowledge the time of use plan experience. The subject line varies by report type:

- **Peak Focused Welcome Report**: "[first name], check out the new Home Energy Report"
- **Peak Focused Progress Report**: "[first name, last name] Your Home Energy Report is here"

Progress Report: Utilities have the choice of using a standard default subject line each time "[first name, last name] Your Home Energy Report is here" or choosing a dynamic subject lines that vary based on customer state.

Promotion Report: The subject line varies by disaggregation category. For example, it may show the customer's name and ask how much they are spending on a disaggregation category such as heating, cooling, or appliances.

Seasonal Report: The default subject line is designed to shift the customer's focus to seasonal energy efficiency. "Hi [first name, last name], see how much energy you used last [winter/summer]"

Solar Report: The Solar Report includes a static subject line that emphasizes that the customer is part of a solar report experience. The subject line varies by report type:

- **Solar Welcome Report**: "Hi [first name] your Home Energy Report for solar households is here"
- **Solar Progress Report**: "Hi [first name], your Home Energy Report is here"

Time of Use Report: The default subject lines are designed to acknowledge the time of use plan experience. The subject line varies by report type:

- **Time of Use Welcome Report**: "[first name], check out the new Home Energy Report"
- **Time of Use Progress Report**: "[first name, last name] Your Home Energy Report is here"

Welcome Report: "[first name], check out your new Home Energy Report"

Header

The report headers are distinct and appear at the top of each communication. Most of the report headers simply provide a colorful introduction. The header of the Promotion Report is unique in that it highlights three energy end-uses in the customer's home where their usage is the highest and they may benefit from taking action to lower their usage.

Appears in: All Report Types

Annual Report

This image is an example of the Annual Report header.

Logo: A logo provided by the utility.

Utility Account Number: The inclusion of the account number makes the report more credible and signals that this is in fact a communication from the utility. Part of the account number is obscured by default.

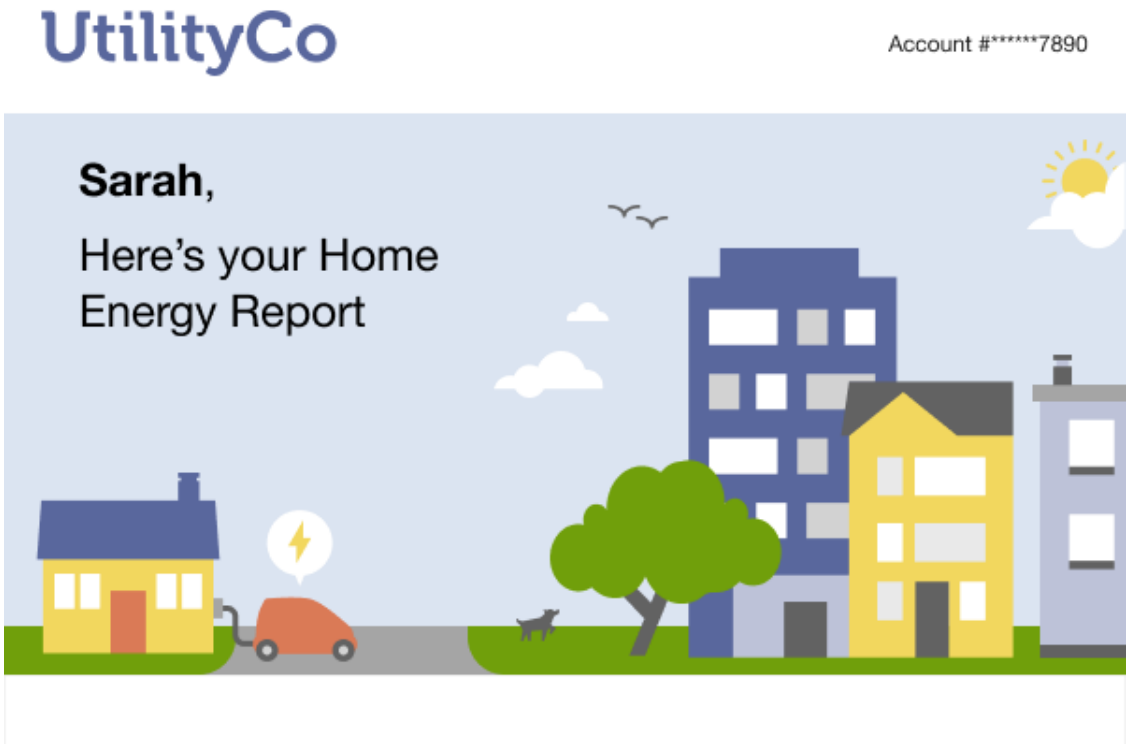
Annual Introduction: The image provides a colorful introduction to the report.

- **Heading**: The heading alerts customers that now is the time to take a look back over their energy use for the previous calendar year.
- **Subheading**: The subheading identifies the calendar year encompassed in the report and identifies the customer's fuel type.

- **Illustration**: A colorful illustration that includes a laptop displaying the Efficiency Zone or three-bar Neighbor Comparison visually connects the Annual Report to the larger report experience.

Electric Vehicle Report

This image is an example of the Electric Vehicle Report header for an existing customer.



Logo: A logo provided by the utility. This is the same logo used in the Energy Efficiency Web Portal.

Utility account number: The customer's utility account number.

Electric Vehicle Introduction: The electric vehicle introduction image provides a colorful introduction to the report. It includes the customer's name and the report name. The illustration is of a home with a charging electric vehicle.

- **New Customers**: If the customer is entirely new to the program or it is their first Home Energy Report, the text is "Sarah, Here's your new Home Energy Report"
- **Legacy Customer**: If the customer has previously received an Email Home Energy Report, the text does not include the word "new."

Limited Income Report

The Limited Income Report educates limited income customers about ways to be more energy efficient and presents opportunities for them to reduce their immediate and future bills. The report uses the same headers as the Welcome Report and the Progress Report.

Peak Focused Report

This image is an example of the Peak Focused Report header for an existing customer.

Logo: A logo provided by the utility. This is the same logo used in the Energy Efficiency Web Portal.

Utility account number: The customer's utility account number.

Peak Focused Introduction: The header provides a colorful introduction to the report with an illustration that echoes the report theme with images of homes paired with time based rate icons.

- **New Customers**: If the customer is entirely new to the program or it is their first Home Energy Report, the text is "Sarah, Here's your new Home Energy Report"
- **Legacy Customer**: If the customer has previously received an Email Home Energy Report, the text does not include the word "new."

Progress Report

This image is an example of the header for the Progress Report, Limited Income Progress Report, and Time of Use Progress Report.

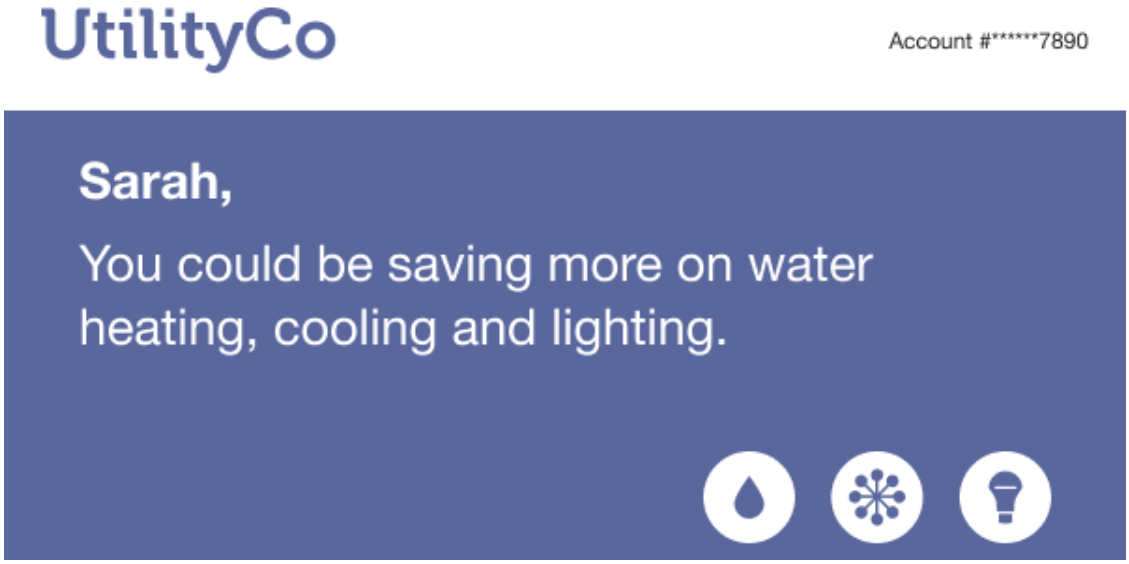
Logo: A logo provided by the utility. This is the same logo used in the Energy Efficiency Web Portal.

Utility Account Number: Since the account number is required to register on the Energy Efficiency Web Portal, having the number on the report provides a useful reference for customers. Part of the account number is obscured by default.

Progress Introduction: The progress introduction provides a colorful introduction to the report. It includes the customer's name, program introduction, and report name.

Promotion Report

This image is an example of the Promotion Report header.



Logo: A logo provided by the utility.

Utility Account Number: The inclusion of the account number makes the report more credible and signals that this is in fact a communication from the Utility. Part of the account number is obscured by default.

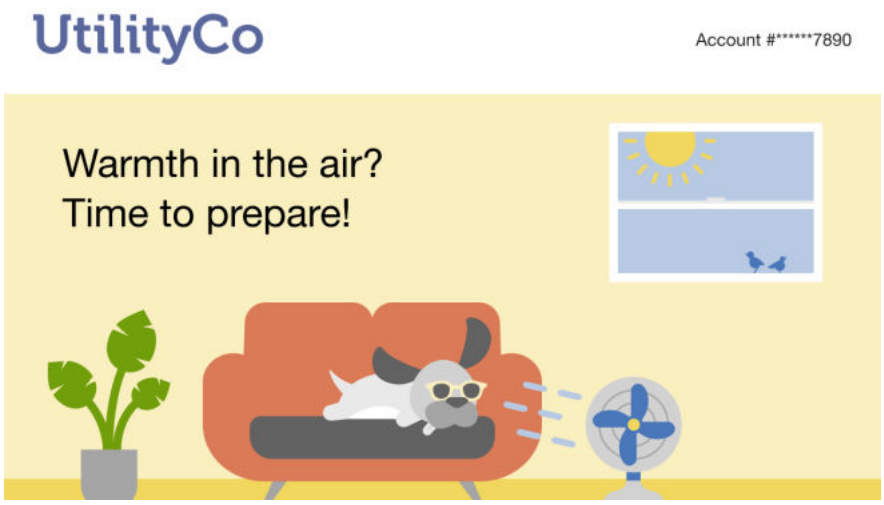
Promotion Introduction: The Promotion Introduction highlights three end-uses in the customer home where their use is the highest or they may benefit from making behavioral changes and taking advantage of a utility-offered promotion.

Seasonal Report

These images are examples of the Seasonal Report headers.

Winter Seasonal Report

Summer Seasonal Report



Logo: A logo provided by the utility.

Utility Account Number: The inclusion of the account number makes the report more credible and signals that this is in fact a communication from the Utility. Part of the account number is obscured by default.

Seasonal Introduction: The image provides a colorful introduction to the report deigned to motivate customers to reduce their energy use in the lead up to the extreme weather seasons of summer and winter.

Solar Report

This image is an example of the Solar Report header.

Logo: A logo provided by the utility. This is the same logo used in the Energy Efficiency Web Portal.

Utility Account Number: Since the account number is required to register on the Energy Efficiency Web Portal, having the number on the report provides a useful reference for customers. Part of the account number is obscured by default.

Solar Introduction: The solar introduction provides a colorful introduction to the report. It includes the customer's name, program introduction, and report name.

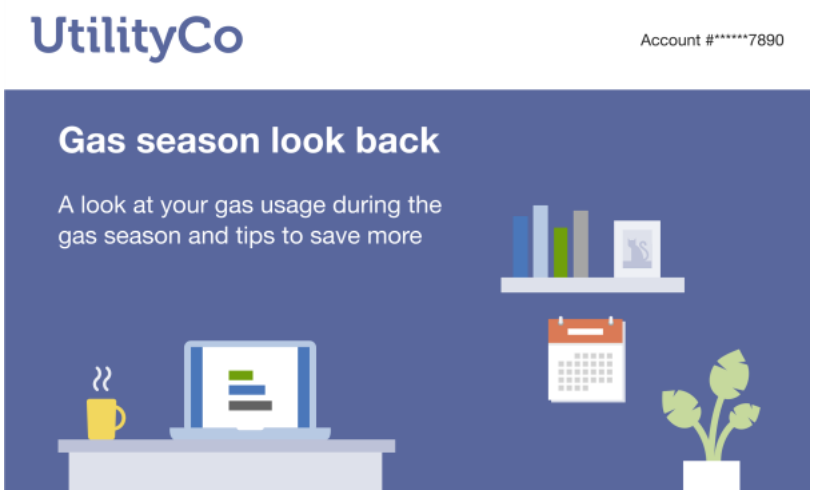
- **New Customers**: If the customer is entirely new to the program or it is their first Home Energy Report, the text is "Sarah, Here's your new Home Energy Report"
- **Legacy Customer**: If the customer has previously received an Email Home Energy Report, the text does not include the word "new."

Time of Use Report

The Time of Use Report provides customers on a Time of Use energy plan with a report experience that is focused on overall energy savings and rate education. The report uses the same headers as the Welcome Report and Progress Report.

Usage Lookback Report

This image is an example of the header for the Usage Lookback Report header.



Logo: A logo provided by the utility.

Utility Account Number: The inclusion of the account number makes the report more credible and signals that this is in fact a communication from the Utility. Part of the account number is obscured by default.

Usage Lookback Introduction: The introduction tells customers what to expect in this Home Energy Report and signals to the customer that the email is different than the standard Progress report:

- **Heading**: The heading alerts customers that now is the time to take a look back at their gas use.
- **Subheading:** The subheading tells the customer that the report will show them information about their gas usage during the previous gas season and provide tips to save more.
- **Illustration**: A colorful illustration that includes a laptop displaying the three bar normative comparison. It does not include an electrical socket.

Welcome Report

This image is an example of the header for the Welcome Report, Limited Income Report, and Time of Use Report header.

Logo: A logo provided by the utility.

Utility Account Number: The inclusion of the account number makes the report more credible and signals that this is in fact a communication from the Utility. Part of the account number is obscured by default.

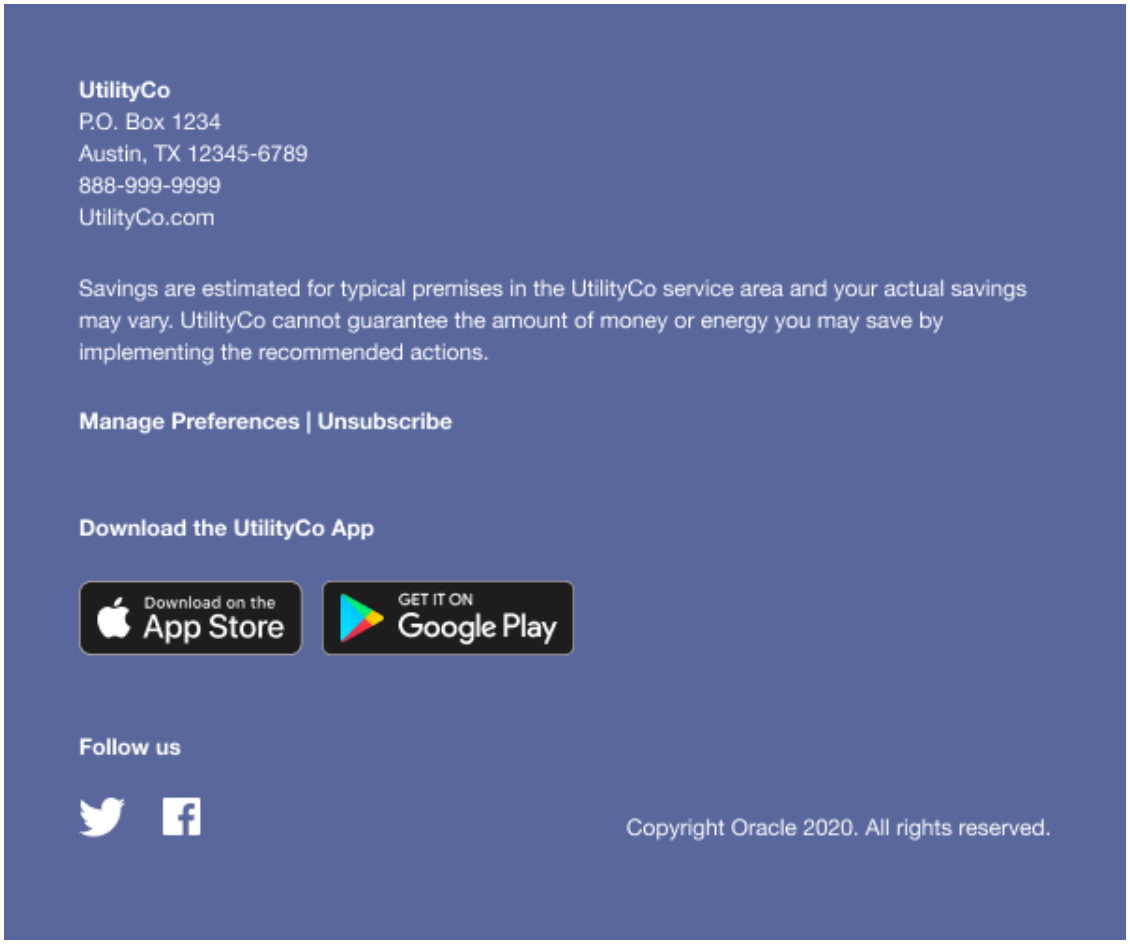
Welcome Introduction: The welcome introduction image provides a colorful introduction to the report. It includes the customer's name, program introduction, and report name. The word "new" is included in the to emphasize that this is a welcome experience.

Footer

The footer is included at the bottom of every report and includes components that provide more context about the report, such as the utility's contact information and legal disclaimers.

Appears in: All Report Types

This image is an example of the Footer module.



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

Manage Preferences: A link to the Energy Efficiency Web Portal page or utility page where a customer can edit their report preferences.

Unsubscribe: A link to a page where customers can unsubscribe from email Home Energy Reports. An unsubscribe link must appear due to CAN-SPAM regulations in the US and similar regulations abroad. The URL the unsubscribe link points to cannot be customized. Unsubscribing from email reports in this manner unsubscribes the customer from all Oracle Utilities Opower email communications. This action is permanent. A customer cannot opt in again after opting out of email Home Energy Reports.

Disclaimer: This is an optional disclaimer that can be customized or removed at the request of the utility.

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

App Download and Social Media Links: Optional app download and social media links that can be added at the request of the utility.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types (gas, electricity, dual fuel, and so on), available data, costs, locale, and other factors.

Annual Report Header

The annual report header varies depending on the customer fuel type and normative comparison type.

Fuel Type: The subheading changes depending on the customer's fuel type.

- **Electricity**: "A review of your [yyyy] electricity use and how to save more this year"
- **Dual**: "A review of your [yyyy} energy use and how to save more this year"
- **Gas**: "A review of your [yyyy} gas use and how to save more this year"

Normative Comparison Type: Customers that receive the Three-Bar Neighbor Comparison variant of the report will see a 3-bar graph version of the illustration. Customers who receive the Efficiency Zone version of the report will see a corresponding Efficiency Zone illustration.

Time of Day Hourly Insight

The Time of Day Hourly Insight provides customers with detailed information about when they use electricity and how their usage compares to a relevant comparison group. The module displays average weekday hourly usage, distinguishing between peak (highest-cost) and non-peak periods. It also highlights the specific peak hour during which the customer consumes the most energy. A call-to-action button directs customers to learn more about their Time of Day rate plan.

Appears in: Peak Focused Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Maximum of 300,000 a week.

Customer Requirements

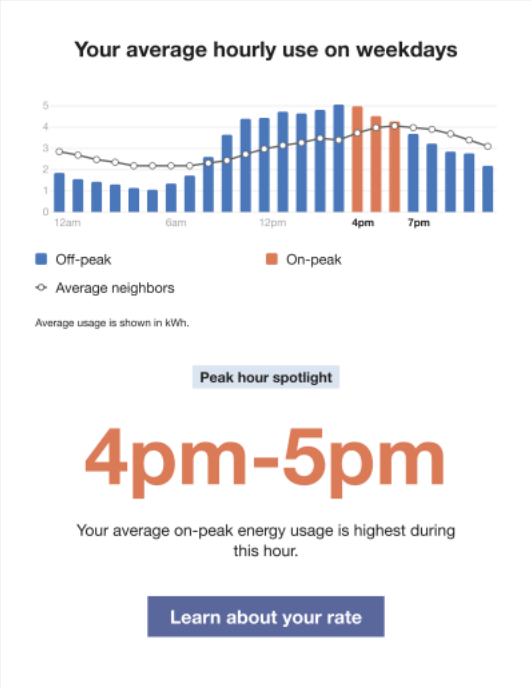
Category	Description
Billing Frequency	Monthly, bi-monthly, quarterly.
Data Delivery Frequency	Monthly, bi-monthly, quarterly.
Data Requirements	• Billed usage data. • Hourly AMI usage data. • Hourly AMI usage data from similar homes. • Time of Use rate plan information identifying on-peak and off-peak time periods.
Data History	A minimum of one historical bill.
Data Coverage	Not applicable.
Supported Fuels	Electricity only.

Limitations

- **Peak Focused Report**: This module is only available as part of the Peak Focused Report. A "no rates" variation of this module may be included in other report types. See No Rates Data.
- **Time of Use Rate Plan**: This module is only available to customers on Time of Use rate plans.

User Experience

This section describes the user experience for a customer with two peak periods.



Time of Day Graph: Highlights the customer's average weekday energy use in kilowatt-hours, with an emphasis on peak (highest-cost) hours.

- **Cost Period Labels**: Provide a key to help customers distinguish between off-peak and on-peak periods, as well as how their usage compares to average neighbors.
- **Hourly Bar Graph**: Shows the customer's average hourly energy use across off-peak and on-peak periods.
- **Comparison Group Usage Line**: This line indicates the comparison group's average hourly usage so that customers have an idea of how they are doing.

Insight Heading: Reinforces the module's focus on peak-hour energy usage.

Highest Consumption Hour: Identifies the hour during which the customer's average on-peak energy use is highest. This varies based on the customer's rate plan.

Insight Description:Explains that the highlighted hour represents the customer's highest average on-peak energy usage.

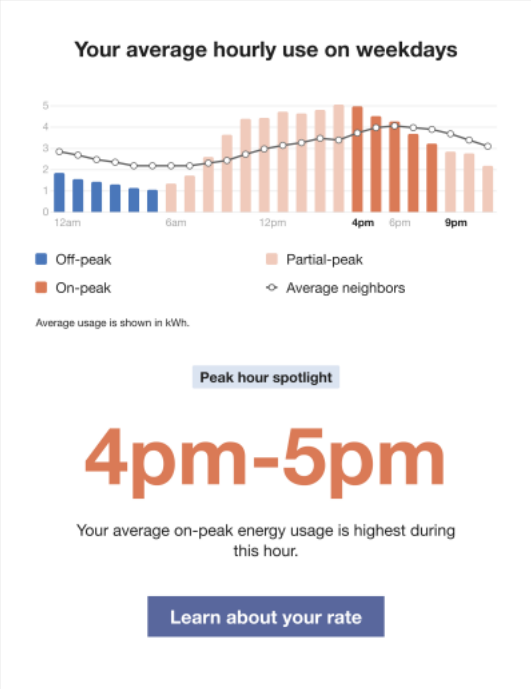
Call to Action: Includes a button that directs the customer to a webpage where they can learn more about their peak rates.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their rate plan, available data, costs, locale, and other factors.

Three Peak Periods

If there are three peak periods, these periods are highlighted in the graph and identified in the cost period labels.



The graph displays the customer's high ("on-peak"), medium ("partial-peak"), and low ("off-peak") cost periods. Distinct colors are used to clearly differentiate each period, with labels beneath the graph explaining their meaning.

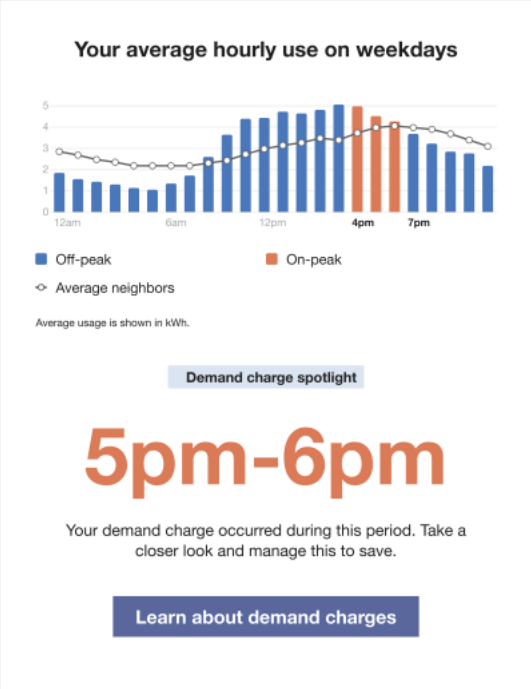
Comparison Group Usage Line Data

The data used for the comparison line on the chart varies based on the customer's usage state:

- If the customer's usage is Fair, the line reflects the average usage of neighbors.
- If the customer's usage is Good or Great, the line reflects the usage of efficient homes and is displayed in green.

The labels beneath the graph adjust to indicate which line data is used (either "Efficient neighbors" or "Average neighbors").

Demand Charge



If the customer has demand charges, the module is adjusted as follows:

- **Demand Charge Icon**: A dollar icon appears at the hour of maximum usage during the on-peak period. The chart reflects average hourly usage, so the maximum usage hour may differ from the highest average hour shown in the bars.
- **Insight Heading**: Emphasizes the module's focus on demand charge usage.

- **Highest Consumption Time Period**: Identifies when the demand charge occurred within the billing period. This varies based on the customer's rate plan.
- **Insight Description**: Explains when the demand charge occurred and encourages the customer to learn how to reduce it.
- **Learn More Button**: Directs the customer to a web page with additional information about demand charges.

No Rates Data

When there is no available rate data, or if the module is used in another report besides the Peak Focused Report, the module shows an hourly normative comparison and emphasizes the highest average usage hour.

> **Note**
>
> This "no rates" version of the Time of Day Hourly Insight module may be included in other report types for utilities that meet additional data requirements.

The module varies in the following ways:

Time of Day Graph: Highlights the customer's average weekday energy use to help identify key opportunities for savings. Peak hours are not shown.

- **Cost Period Labels**: Provide a simplified key to the graph, including only "Your use" and "Average Neighbors."
- **Hourly Bar Graph**: Displays the customer's hourly energy usage. The highest-use hour is highlighted using the same color as the High Consumption Time Period. The x-axis typically shows 12 AM, 6 AM, 12 PM, and 6 PM.
- **Comparison Group Usage Line**: IShows the average hourly usage of the comparison group. The data used for this line varies based on the customer's usage state.
- **Cost Period Start Times**: Indicate the hourly intervals represented in the bar graph.

- **Usage Measurement**: Specifies the unit of measurement used in the graph.

Insight Heading: Reinforces the module's focus on the customer's energy usage.

- **Highest Consumption Time Period**: Identifies when the customer's energy use was highest. This varies based on the customer's rate plan.
- **Insight Description**: Explains that the customer's highest energy use occurred during the identified period.
- **Learn More Button**: Redirects the customer to the web portal where they can learn more about their peak rates.

Missing or No Data

If data is missing or unavailable, the module highlights the time periods where data is incomplete or absent. The following image shows an example of the Time of Day Hourly Insight module for a demand charge customer with missing data.

The module varies in the following ways:

- **Asterisk**: Appears above time periods with no available data.
- **Cost Period Labels**: Include a label explaining that the asterisk indicates zero usage or missing data.

Time of Use 101

The Time of Use 101 module helps customers understand when electricity is most expensive based on their Time of Use rate plan. It explains key details such as whether prices differ between weekdays and weekends, how peak pricing compares to off-peak rates, and the specific hours when electricity costs are highest. A visual timeline highlights off-peak, partial-peak, and peak periods.

The module serves two purposes: it provides customers with information specific to their rate plan at the time the report is generated, and it explains why reducing usage during peak periods is especially important.

Appears in: Time of Use Report

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

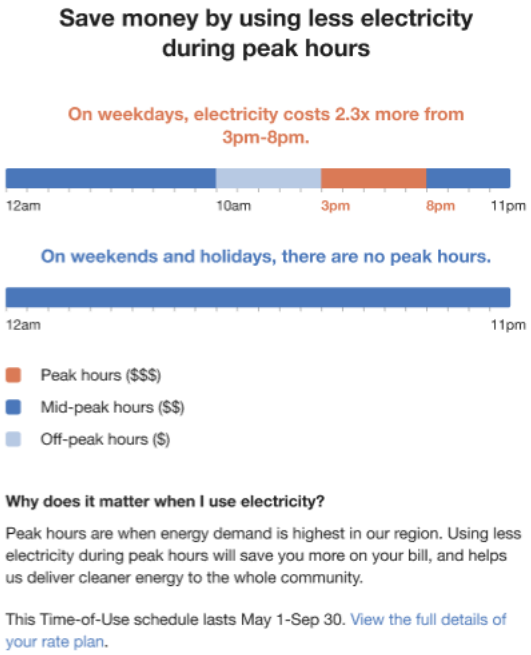
Category	Description
Billing Frequency	Monthly or bi-monthly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	The Time of Use rate plan. Information from the plan is needed to identify peak time periods and other basic rate details such as peak hours and any applicable peak time changes throughout the year.
Data History	Not applicable.
Data Coverage	Not applicable.
Supported Fuels	**Time of Use Report**: Electricity-only, gas-only, or dual fuel. **Peak Focused Report**: Electricity-only.

Limitations

- **Number of Rates**: Up to three rate types can be displayed at once . For example, peak, mid-peak, and off-peak, or super peak, peak, and off-peak.
- **Off-Peak Hours (Welcome version of the Time of Use Report only)**: Super off-peak and super saver rates are combined into a single off-peak category. For example, if a customer has multiple off-peak periods, they are all represented as one unified off-peak segment on the timeline.

User Experience

This section describes the user experience for the Time of Use 101 module for a customer with a single weekday peak, no weekend peak hours, and a seasonal variation.



Heading: Informs the customer that they can save money by reducing energy use during peak hours.

Weekday Subheading and Graph: The weekday subheading varies by rate plan and explains how much more energy costs during peak hours. The graph highlights the price ratio and applicable peak times.

- **Weekday Price Ratio**: Dynamically compares the highest and lowest weekday rates based on the customer's plan.
- **Weekday Peak Hours**: Displays the most expensive time period during weekdays.

Weekend Subheading and Graph: Indicates whether peak pricing applies on weekends.

- **Weekend Price Ratio**: If applicable, dynamically compares the highest and lowest weekend rates.
- **Weekend Peak Hours**: If applicable, shows the most expensive time period during weekends.

Graph labels: Identify which time periods correspond to peak, mid-peak, and off-peak hours.

- **Peak Hours**: Indicate the most expensive time range, dynamically based on the customer's rate plan.
- **Mid-Peak Hours**: Represent the intermediate cost period, neither highest nor lowest, and are dynamically defined by the rate plan.
- **Off-Peak Hours**: Show the least expensive time range, also dynamically based on the rate plan.

Explainer: Describes why the timing of energy use matters..

Seasonal Details: Specifies the dates that apply to the Time of Use schedule if the rate plan includes seasonal variations (for example, "This Time-of-Use schedule applies from May 1 to September 30"). If there are no seasonal variations, this section is omitted.

Call to Action: Invites the customer to view full rate plan details and provides a link to the utility's rate plan page.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types, available data, costs, locale, and other factors.

Timeline Subheading Text

The timeline subheading text varies based on the customer's rate plan and the type of days displayed in the sliding scale. The following table shows examples of the insight statement variations for different rate plans and day scenarios.

Peak Type	Peak Period	Timeline Subheading
Single Peak	Daily	Every day, electricity costs *X* from [X am/pm] - [X am/pm].
Single Peak	Week day	On weekdays, electricity costs X from [X am/pm] - [X am/pm].
Single Peak	Weekend	On weekends, electricity costs X from [X am/pm] - [X am/pm].
Double Peak	Daily	Every day, electricity costs X from [X am/pm] - [X am/pm] and [X am/pm] - [X am/pm].
Double Peak	Week day	On weekdays, electricity costs X from [X am/pm] - [X am/pm] and [X am/pm] - [X am/pm].
Double Peak	Weekend	On weekends, electricity costs X from [X am/pm] - [X am/pm] and [X am/pm] - [X am/pm].
No Peak	Weekend - Same All Day	On weekends, there are no peak hours.
No Peak	Weekend - Multiple Off-Peak Rates	On weekends, there are no peak hours.

Tip Modules

Tip modules present actionable energy savings tips for customers to follow. Tip module designs vary by report type as well as available customer and utility data.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	No limitations.

Customer Requirements

Category	Description
Billing Frequency	Not applicable.
Data Delivery Frequency	Not applicable.
Data Requirements	To show tips related to customers' appliances or top end uses, the Oracle Utilities Opower platform requires disaggregation data. The minimum requirement for disaggregation data is having average energy use data for households in a utility's region. This data is typically obtained from public data sources and is used as a baseline for the Home Energy Analysis survey. Responses to the survey can then be used to determine what appliances customers have, or how customers' energy breaks down into specific categories, so that tips can be more effectively targeted. **Recommended**: The recommended approach is to use Oracle Utilities Opower data science models to generate more accurate appliance and disaggregation data. In this case, the data requirements include a combination of billed usage data, daily or subdaily AMI data, and weather data. Your Delivery Team will work with you to understand the specific requirements and help you identify the best approach for your situation.
Data History	Depending on which Oracle Utilities Opower data approach is used, one or more of the following data history requirements may apply: • One historical bill from the last bill period or previous to last bill period. • A minimum of 60 days of AMI reads for AMI customers. • A minimum of six historical bills for non-AMI customers.
Data Coverage	Depending on which Oracle Utilities Opower data approach is used, the data coverage requirements may include subdaily AMI usage and temperature data.
Supported Fuels	Electricity-only, gas-only, and dual fuel.

Limitations

Report Type: Tips availability is limited by report type. See Report Types.

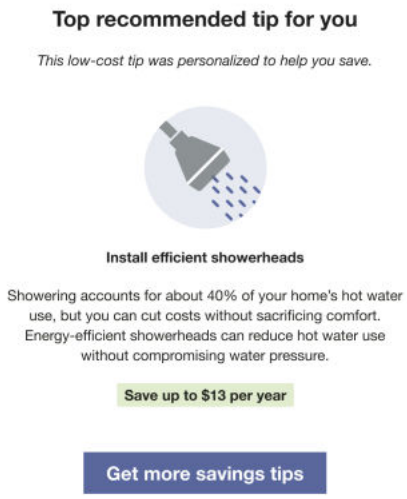
User Experience

This section describes the user experience for tips in the different report types.

Progress Report Tips

Appears in: Progress Report

The Progress Report includes one or up to three tip modules that highlight personalized aspects of the tip experience. The image below is an example of the progress report tip design.



Heading: Indicates that the tip has been personalized for the customer.

Context: Provides additional information to help the customer understand why the tip was selected. Contexts are typically shown at random, except for the "recent HEA completion" context, which appears immediately after the customer completes the Home Energy Analysis. The availability of contexts depends on the customer's AMI data and whether they have completed the Home Energy Analysis. See Home Energy Analysis.

Tip Title: Focuses on future savings to motivate the customer to take action.

Image: Includes an illustration that supports and relates to the tip.

Tip Body: Provides guidance to help the customer save energy.

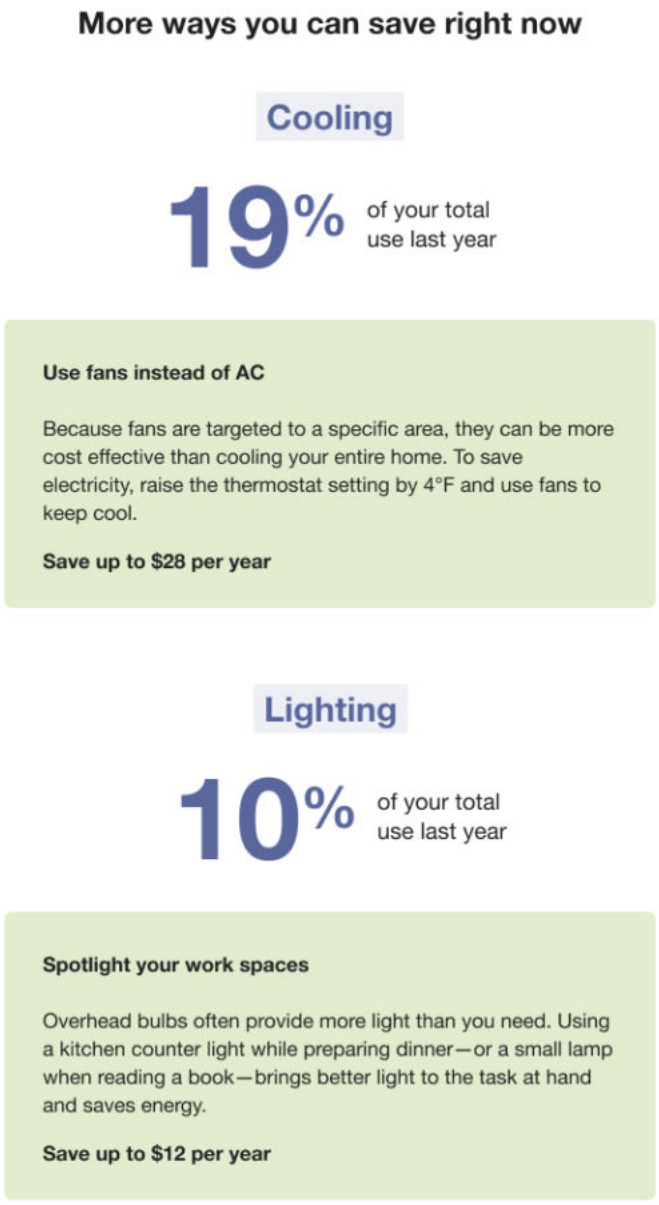
Savings Estimate: Offers an estimate of potential cost savings to give the customer a clearer sense of impact and added motivation to act.

Call to Action: Includes a "Get more savings tips" button that directs customers to the web portal for additional energy-saving guidance.

Promotion Report Tips

Appears in: Promotion Report

The Promotion Report tips use disaggregation data or Home Energy Analysis data to provide customers with low or no-cost alternative actions to the promotion. They include two actions that relate to the customer's top end uses or the promotion use case. The image below is an example of a promotion report tip.



Heading: "More ways you can save right now" builds on the front-of-report promotion ("X could help you save") and uses state-agnostic language, regardless of how these categories rank in the customer's disaggregation.

End Use Category 1: Highlights one of the customer's top end-use categories, based on the promotion use case.

End Use Category 2: Highlights a second top end uses, depending on the promotion use case.

Usage Insight: Shows the percentage of the customer's total energy use attributed to each category.

Insight Label: Indicates that the insight reflects annual usage. All insights in this module are annual..

Tip Title: Emphasizes potential future savings to motivate action.

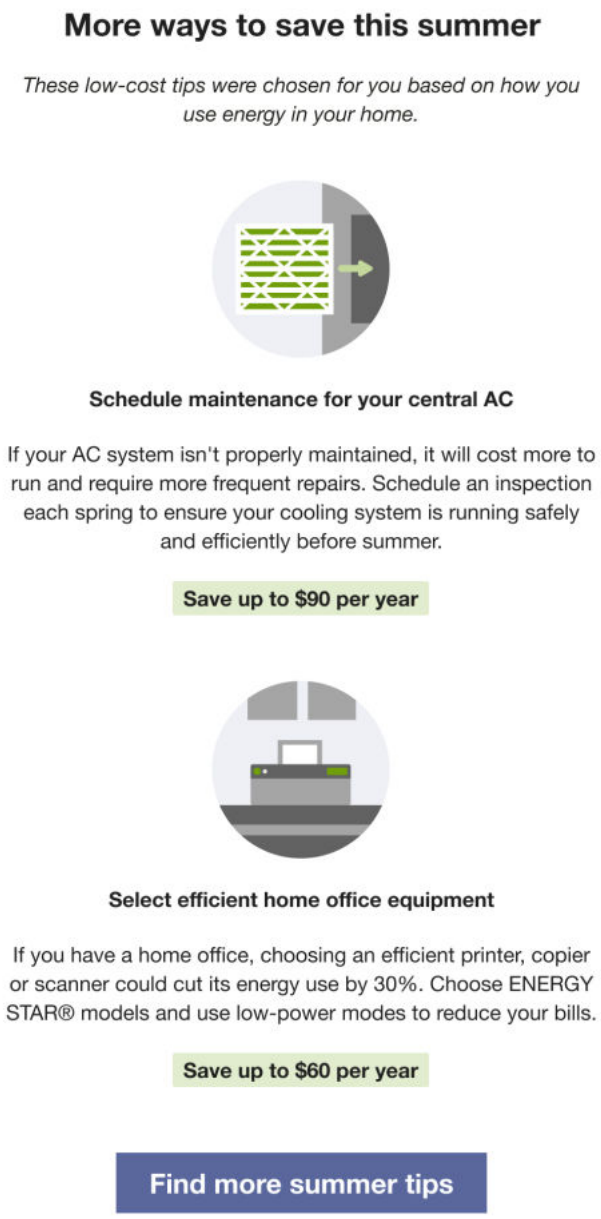
Tip Body: Provides guidance to help the customer take action.

Savings Estimate: Calculates a personalized estimate of potential savings based on the customer's energy usage.

Seasonal Report Tips

Appears in: Seasonal Report

The Seasonal Report tips provide customers with two seasonally relevant recommendations to help reduce energy use during the summer or winter. The first tip focuses on saving energy related to cooling or heating, while the second addresses another end-use category. The module also directs customers to additional tips available online. The image below shows an example of tips from the summer version of the Seasonal Report.



Heading: Indicates that the tips have been selected to help the customer save energy.

Context: Provides background on why these specific tips were chosen.

Tip Title: Uses the title from Tip Manager, based on the selected tip.

Image: Includes an illustration that corresponds to the tip.

Tip Body: Uses prewritten content from Tip Manager, tailored to the selected tip and formatted for concise, email-length reading.

Savings Estimate: Calculates a personalized savings estimate using the customer's energy data and Tip Manager inputs.

Call to Action: Links to the utility's seasonal (for example, summer) tip guide.

Welcome Report Tips

Appears in: Welcome Report

The report includes up to three tip modules that highlight personalized aspects of the tip experience. The image below is an example of the Welcome Report tips design.

Top recommended tips for you

Based on your smart meter, your energy use was highest in heating, refrigerator, and clothes drying.

Run ceiling fans in reverse during the winter to circulate warm air

Warm air rises and collects near ceilings. In the winter, you can run your ceiling fan in reverse on a low setting to circulate warm air more evenly. Then lower your thermostat to save on heating costs.

Save up to $13 per year

Make sure your refrigerator door seal is tight

If the seal on your refrigerator or freezer door isn't doing its job, your appliance could be leaking some of the cooled air it produces. To fix the problem, replace your leaky seal with a new one.

Save up to $13 per year

Use a moisture sensor on your dryer to avoid over-drying

Hang drying is the most energy-efficient and low-cost way to dry clothes. If you do need to use a clothes dryer, make sure to run only full loads and remove lint from the filter after each cycle.

Save up to $4 per year

Get more savings tips

Heading: Indicates that the tip has been personalized for the customer.

Context: Provides additional information to help the customer understand why the tip was selected. Contexts are typically shown at random, except for the "recent HEA completion" context, which appears immediately after the customer completes the Home Energy Analysis. Availability depends on the customer's AMI data and whether they have completed the Home Energy Analysis. See Home Energy Analysis.

Tip Title: Emphasizes potential future savings to motivate the customer to take action.

Image: Includes an illustration that aligns with the tip.

Tip Body: Provides guidance to help the customer save energy.

Savings Estimate: Gives a clear estimate of potential cost savings, helping the customer understand the impact and encouraging action.

Call to Action: Includes a "Get more savings tips" button that directs customers to the web portal for additional energy-saving recommendations.

Lookback Tips

Appears in: Annual Report, Usage Lookback Report

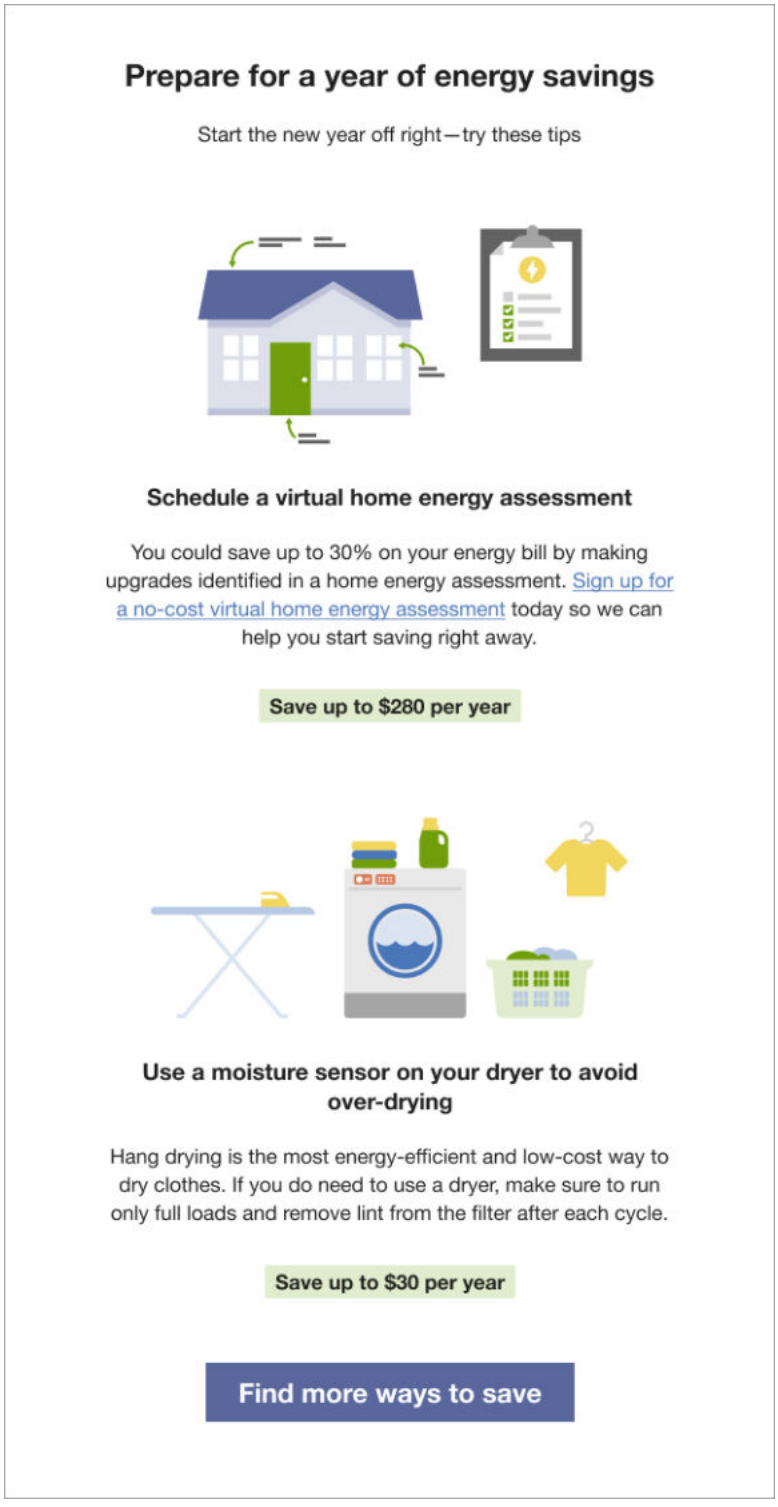
Lookback tips help customers reflect on their energy use over the past year and provide new insights to encourage energy-saving actions.

Top tip: The first tip either promotes an energy assessment program or features a recommendation from the utility's tip library. Examples of energy assessment programs include:

- In-person energy audit
- Utility's virtual audit program
- Oracle Utilities Opower Home Energy Analysis

Second tip: Provides a simple, actionable recommendation that customers can implement right away to save energy.

This image shows an example of lookback tips for customers who receive a utility virtual home energy assessment promotion along with a generated tip in their Annual Report. See Lookback Tip Variations for additional variations.



Heading: Indicates that the tips are designed to help the customer save in the year ahead.

Context: Encourages the customer to take action to reduce energy use.

Tip 1: Promotes an energy assessment program or features a tip from the utility's tip library.

- **Image**: Includes an illustration related to the utility's home energy assessment program.
- **Tip Title**: Encourages the customer to schedule a home energy assessment.

- **Tip Body:**Prompts the customer to sign up for the utility's virtual home energy assessment and includes a link to the utility website for registration.

Tip 2: Provides a year-round, easy-to-implement tip from the utility's tip library.

- **Image:** Includes an illustration that aligns with the tip.
- **Tip Title**: Emphasizes potential future savings to motivate action.
- **Tip Body:** Offers guidance to help the customer save energy.

Savings Estimate: Gives an estimate of potential cost savings to reinforce the value of taking action.

Call to Action: The "Find More Ways to Save" texts link to the utility's tip guide.

Time of Use Report Tips

Appears in: Time of Use Report

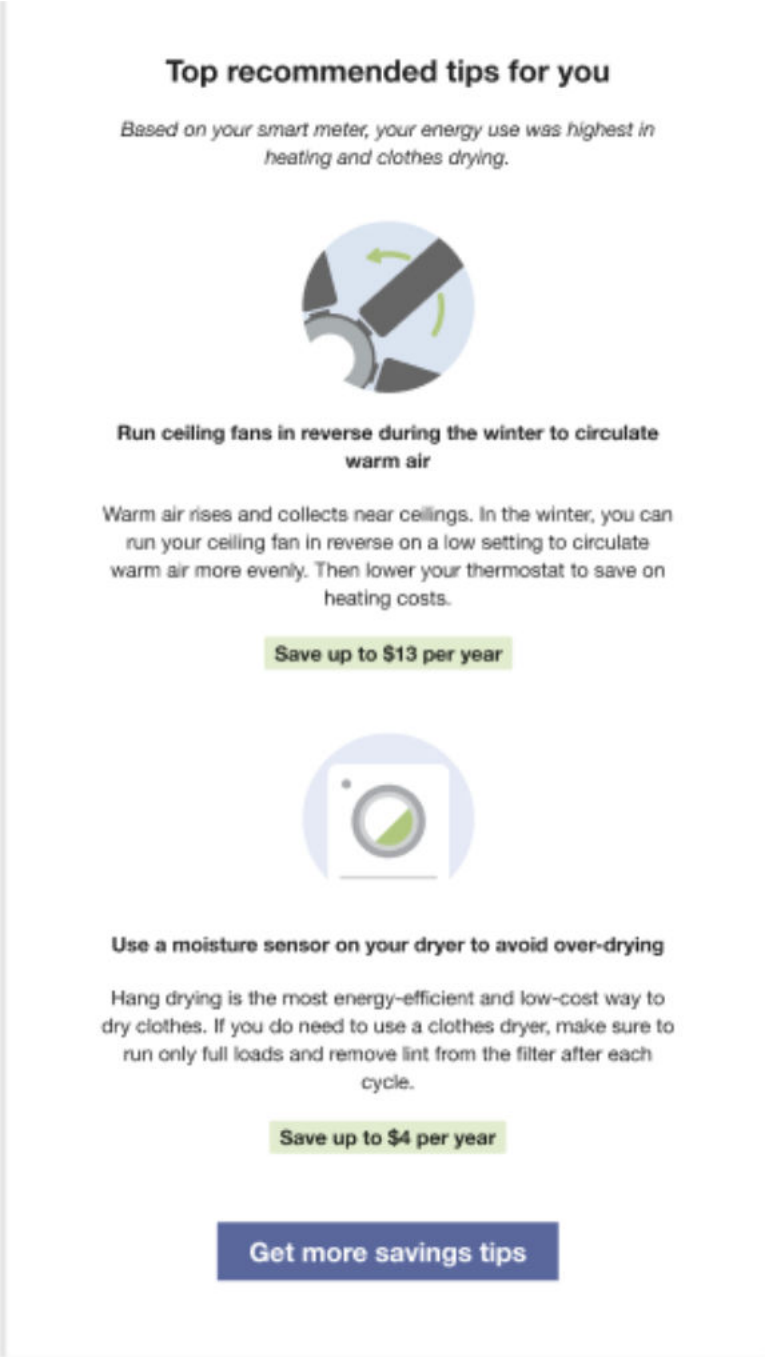
The Time of Use Report includes three rotating tip modules that highlight personalized aspects of the tip experience that can help customers on time of use plans save energy and money. Possible tip modules include:

- Disaggregation Tip Module
- Large Appliance Tip Module
- Two Tip Module

Disaggregation Tip Module

The disaggregation tip includes one or two AMI context tips focused on general energy efficiency. The tips shown are determined by the customer's top energy use category.

This image is an example a disaggregation tip module containing two tips:



Heading: Indicates that the tips have been selected specifically for the customer.

Context: Provides background on why these tips were chosen.

Tip 1: An AMI-based tip focused on general energy efficiency.

- **Tip Title**: Encourages the customer to take action.
- **Image**: Includes an illustration that aligns with the tip.
- **Tip Body**: Provides guidance to help the customer act.
- **Savings Estimate**: Shows potential savings based on the customer's energy use data.

Tip 2: Another AMI-based tip focused on general energy efficiency.

- **Tip Title**: Encourages the customer to take action.
- **Image**: Includes an illustration that aligns with the tip.
- **Tip Body**: Provides guidance to help the customer act.
- **Savings Estimate**: Shows potential savings based on the customer's energy use data.

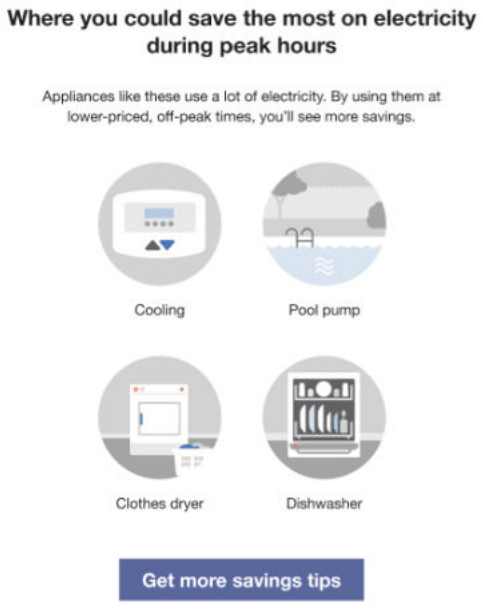
Call to Action: Includes a "Get more savings tips" button that directs customers to the web portal for additional energy-saving recommendations.

Large Appliance Tip Module

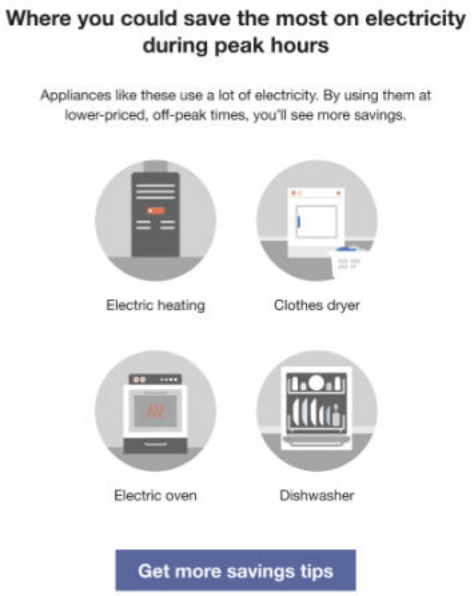
The Large Appliance tip highlights four major appliances that typically consume significant electricity and provides a link for customers to learn more about saving energy. It is designed to educate customers on Time of Use rate plans about which appliances to avoid running during peak hours, when electricity demand and costs are highest. The module includes two season-specific variations:

- **Hot Weather**: The hot weather state includes the spring and summer seasons.
- **Cold Weather**: The cold weather state includes the fall and winter seasons.

Hot Weather



Cold Weather



Heading: Introduces the idea that customers can save the most electricity by adjusting usage during peak hours.

Body Text: Reinforces that running certain appliances during off-peak hours can lead to the greatest energy and cost savings.

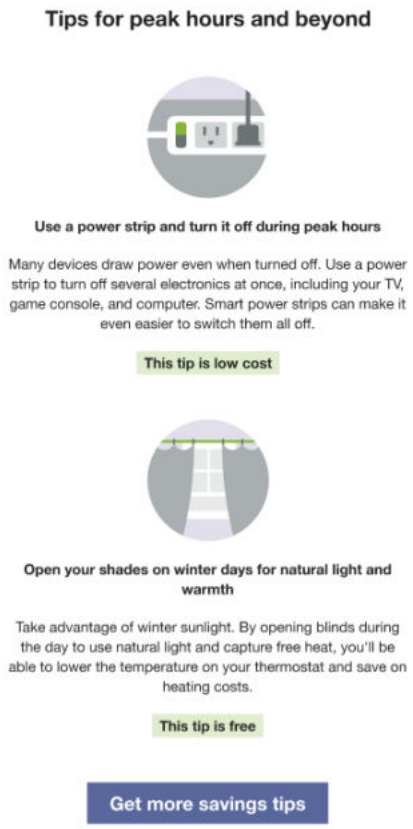
Appliance Images: Displays four seasonally relevant appliances that customers are encouraged to avoid using during peak hours.

- **Hot Weather**: Applies to spring and summer. By default, includes cooling (thermostat), pool pump, clothes dryer, and dishwasher.
- **Cold Weather**: Applies to fall and winter. By default, includes heating (furnace), clothes dryer, oven, and dishwasher.

Call to Action: Includes a "Get more savings tips" button that directs customers to the web portal for additional energy-saving guidance.

Two Tip Module

The Two Tip module provides customers with both a peak savings tip and an anytime savings tip. The peak tip is clearly labeled so customers know when to act on it, while the general energy efficiency tip uses targeting to deliver the most relevant recommendation across end-use categories. The module also includes a cost label indicating the level of financial effort required to implement each tip, helping customers decide when and how to take action based on their rate plan. The image below shows an example of the Two Tip module.



Heading: Indicates that the tips have been selected for the customer and can help save energy during both peak and off-peak hours..

Illustration: Includes an image from the tip illustration library that complements the tip..

Tip Title: The first tip focuses on peak usage and is selected from available peak tips. The second uses standard targeting logic to present a general savings tip most relevant to the customer's household.

Body: Reinforces the message of the heading, tailored to the specific tip.

Cost Category: Displayed as a green label below the illustration to indicate the level of financial effort required . For example, free, low cost, or great investment.

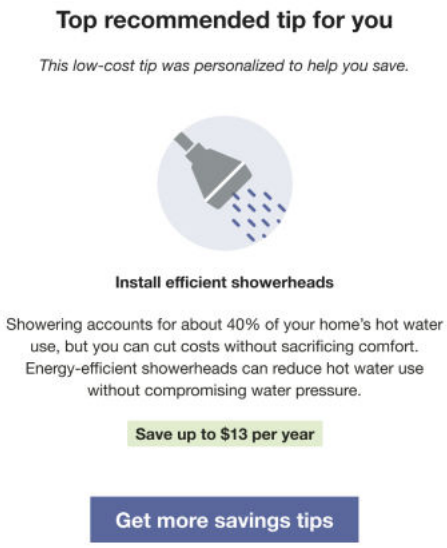
Call to Action: Includes a "Get more savings tips" button that directs customers to the web portal for additional energy-saving guidance.

Limited Income Report Tips

Appears in: Limited Income Report

The Limited Income Report includes up to three tip modules that highlight personalized aspects of the tip experience.

This image is an example of the Progress Report tips design.



Heading: Indicates that the tip has been personalized for the customer.

Context: Provides additional information to help the customer understand why the tip was selected. Contexts are typically shown at random, except for the "recent HEA completion" context, which appears immediately after the customer completes the Home Energy Analysis. Availability depends on the customer's AMI data and whether they have completed the Home Energy Analysis. See Home Energy Analysis.

Tip Title: Focuses on potential future savings to motivate the customer to take action.

Image: Includes an illustration that aligns with the tip.

Tip Body: Provides guidance to help the customer save energy.

Savings Estimate: Gives a clear estimate of potential cost savings to reinforce the value of taking action.

Call to Action: Includes a "Get more savings tips" button that directs customers to the web portal for additional energy-saving recommendations.

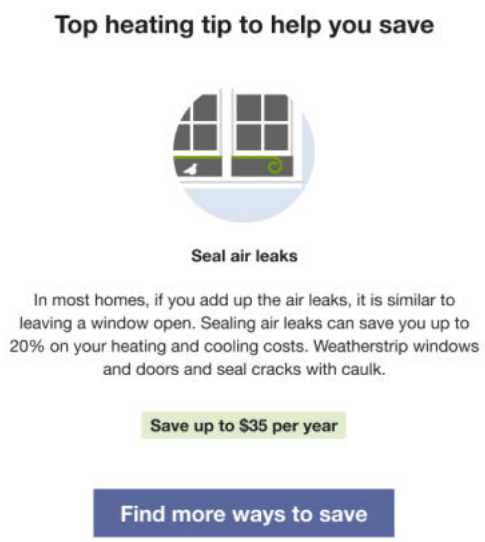
Paired Tips

Appears in: Limited Income Report, Electric Vehicle Report

The Paired Tips module use disaggregation data Home Energy Analysis data to provide customers with a tip related to the energy use highlighted in the What Uses Most module.

> **Note**
>
> Paired tips must be combined with the What Uses Most module.

This image is an example of an air leak tip selected to pair with a top energy use highlighted in the What Uses Most module.



Heading: Indicates that the tip has been personalized for the customer.

Image: Includes an illustration that aligns with the tip.

Tip Title: Focuses on potential future savings to motivate the customer to take action and aligns with the customer's highlighted energy use in the What Uses Most module.

Tip Body:Provides guidance to help the customer save energy.

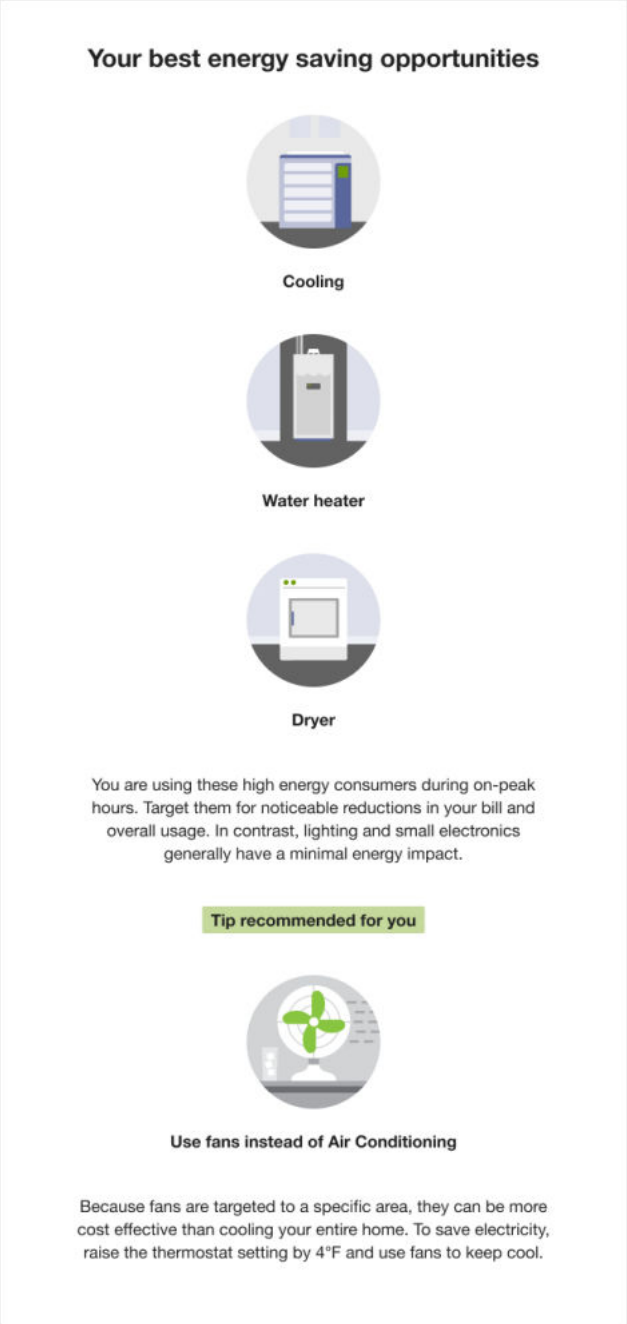
Savings Estimate: Offers a clear estimate of potential cost savings to reinforce the value of taking action.

Call to Action: Includes a "Find more ways to save" button that directs customers to the web portal for additional energy-saving tips.

Energy Literacy and Tip

Appears in: Peak Focused Report

The Energy Literacy and Tip module helps customers understand why they are using energy during high-cost peak periods and provides guidance on how to reduce consumption. It highlights two or three appliance categories detected during peak hours and includes a targeted tip related to one of those categories to help the customer take action.



Heading: Invites customers to explore their best opportunities to save energy.

Disaggregation: Highlights which appliance categories are driving the most energy use during peak hours. This section includes:

- **Disaggregation category image and label**: Displays labeled illustrations of the top three appliance categories detected during the highest-cost period, ordered from highest to lowest energy use. Categories may include heating, cooling, dishwasher, dryer, electric vehicle, oven, pool pump, refrigerator, and water heater.
- **Disaggregation education**: Explains that these appliances are being used during peak hours and encourages customers to focus on them to reduce both costs and overall energy use.

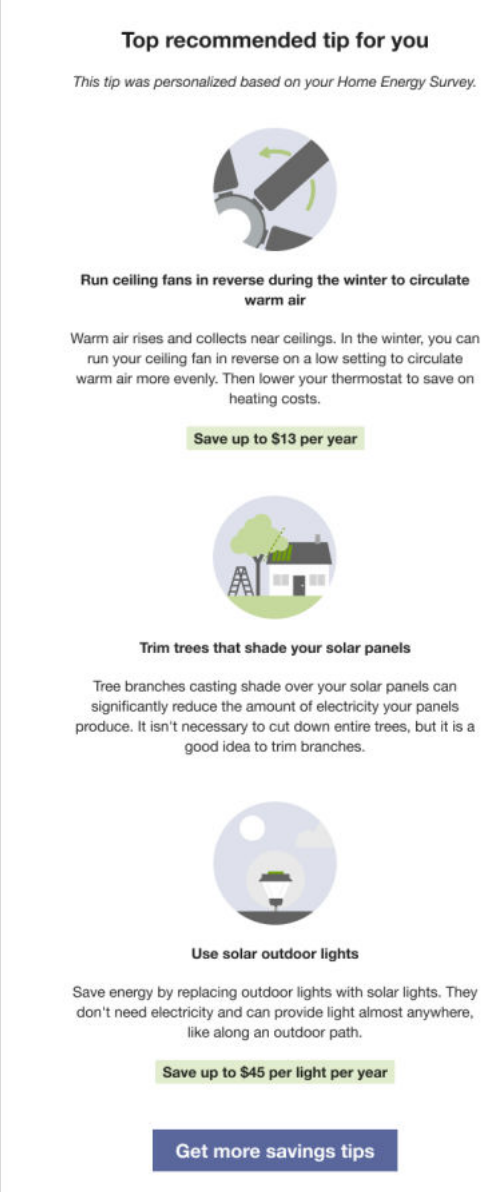
Tip: Provides a recommended action to help reduce energy consumption. The tip is tied to one of the highlighted appliance categories but is not limited to Time of Use guidance. Tips are rotated to avoid repetition until all relevant options have been shown.

- **Tip label**: Draws attention to the recommended action.
- **Tip title**: Clearly states the suggested behavior change.
- **Tip body**: Explains why the change matters and provides clear, actionable guidance for the customer..

Solar Report Tips

Appears in: Solar Report

The Solar Report includes one to three tip modules that highlight personalized aspects of the customer's experience. In addition to standard tips used in other report types, Solar Report recipients may also receive tips specific to solar usage. This image shows an example of a Solar Report tip module featuring three tips.



Heading: Indicates that the tip has been personalized for the customer.

Context: IIf the customer has completed the Home Energy Analysis since their last report, the tip acknowledges the recent survey completion and its impact on their report. Solar customers do not receive AMI-based tip context.

> **Note**
>
> Solar customers are not eligible for AMI tip context.

Tip Title: Emphasizes potential future savings to motivate the customer to take action.

Image: Includes an illustration that aligns with the tip.

Tip Body: Provides guidance to help the customer save energy.

Call to Action: Includes a "Get more savings tips" button that directs customers to the web portal for additional energy-saving recommendations.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types (gas, electricity, dual fuel, and so on), available data, costs, locale, and other factors.

Lookback Tip Variations

Usage Lookback Report

The Lookback tips module for the Usage Lookback Report varies from the tip used in the Annual Report in several ways:

- **Heading:** "Prepare for savings"
- **Context**: "Start the next gas season off right—try these tips"
- **Top tip illustration**: The clipboard has an exclamation mark instead of a electric bolt.
- **Second tip illustration**: The laundry illustration includes a dryer instead of washer.

In-home Utility Home Energy Analysis

If the utility elects to run an in-home Home Energy Analysis program, the top tip encourages the customer to schedule their in-home home energy analysis appointment.

Oracle Utilities Opower Home Energy Analysis

If the utility elects to use the Oracle Utilities Opower Home Energy Analysis, the top tip encourages the customer to complete their Home Energy Analysis to improve their tip experience.

Two Tip Library Tips

If the utility elects to omit and home energy analysis program tip from the report, both tips are pulled from the utility's tip library.

Energy Literacy and Tip Variations

This section provides examples of how the Energy Literacy and Tip may vary:

Two Appliances Detected

If two appliances are detected in use during the highest cost period, they are ordered by the highest energy consumers.

Electric Vehicle Detected

If an electric vehicle is detected as one of the two or three highest energy consumers during the highest cost period it is included in the list of appliances.

One Appliance Detected

If only one appliance can be detected during the highest cost period, then the module displays two or three appliances detected for all usage. The heading is "Your top energy consumers."

Limited Income Report Tip Variations

This section provides examples of how theLimited Income Report Tips may vary:

AMI and Appliance Detection and Disaggregation

If the utility has AMI and appliance detection and disaggregation data, the tip is related to the customer's highest disaggregated end use energy category. For example, if the customer spends the most energy on heating, the tip will be focused on heating.

Completed Home Energy Analysis

If the customer completed their Home Energy Analysis in the past and there is existing survey data, the tip copy indicates that the tips are personalized based on the results of the customer's survey.

Progress Report Tip Variations

This section provides examples of how the Progress Report Tips user experience may vary:

AMI and Appliance Detection and Disaggregation

If the utility has AMI and appliance detection and disaggregation data, the tip is related to the customer's highest disaggregated end use energy category. For example, if the customer spends the most energy on heating, the tip will be focused on heating.

Completed Home Energy Analysis

If the customer completed their Home Energy Analysis in the past and there is existing survey data, the tip copy indicates that the tips are personalized based on the results of the customer's survey.

Promotion Report Tip Variations

This section provides examples of how the Promotion Report Tipsuser experience may vary:

Utility selects one end use

Tips are displayed for the top two end uses (excluding the promotion end use).

Utility selects heating and cooling combined

Tips provide free and low-cost ways to save for heating and cooling as an alternative to the promotion on the front, which is likely a larger investment.

Seasonal Report Tip Variations

This section provides examples of how the Seasonal Report Tipsvary:

Contexts

Context helps the customer understand why specific tips have been selected for them. All contexts are shown randomly, with the exception of the "recent Home Energy Analysis completion context" which is always shown if a customer has completed Home Energy Analysis since their last report was generated. The context statement that appears for a customer varies as follows:

- AMI customers who have completed Home Energy Analysis can receive any context.
- AMI customers who have not completed Home Energy Analysis can receive the AMI context or the cost category/no information context.
- Non-AMI customers who have completed Home Energy Analysis can receive both Home Energy Analysis contexts and the cost category/no information context.
- Non-AMI customers who have not completed Home Energy Analysis can only receive the cost category/no information context.

Winter Experience Variation

The tips module for the winter Seasonal Report provides customers with two seasonally relevant tips to help them lower their winter energy use. The first tip helps them save on heating and the second tip helps them save on another targeted end use. The module also points customers to more tips on the web, ideally to a winter tip guide when available, so that they can learn more.

Welcome Report Tip Variations

This section provides some examples of how the Welcome Report Tips may vary:

AMI and Appliance Detection and Disaggregation

If the utility has AMI and appliance detection and disaggregation data, the tip is related to the customer's highest disaggregated end use energy category. For example, if the customer spends the most energy on heating, the tip will be focused on heating.

Completed Home Energy Analysis

If the customer completed their Home Energy Analysis in the past and there is existing survey data, the tip copy indicates that the tips are personalized based on the results of the customer's survey.

Welcome Report - Legacy Customer, Limited Income Report

The upper right corner of the module includes a number that corresponds to the "Better tips and insights" highlight in the Welcome module.

Solar Report Tip Variations

This section provides some examples of how the Solar Report Tips may vary:

AMI and Appliance Detection and Disaggregation

Solar customers are not eligible for AMI tip context.

Completed Home Energy Analysis

If the customer completed their Home Energy Analysis in the past and there is existing survey data, the tip copy indicates that the tips are personalized based on the results of the customer's survey.

Welcome

The Welcome module introduces both new and returning customers to the Email Home Energy Report experience. For customers who have received earlier versions, it highlights how the report has evolved. For first-time recipients, it provides an overview of the insights included in the report.

Appears in: Welcome Report, Limited Income Report, Time of Use Report, Solar Report, Peak Focused Report.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Not applicable.
Data Requirements	Not applicable.
Data History	Not applicable.
Data Coverage	Not applicable.
Supported Fuels	Electric-only, gas-only, dual fuel.

User Experience

This section describes the user experience for a new customer in the Welcome Report.

Heading: The heading draws the customer's attention to the purpose of the report.

Introduction Text (New Customer Only): The introduction text explains that the purpose of the report is to help them save energy, which can lower their bill.

Welcome Highlights: A list of three features explains how the report will help the customer save energy and lower their bill. The listed highlights focus on broad benefits instead of specific features, including energy use insights, personalized ways to save, and timely, tailored advice.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types (gas, electricity, dual fuel, and so on), available data, costs, locale, and other factors. For more information, see the Welcome module description in the Oracle Utilities Opower Energy Efficiency Cloud Service Overview and go to the User Experience Variations section.

Welcome Report - Legacy Customers

The Welcome module in the Welcome Report varies for legacy customers in the following ways:

- **Heading**: The heading draws the customer's attention to what has changed in their report.
- **Introduction text**: Not applicable.
- **Welcome highlights**: The welcome highlights list how the report changes improve their report experience to help them save energy and lower their bills. The number next to each highlight corresponds to the related module:
  1. **Energy use insights**: This highlight refers to the Energy Use Benchmark.
  2. **Personalized Ways to Save**: This highlight refers to the Normative Comparisons.
  3. **Better tips and insights**: This highlight refers to the Tip Modules.

Limited Income Welcome Report - New Customers

The module language acknowledges aspects of the report experience that are beneficial to limited-income customers, while primarily focusing on energy efficiency and introducing the report.

The module varies for new limited income customers in the following ways:

- **Introduction text**: The introduction text frames the report as a tool to educate and reduce stress about the customer's energy bills.
- **Welcome highlights**: The welcome highlights list how the report changes improve their report experience to help them save energy and lower their bills:
  1. **Energy use insights**: This highlight refers to the Energy Use Benchmark.
  2. **Personalized ways to save**: This highlight refers to the Normative Comparisons.
  3. **Savings and assistance programs**: This highlight refers to the Limited Income Report Tips with special focus on savings and assistance programs for limited income customers.

Limited Income Welcome Report - Legacy Customers

The module varies for legacy limited income customers in the following way:

- **Introduction text**: Not applicable.
- **Welcome highlights**: The welcome highlights list how the report changes improve their report experience to help them save energy and lower their bills.

1. **Energy use insights**: This highlight refers to the Energy Use Benchmark.
2. **Personalized ways to save**: This highlight refers to the Normative Comparisons.
3. **Better tips and insights**: This highlight refers to the Limited Income Report Tips with special focus on potential savings.

Time of Use Welcome Report - Legacy Customer

This module varies for legacy customers on a time of use plan in the following ways:

- **Introduction text**: Not applicable.
- **Welcome highlights**: The Time of Use Report welcome highlights for legacy customers include:
  1. **Energy use insights**: This highlight refers to the Energy Use Benchmark.
  2. **Personalized ways to save**: This highlight refers to the Normative Comparisons.
  3. **Better tips and insights**: This highlight refers to the Time of Use 101 module.

Time of Use Welcome Report - New Customer

This module varies for new customers on a time of use plan in the following ways:

- **Introduction text**:The introduction text explains that the purpose of the report is to help them save energy, which can lower their bill.
- **Welcome highlights**: The Time of Use Report welcome highlights for new customers include:
  1. **Energy use insights**: This highlight refers to the Energy Use Benchmark.
  2. **Personalized ways to save**: This highlight refers to the Normative Comparisons.
  3. **Timely, tailored advice**: This highlight refers to the Time of Use 101 module.

Solar Report - All Customers

All solar customers, regardless of new customer or legacy customer type, receive the same Welcome module in their first report. The module varies for solar customers in several ways:

- **Heading:** Why are you receiving this?
- **Introduction text**:The introduction text explains that the purpose of the report is to help them save energy, which can lower their bill.
- **Welcome highlights**: The Time of Use Report welcome highlights for new customers include:
  1. **Energy use insights**: This highlight refers to the Energy Use Benchmark.
  2. **Personalized ways to save**: This highlight refers to the Normative Comparisons.
  3. **Timely, tailored advice**: This highlight refers to the Solar Report Tips.

Peak Focused Report - New Customers

The new customer version of the module for the Peak Focused report includes:

- **Heading:** Why are you receiving this?

  Introduction text: The introduction text explains that the purpose of the report is to help them save energy, which can lower their bill, and that it takes the customer's Time of Use plan into account to provide them with the best information.

- **Welcome highlights**: A list of three features explains how the report will help the customer save energy and lower their bill:
  1. **Your on-peak energy use compared to others**: This insight refers to the Mini Time of Use Reminder.
  2. **Personalized ways to save**: This insight refers to the Peak Focused Normative Comparison.
  3. **Timely, tailored advice**: This insight refers to the Energy Literacy and Tip.

Peak Focused Report - Legacy Customers

The legacy customer version of the module for the Peak Focused report includes:

Heading: What's new in your report

Highlights: A list of three features explains how the report will help the customer save energy and lower their bill:

1. **Time-of-Use rate reminder**: This insight refers to the Mini Time of Use Reminder.
2. **Updated comparison graph**: This insight refers to the Peak Focused Normative Comparison.
3. **Better tips and insights**: This insight refers to the Energy Literacy and Tip.

Peak Focused - Legacy Customer with Demand Charges

The Peak Focused Report supports demand charges. The Welcome module for legacy customers with demand charges includes:

- **Heading**: What's new in your report
- **Welcome highlights**: A list of three features explains how the report will help the customer save energy and lower their bill:
  1. **Time-of-Use with demand charge rate reminder:** This insight refers to the Mini Time of Use Reminder.
  2. **Updated comparison graph**: This insight refers to the Peak Focused Normative Comparison.
  3. **Better tips and insights**: This insight refers to Energy Literacy and Tip.

What Uses Most

The What Uses Most module educates customers about the top three energy uses in their home for the report period. One of the customer's top energy uses is highlighted at the top of the module and is followed by a related energy-saving tip. Highlighted energy uses must meet one of the following criteria:

- It is the customer's highest energy use.
- It is the customer's second-highest energy use.
- The energy use for that category is significantly above the regional average.

Appears in: Limited Income Report, Electric Vehicle Report

> **Note**
>
> While this module was designed for the limited-income customer experience, it can be used for other audience segments as well.

Requirements

Utility Requirements

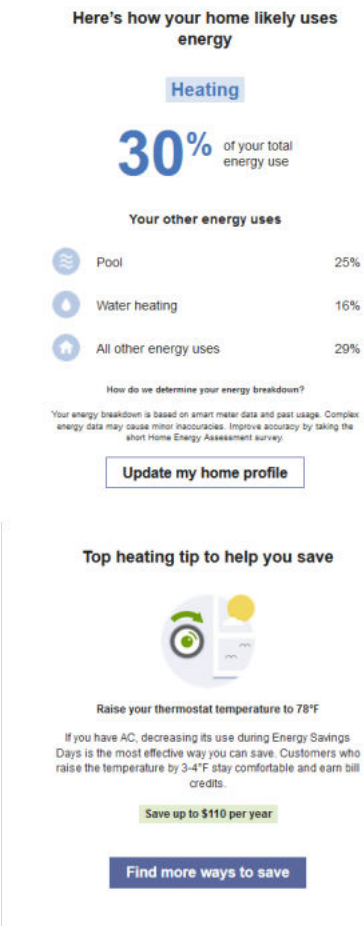
Category	Description
Required Cloud Service	Oracle Utilities Opower Energy Efficiency Cloud Service
Scale	Not applicable.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.
Data Requirements	• **Minimum**: Weather data and at least six historical bills. • **AMI Requirements**: There are additional AMI data requirements to show advanced insights such as an appliance-level breakdown. Generally speaking, this requires about a years' worth of AMI data at hourly or sub-hourly resolutions.
Data History	A minimum of six bills is required for non-AMI customers. A minimum of 60 days of AMI reads for AMI customers.
Data Coverage	Not applicable.
Supported Fuels	Electricity-only, gas-only, dual fuel.

User Experience

This section describes the user experience for the What Uses Most module. The module varies by usage factors. The image below is an example of the module for a customer with heating as the highest energy use in the billing period.



What Uses Most: The top section of the module highlights the four largest sources of energy use in the customer's home during the report period. Each value is an estimate based on past energy use, weather patterns, and home characteristics.

- **Heading**: Indicates the energy usage level of the highlighted category and notes that the value is an estimate.
- **Usage Categories:** Dynamic categories based on the customer's past energy use, weather patterns, home characteristics, and available smart meter data. These help customers identify where to focus their savings.
  - **Highlighted Category**: Selected by rotating algorithms to feature one of the customer's top energy uses in each report. It appears in a blue box at the top of the module, along with the percentage of total energy it represents..
  - **Energy Breakdown Subheader**: Introduces the remaining top energy use categories.
  - **Additional Usage Categories**: Lists two more categories with their respective percentages, ordered from highest to lowest. A final "All other energy uses" category shows the remaining share of consumption and is represented by a home icon.
- **Disaggregation Header and Explainer and Text**: Provides a note explaining that the energy use breakdown is based on data science estimates and encourages customers to improve accuracy by completing the Home Energy Analysis.
- **Update Home Profile Button**: Directs customers to the Home Energy Analysis, where they can provide additional details about their home to enhance report accuracy.

Paired Tip:An energy-saving tip follows the module, tailored to the highlighted energy use. For example, if cooling is a top category and the customer uses a heat pump, a relevant heat pump or cooling tip is shown. This ensures the recommendation aligns with the customer's specific usage. See Paired Tips.

User Experience Variations

The user experience of the feature may vary for customers and utilities depending on their service types, available data, costs, locale, and other factors.

Highlighted Usage Category

The highlighted usage category heading varies depending on the highlighted category and module state (highest energy use, second highest energy use, most above regional average). The following table includes examples of the possible heading variations for heating as the highlighted category.

Highlighted category	Module State - Highest energy use	Module State - Second highest energy use	Module State - Most above regional average
Heating	Here's how your home likely uses energy	Your heating was likely a top energy use	**Your heating use was likely above the regional average**

Electric Vehicle Report

Electric Vehicle Charging

Electric Vehicle Charging is one of the possible energy use categories for electric vehicle customers. If Electric Vehicle Charging is the customer's top energy category, a green leaf icon appears next to the top use category heading with a encouraging "smart, green choice" message below. The message is designed to positively reinforce the customer's decision, and ensure that they feel good about their environmentally friendly choices even when it may take up a significant portion of their energy use.

Heat Pump Usage

If the customer has reported using a heat pump for heating or cooling in the Home Energy Analysis, the module is adjusted as follows:

Top Use Category: If a heat pump is the customer's largest energy use, it is labeled as "Heat Pump." A green leaf icon appears alongside the heading, accompanied by a positive message (for example, "smart, green choice") to reinforce the customer's environmentally friendly decision.

Usage Categories: If a heat pump appears in the list of energy use categories, it is labeled as "Heat Pump" and displayed with a corresponding icon.

Calculations

Energy Use Categories

The energy use category calculation varies depending on whether or not the customer has a smart meter.

Customer without a smart meter (or without reliable smart meter data)

Categories are estimated using a combination of weather data, historical energy usage, and responses from the Home Energy Analysis. These inputs allow data science models to generate an estimated breakdown of energy use by category or appliance, helping customers understand where they can focus their savings.

Customer has a smart meter

Smart meter data, which captures energy use throughout the day, is used to identify patterns associated with specific appliances. For example, refrigerators often cycle on and off every 15–20 minutes to maintain temperature. Data science models detect patterns like these to infer when and how certain appliances are used. This enables an estimated breakdown of energy use by appliance, helping customers better understand their consumption and identify opportunities to save.

Providing Customer Support

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

- Find and open a customer's accounts
- Access a customer's Energy Efficiency web portal account
- View sent Email Home Energy Reports
- Manage a customer's report preferences
- Update information about a customer's home

See Oracle Utilities Opower Customer Service Interface - Program Management Product Overview.

Delivery

Oracle Utilities coordinates with a third-party email platform to send Email Home Energy Reports. This platform provides Oracle Utilities with information on send, bounces, opens, opt-outs, unsubscribes, and click-throughs. Oracle Utilities does not track the web behavior of a customer after they have clicked on a link in the Email Home Energy Report.

For programs that include both email and paper reports, Email Home Energy Reports are usually generated during the same week as the corresponding paper Home Energy Reports are generated.

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.

Delivery Cadence

Oracle Utilities supports the following delivery frequencies for Email Home Energy Report programs: monthly, bi-monthly, and quarterly. Because the reports are generated from data from the latest utility bill for each customer, the delivery cadence will depend on each customer's billing dates and the program design specified in your statement of work.

Delivery Options

For programs that include both email and paper reports, Email Home Energy Reports are usually generated during the same week as the corresponding Home Energy Reports. Email

Home Energy Reports are typically sent on Friday afternoons so that customers will have time to review the reports over the weekend. However, delivery may be configured for days other than Friday. Ask your Service Delivery Manager which delivery options are best suited to your program.

Enrollment

Customers can be enrolled to receive Email Home Energy Reports through an opt-in or opt-out program. In an opt-in program, customers are given the option to sign up, rather than being automatically enrolled. In such cases, customers can sign up for Email Home Energy Reports by using settings available in the Energy Efficiency Web Portal. In an opt-out program, customers are automatically enrolled if they meet the eligibility criteria.

4

Energy Efficiency Web Portal

The Energy Efficiency Web Portal is a dynamic web experience that allows utilities to provide their customers with personalized energy data, insights, and recommendations on how to save energy. The web experience is delivered through modular, mobile responsive widgets.

Requirements and Limitations

There are multiple Oracle Utilities Opower Digital Self Service cloud services. Each cloud service comes with a set of data requirements and limitations. The requirements must be met for a utility and a customer to participate in the program.

General Requirements

- **Cloud Service Requirements**: The Digital Self Service - Energy Management cloud service is a prerequisite for all other cloud services listed on this page. 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 Services Service Descriptions.
- **Active Account**: Customers must be associated with a premise that has an active account with the utility. An active account means that the customer has signed up with the utility for at least one service point for one fuel type at an address.
- **Screen Resolution**: A minimum width of 320 pixels is required for devices to display widgets.
- **Supported Browsers**: The customer must use a supported web or mobile browser. Oracle Utilities Web products adhere to the Oracle Software Web Browser Support Policy.
- **Configuration**: Configurations are limited to the utility logo, primary and secondary colors, and up to 10 configurable text changes.

Digital Self Service - Energy Management Cloud Service

Utility Requirements

- **Cloud Service Requirement**: Utilities must purchase the Digital Self Service - Energy Management cloud service.
- **Data Integration**: Data must be sent to Oracle Utilities in the right schema and according to the established data specifications. Your Oracle Utilities Delivery Team will work with you to identify which data specifications are applicable to your situation.
- **Single Sign-On**: Oracle Utilities recommends that utilities use single sign-on (SSO), as outlined in the Oracle Utilities Opower SSO Configuration Guide. If the utility uses SAML-based SSO, third-party cookies must be enabled on the customer's web or mobile browser to view Oracle Utilities Opower embedded web features. Third-party cookies authenticate the customer's account using a session identifier, which allows embedded widgets to display the correct data for the customer. Third-party cookies are not required for OpenID Connect-based SSO.

Customer Requirements

- **Data History**: For most features to have meaningful insights, a customer must have more than one bill of historical billing data in the form of monthly, bi-monthly, or quarterly read data. Additional data requirements vary by feature.

Digital Self Service - Energy Management AMI Cloud Service

Utility Requirements

- **Cloud Service Requirement**: In order to purchase the Digital Self Service - Energy Management AMI cloud service, utilities must also purchase the Digital Self Service - Energy Management cloud service.

Customer Requirements

- **Data History**: For most features to have meaningful insights, a customer must have more than one bill of historical billing data in the form of subdaily, daily, monthly, bi-monthly, or quarterly read data. Additional data requirements vary by feature.

Rates Engagement

Utility Requirements

- **Cloud Service Requirement**: In order to purchase the Rates Engagement cloud service, utilities must also purchase the following cloud services:
  - Digital Self Service - Energy Management
  - Digital Self Service - Energy Management AMI
- **Rates Data Transfer**: The utility must send rates data to Oracle Utilities in the correct schema and at the appropriate frequency. See Oracle Utilities Opower *Rates Data Transfer* for details.
- **Rates Modeling**: Rates modeling is required during initial program setup, and is not included in the cost of the cloud service. See Rate Modeling for more information.

Customer Requirements

- **Billing Frequency**: Customers must be billed on a monthly, bimonthly, or quarterly basis.
- **AMI Data**: Customers must have daily or sub-daily AMI reads.

Rate Engine Plus

Utility Requirements

- **Cloud Service Requirement**: In order to purchase the Rate Engine Plus cloud service, utilities must also purchase the following cloud services:
  - Digital Self Service - Energy Management
  - Digital Self Service - Energy Management AMI

  - Rates Engagement
- **Rates Data Transfer**: Rates data must be sent to Oracle Utilities in the correct schema and at the appropriate frequency. See the Oracle Utilities Opower Rates Data Transfer Standards for details.
- **Rate Validation**: The utility must purchase a one-time fee to cover rate validation and related set up tasks. This process ensures that the Rate Engine Plus has correctly modeled rates for utility customers. To perform this process, Oracle Utilities compares energy cost information calculated by the Rate Engine Plus to customer utility bill amounts.

Customer Requirements

- **Billing Frequency**: Customers must be billed on a monthly, bimonthly, or quarterly basis.
- **AMI Data**: Customers must have daily or sub-daily AMI reads.

Customer Experience Overview

The Energy Efficiency Web Portal offers an integrated web experience for utility customers through a series of features and widgets.

Features and Widgets

The Energy Efficiency Web Portal consists of multiple features and widgets. A widget can be complex, providing dynamic information about a customer's energy use. It can also be simple, containing a static image and hyperlinks. See each widget description for details.

Welcome

A welcome experience is displayed when a customer has not signed in yet. Customers can sign in to their account, create a new account, or access tips on how to save energy.

Sign In: Customers can sign in to their account with their email address and password. There is a link to create an account if they have not already done so. There is also a link to recover a password if they forgot it.

Language Selector: A link at the top of the page allows the customer to select a preferred language for the content in the interface. Customers will only see options for languages that have been localized for their utility.

Your Energy Use Menu: The **Your Energy Use** menu includes links to the Smart Dashboard, Data Browser, and Bill Comparison widgets. Customers are prompted to sign in before they can access these features.

Ways to Save Menu: The **Ways to Save** menu includes links to the Home Energy Analysis and Ways to Save widgets. Customers are prompted to sign in or provide some uniquely identifying information before they can access the Home Energy Analysis. The Ways to Save page is accessible whether or not the customer has signed in. However, the tips are not personalized until the customer has signed in.

Authentication

Authentication refers to the ways that a customer can access the Energy Efficiency Web Portal securely. There are two methods for authentication: single sign-on and stand-alone account management.

Single Sign-On (SSO)

SSO allows customers to use the same username and password to access the web portal and any other web applications provided by a utility. All usernames and passwords are created, maintained, and updated on the utility's web site. Oracle Utilities uses Security Assertion Markup Language (SAML) 2.0 to implement SSO with utilities. Moreover, Oracle Utilities supports Identity Provider (IdP) Initiated and Service Provider (SP) Initiated SSO using HTTP POST binding. As part of the SSO implementation process, the utility must provide a SAML Metadata file and a SAML insertion with required information. This allows Oracle Utilities to identify the customer and authenticate the request. See the Oracle Utilities Opower SSO Configuration Guide for details.

SSO requires that all authentication is handled by the utility's website. After a customer has authenticated using the utility website sign-in options, the customer has access to all features and pages of the Energy Efficiency Web Portal.

> **Note**
>
> Since SSO credentials are maintained by the utility's web site, customers cannot use the Account Center in the Energy Efficiency Web Portal to change their password.

Stand-alone Account Management

Stand-alone account management requires customers to create an Energy Efficiency Web Portal account (including a user name and password) that is separate from any other utility-provided web applications or accounts. When stand-alone account management is implemented, customers can access the Energy Efficiency Web Portal by navigating directly to it and creating a new account once they get there.

The following account management options are available for stand-alone authentication customers.

Account Creation

The landing page of the Energy Efficiency Web Portal provides customers an option to create a new account. New customers are often directed to this landing page through communications such as Home Energy Reports.

Customers creating a new account must provide their name and account number exactly as it appears on their Home Energy Report or utility bill. If a customer provides incorrect information, error messages are displayed which help guide the user in how to provide the information accurately.

After a customer provides accurate account information, they must provide an email and password for their new account. Completing this step sends a confirmation email to the email address the customer supplied, which the customer then uses to verify the email address.

Account Sign In and Sign Out

Customers who have created their account can use their account email address and password to sign in from the landing page. A standard link is available throughout the Energy Efficiency Web Portal for signing out. By default, the session lasts for 30 minutes before timeout, at which point the user is automatically signed out.

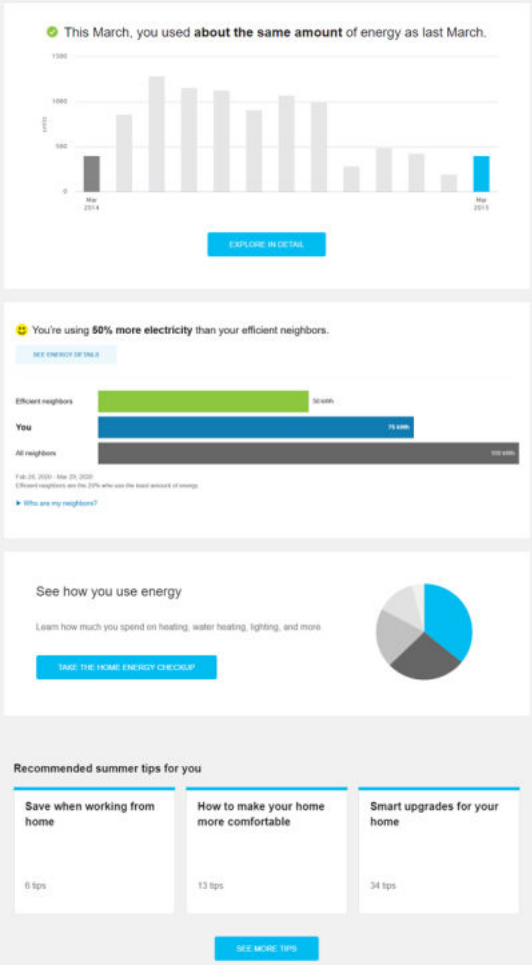
Password Reset

Customers can request a password reset to help if they have forgotten their current password. To complete this process, a customer first selects the forgotten password option included with the account sign-in options. The customer is prompted to enter their utility account email address, to which a reset password email is sent. The email includes a link that directs the customer to a reset your password page, which prompts the customer to create and confirm their new password.

> **Note**
>
> If a customer knows their password and wants to change it, they can use the Account Center rather than using the password reset feature. See Account Center for more information.

Smart Dashboard

The Smart Dashboard provides an overview of a customer's energy use and utility account tools, and can serve as the landing page after sign-in. It brings together multiple insights and features in one place, making it easier for customers to engage with their energy data and account resources.



Features of the dashboard are dependent on a customer's available data and can include:

- Energy Use Overview
- Home Energy Analysis Light
- Neighbor Comparison
- Tips Light

Data Requirements and Limitations

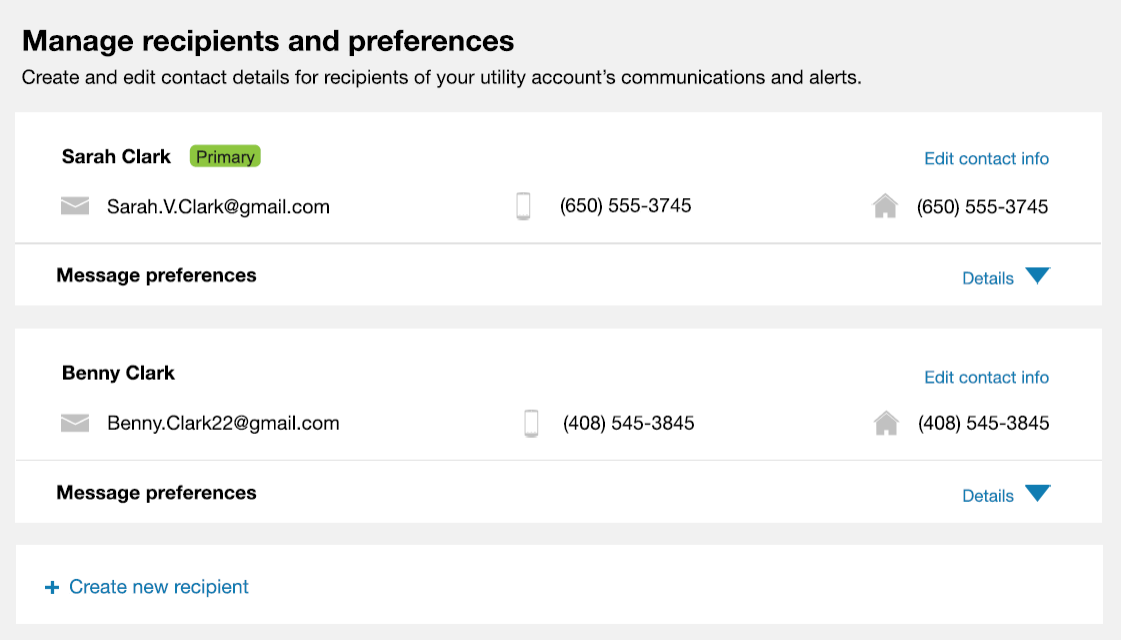
- **Feature-Specific Requirements**: Additional data requirements vary by feature. See the applicable feature descriptions for more information.

Account Center

The Account Center allows customers to view and change information about their utility account, their alert preferences, and the communications they receive from the utility.

Manage Recipients and Preferences

The Manage Recipients and Preferences section allows users to manage recipient and alert preferences. Users can edit the primary recipient's information, add additional recipients to the account, edit recipient details, and select alert preferences for each recipient. Recipients are users who can be selected to receive communications and alerts related to the account. At a minimum, the section displays information for the primary recipient.



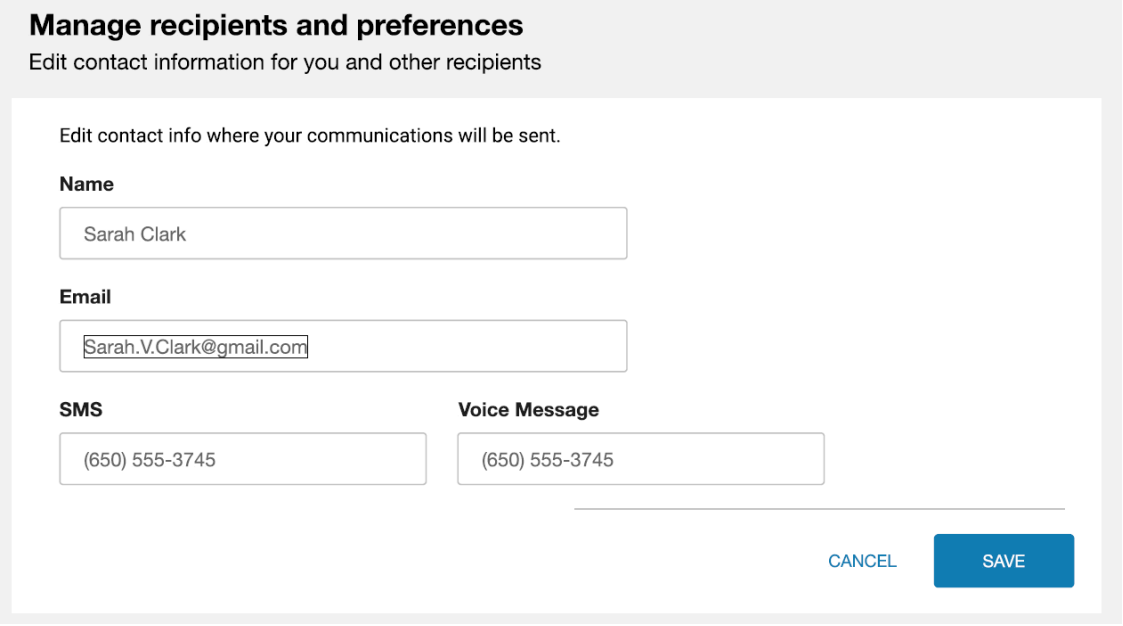
Manage Recipients

The details for each recipient are displayed, and can be edited. Recipients other than the primary recipient can also be removed. The primary recipient can not be removed from the account. Additionally, each recipient must have a name and at least one communication type (email or phone number). The communication type determines which communications and alerts a recipient can select to receive. For example, an email address is required in order for a customer to select to receive Email Home Energy Reports. Recipient details include:

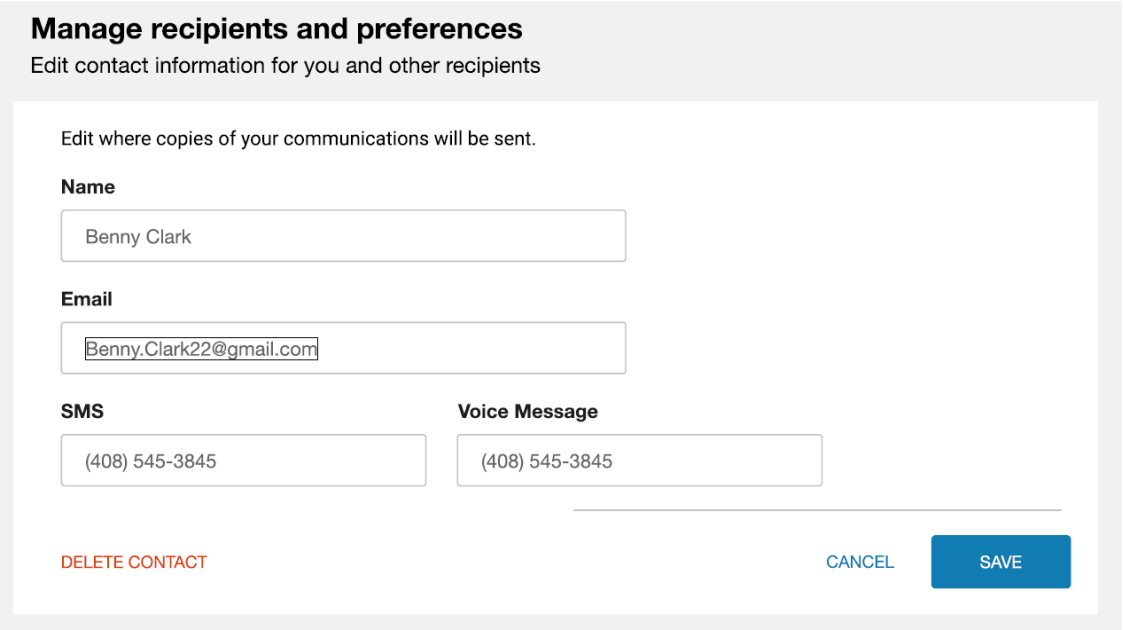
- Name
- Email Address
- Phone Numbers for SMS text and voice messages

Be aware that the name that appears on communications is the name on the actual utility account, and not the name that is displayed here. If the primary recipient changes their name here, it will not change the name that appears on the communication.

This is an example of the primary recipient. Notice that you cannot delete this recipient.

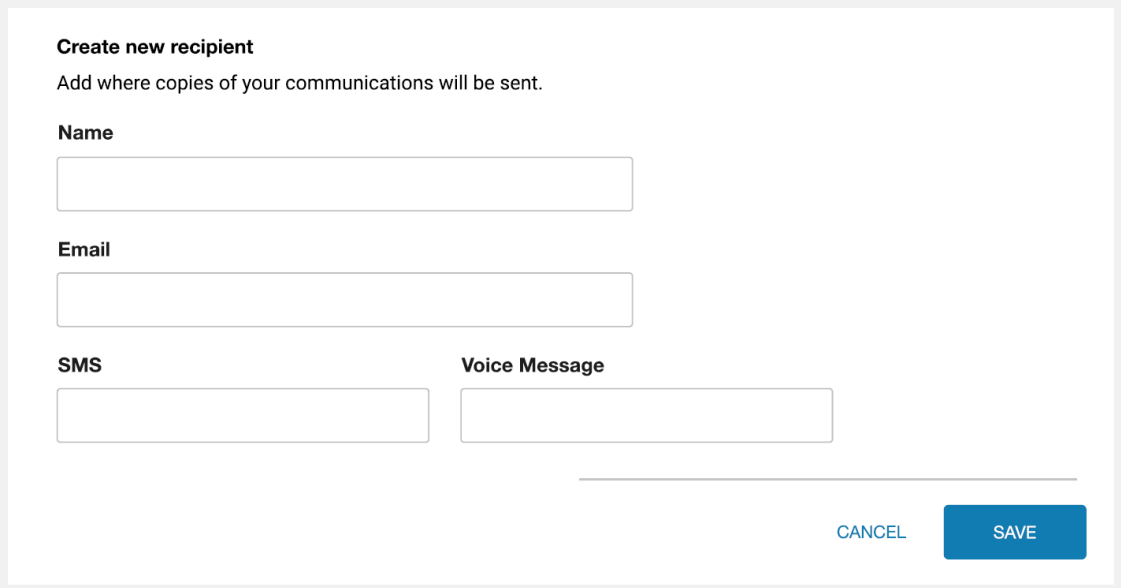


This is an example of an additional recipient. Notice that you can delete this recipient.



Create New Recipient

Customers can specify other recipients to receive alerts. Basic validation is performed to ensure that the phone numbers and email addresses resemble real values, but these values are not tested or verified. Note that these recipients will receive *copies* of the communications sent to the primary recipient. This means that the communications will contain the name of the primary recipient, not the secondary recipient.



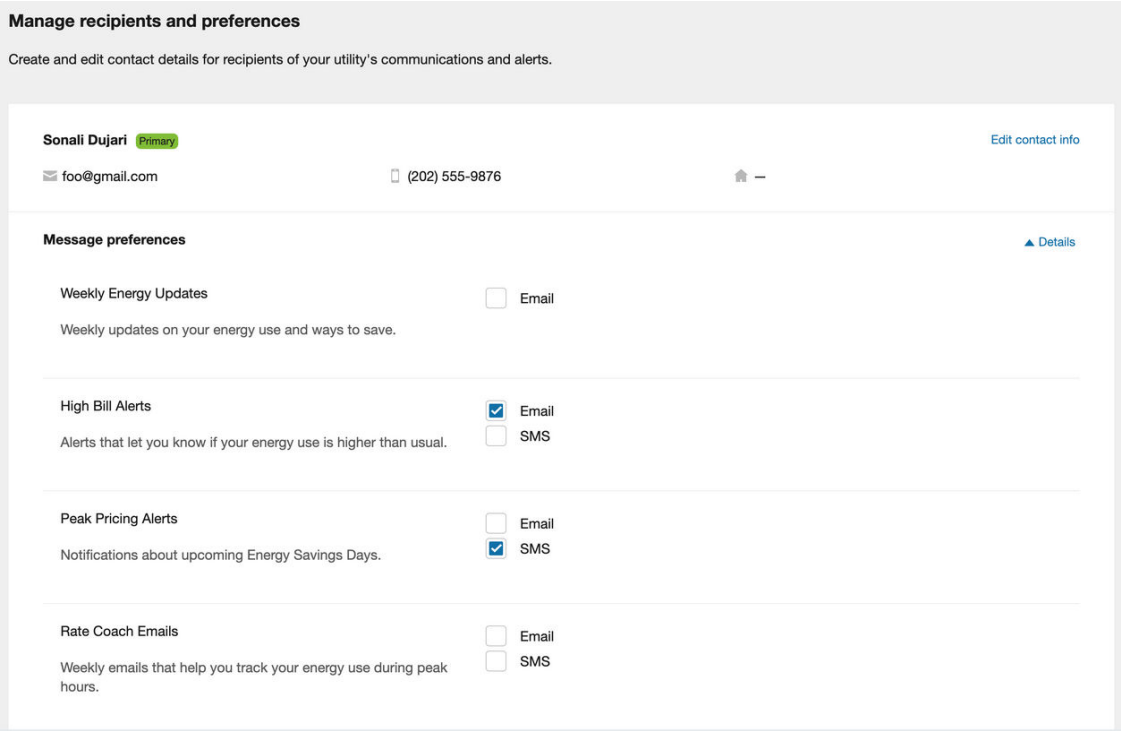
Manage Message Preferences

The Message Preferences section is displayed once for each recipient on the account, and provides a list of the available communications and alerts that the recipient can receive. This section of the widget can be expanded or collapsed by clicking Details.

The products and channels that are displayed for each recipient depend on:

- The products and reports that are available from the utility.
- The communication types included for the recipient. For example, do they have both an email and a phone number?
- Whether the recipient is the primary recipient on the account.

Each applicable channel can then be selected or cleared for each recipient of a product. Printed reports can be sent only to the mailing address for the primary account recipient. Additional recipients cannot select printed reports.



Load Shifting

This section, which might also be called Rate Coach Emails, controls whether a customer receives Behavioral Load Shaping email communications. Behavioral Load Shaping communications are only available for the email channel. For more information, see the Oracle Utilities Opower Behavioral Load Shaping Cloud Service Product Overview.

Home Energy Reports

Mail: The mail option controls whether the customer receives a printed Home Energy Report. Home Energy Reports are an opt-out program only, so this option is only visible if the utility has determined that the customer is eligible to receive the report. Also note that print reports are only sent to the primary mailing address for the utility account. Additional recipients cannot receive paper HERs.

Email: The email option controls whether the customer receives an Email Home Energy Report. This option can be displayed whether or not the customer is already receiving email report. Additional recipients can choose to receive theemail if they are eligible, and they provide a valid email address.

For more information about Home Energy Reports, see the Oracle Utilities Opower Energy Efficiency Cloud Service Product Overview .

Weekly Energy Updates

Weekly energy updates are email notifications compare the energy use for a premise to that of neighbors. For more information on Weekly Energy Updates, see the Oracle Utilities Opower Proactive Alerts Cloud Service Product Overview.

High Usage Alerts

High usage alerts are digital communications sent through email, SMS, and voice to inform customers when they are expected to receive a higher energy bill.

A personalized alert threshold is available to customers who have High Bill Alerts AMI. For information on the applicable Cloud Service, see the Oracle Utilities Opower Proactive Alerts Cloud Service Product Overview. Depending on the characteristics of a customer's accounts, the customer is provided one of the following options to define an alert threshold:

- **Cost threshold**: The cost threshold allows customers to specify a dollar amount as their personalized threshold. When the cost threshold is set, the customer will only receive a high bill alert when their cost exceeds the cost threshold. All active utility accounts for a customer must have modeled rates and are not defined as budget billing accounts for the customer to define a cost-based threshold.

  If a customer does not set their personalized threshold, they will only receive high bill alerts when they exceed the combined usage and cost threshold set by the utility. The recommended combined threshold is 30 percent.

- **Usage threshold**: The usage threshold allows the customer to set a percentage-based personalized threshold. When the usage threshold is set, the customer will only receive an alert when their energy use exceeds that threshold for the same billing period the previous year. The default usage threshold is 30 percent. The usage-based threshold is available to customers who are ineligible to define a cost-based threshold. This applies to customers with at least one active account without modeled rates or defined as a budget billing account.

Peak Pricing Alerts

Peak pricing alerts are digital communications sent through email, SMS, and voice to inform customers of peak pricing events. Customers can receive either Peak Time Rebate or Behavioral Demand Response communications. For more information on the applicable Cloud Services, see the Oracle Utilities Opower Behavioral Demand Response Cloud Service Product Overview and the Oracle Utilities Opower Peak Time Rebates Cloud Service Product Overview .

Login Details

For utilities that do not implement SSO authentication, customers can update their login email address and password.

Billing Account Selector

The Billing Account Selector widget allows customers to select a billing account from a menu and view its energy use trends and insights. It is used in standalone implementations of the Digital Self-Service Energy Management web portal and Energy Efficiency web portal.

Requirements

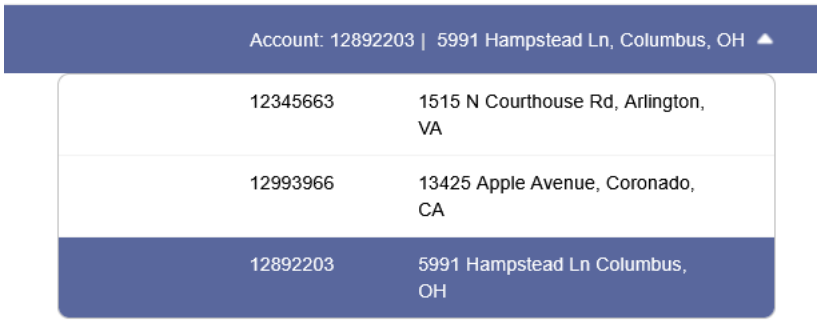
The main customer requirements are to send billing account data to Oracle Utilities Opower through the Account Data Transfer data feed, and to provide all authorized billing accounts for each username and login as part of the single sign-on (SSO) integration with Oracle. These requirements are typically addressed during the setup and launch phase of your program.

Limitations

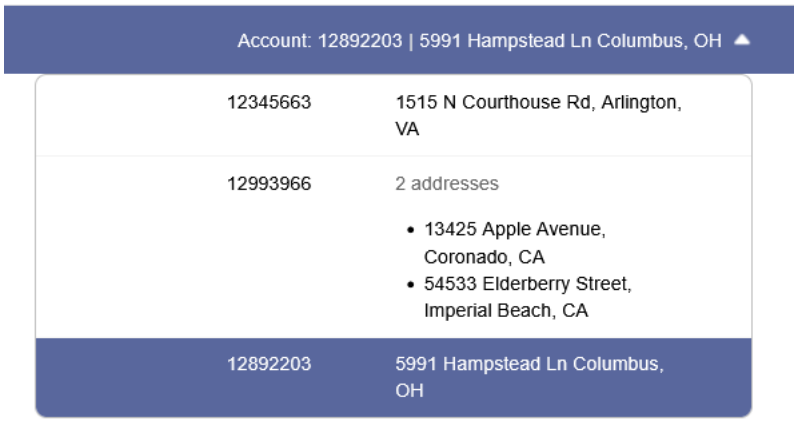
Embedded Implementations: The Billing Account Selector is designed for use in standalone web portal implementations. It can be used in embedded implementations as well, but it is not recommended. This is because (1) any selections from the Billing Account Selector do not persist across other utility-hosted web pages, and (2) utility websites usually already have an account selector menu which will conflict with the Billing Account Selector.

User Experience

In the simplest case, the Billing Account Selector is displayed in a banner at the top of a page and contains a menu of billing account numbers and addresses. When the menu is selected and a new account is chosen, the widgets reload to reflect the selection.



> **Note**
>
> If the customer only has one billing account, the widget will not display.
>
> If there are multiple premises associated with a billing account, then the premise addresses will be grouped within the billing account number and displayed as a list



The behavior of the Billing Account Selector menu changes slightly depending on how many billing accounts there are:

- If there is only one billing account, the Billing Account Selector does not display.
- If there are 10 or less billing accounts, the Billing Account Selector displays but does not have a search field.
- If there are more than 10 billing accounts, the Billing Account Selector displays a search field which you can use to filter through the account numbers.

User Experience Variations

Data Browser: Billing Account with Multiple Premises

If a billing account with multiple premises is selected, the Data Browser displays an additional submenu in the year view which contains a list of the associated service agreements grouped by premise. Customers can then use the submenu to select individual service agreements and view related monthly energy usage or cost information.

Data Browser: Premise with Multiple Service Points

If there are multiple service points within a service agreement, then the customer can go a level deeper and see energy cost or usage for each service point in the *bill* or *day* view of the Data Browser. In this case, the Data Browser displays a submenu showing all service points for the billing account grouped by service agreement and premise.

Bill Comparison

The Bill Comparison allows customers to compare their current bill to their previous bill and to the corresponding bill from the same time period the previous year. A statement indicates whether the customer is spending more, less, or about the same as the compared bill. The feature also highlights factors (such as weather or rate plan changes) that may have contributed to differences between the compared bills.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Same as listed in the Requirements and Limitations.
Scale	No applicable scale requirements.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, and quarterly.
Data Delivery Frequency	Monthly, bi-monthly, and quarterly.

Category	Description
Data Requirements	**Billing Data**: Billed usage data from the utility is the minimum data requirement. **Weather Data**: Weather data is required for the Weather Insight to appear. The customer must have a minimum of nine months of historical AMI usage data with 75% coverage in order to calculate customer-specific rather than utility-wide heating and cooling coefficients. **Peak Event Data**: Peak event data (day and time of the peak event, as well as rebate amounts) is required for the Peak Energy Savings Insight insight to appear. The utility must also purchase the Peak Management: Peak Time Rebates cloud service. **AMI Data**: AMI data is required for AMI-based insights to appear. To use AMI data, utilities must purchase the Digital Self-Service Energy Management AMI cloud service. See Requirements and Limitations for details. **Rates Data**: The Rates Engagement cloud service must be purchased and customers' rates must be modeled for rates insights (such as rate plan changes, time-of-use information, and appliance use insights) to appear.
Data History	The customer must have two historical bills to compare energy use between bill periods. Billing data from the previous year's bill period is required for the year-over-year comparison.
Data Coverage	100% coverage of billing data is required for the bill periods being compared. (There can be no null reads for the bill periods being compared.)
Supported Fuels	Electricity, gas, and dual fuel. Water and Wastewater are also supported when the Bill Comparison is integrated as part of Digital Self Service - Transactions.

Limitations

- **Quarterly Bills**: Utilities that use quarterly bills must send both energy use and cost data for the same billing period. The bill comparison will not work, for example, if monthly usage data and quarterly cost data are sent separately.
- **Estimated Bills**: If one of the compared bills was estimated (that is, if a bill is designated by the utility as "estimated" during the data transfer process), the billed usage amount will be shown with an indicator that the bill was estimated.

User Experience

This section describes the user experience for customers who have a desktop screen, gas and electricity, and rates modeled.

Fuel or Resource Menu

The fuel menu allows customers to select which fuel or resource to view a bill comparison for. By default, the **Electricity** fuel label and data is shown. An additional gas menu only appears for dual fuel customers.

Time Menu

The bill comparison can show a comparison between the current bill against the previous bill, or the same bill period from the previous year. A time menu allows customers to select which comparison to use. If data from the previous year is not available, only the previous bill period can be shown. By default, the **Previous Bill** label and comparison is shown.

A bill period from the previous year is defined as the bill period that overlaps the most with the current bill period. Customers can also use the **This Bill** drop-down in the bar chart to select a historical bill to review a previous bill comparison.

Insight Statement

Above the bar chart is an insight statement that explains whether the customer's bill is lower, higher, or about the same as the bill from the previous bill period, or from the same bill last year. If data from the previous year is not available, only an analysis against the previous bill period displays. A bill period from the previous year is defined as the bill period that overlaps the most with the current bill period. The messaging varies depending on the results of the comparison.

The cost of the difference is displayed in bold within the insight statement, if applicable. In some cases, there is no significant cost difference, and so none is shown. The dollar figures are rounded to the nearest dollar. For example, $1.51 would be rounded to $2, $1.50 would be rounded to $2, and $1.49 would be rounded to $1.

Bar Chart

The bar chart presents a visual comparison for customers so that they can see at a glance how their two bills compare. Annotations on the bars in the comparison graph identify the bill date, the number of days, and the cost amount of the compared bills. The bar for the current bill uses the "you" color, which is blue by default. The bar for the previous bill or last year's bill uses a gray color by default.

- **This Bill**: From this menu, customers can select a different historical bill to compare, if the data is available.
- **Previous Bill**: From this menu, customers to choose to view a comparison to the current bill, or to the same bill from the previous year.

Reasons for Bill Differences

Comparisons for a higher or lower bill can include the most likely reason for the cost difference. Customers can view a list of insights explaining the difference, along with the contribution of each insight to the cost of the bill.

Bill Length Insight

This refers to differences due to a different number of days in the bill periods being compared. For example, one bill period might be 6/1-6/30/2020, whereas the other might be 6/10-7/9/2019. A bill period that has fewer days in it usually costs less than a bill period with more days. The calculation for determining the cost impact of this difference is as follows:

(Reference Bill Length - Compared Bill Length) / (Compared Bill Length)) * Compared Bill Amount

For example, suppose that the reference bill length (this month) is 29 days, and the compared bill length (the bill from last month or the same month last year) is 30 days. Let's also say that in the compared bill period, the customer's bill was $105. This means the calculation would be:

(29-30)/30 * 105 = -3.49999

Rounding is then applied to the nearest hundredth decimal point, which in this case would bring the number to -$3.50. This means the messaging would say that the customer used $3.50 less in the reference bill period than in the compared bill period.

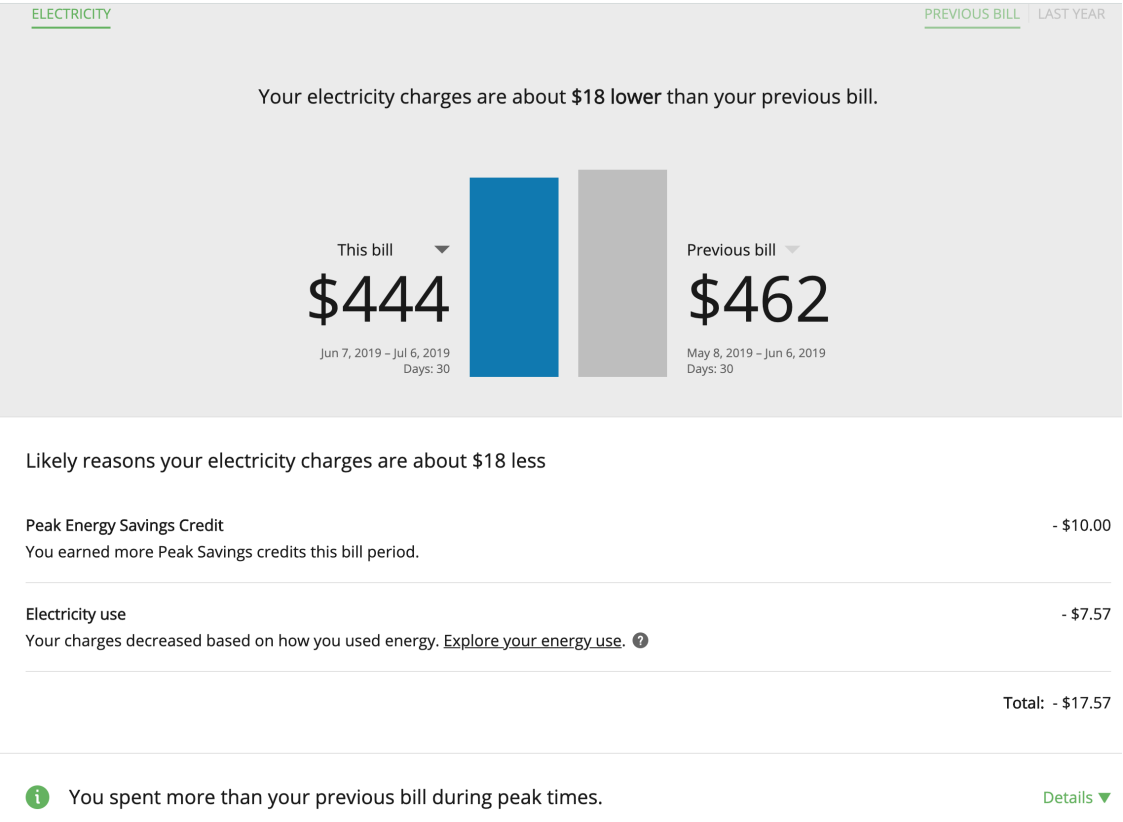
Weather Insight

If sufficient weather data is available, the bill comparison can show differences due to changes in the weather. This insight only appears if weather data is available for both of the two periods being compared, and there is sufficient data to do weather normalization.

In the standard bill comparison experience, Oracle Utilities calculates the adjusted total usage for the compared bill periods using a weather normalization algorithm. The algorithm is based on Heating Degree Days, Cooling Degree Days, and weather sensitivity coefficients. See Weather Insight for details.

Peak Energy Savings Insight

Rebates received during peak events can be included in the list of cost differences when comparing bills. Peak energy savings credits reduce the total bill and are displayed as a negative credit value. Due to the nature of peak events, it is common that only one of the compared bills includes a peak energy savings credit.



Rate Plan Insight

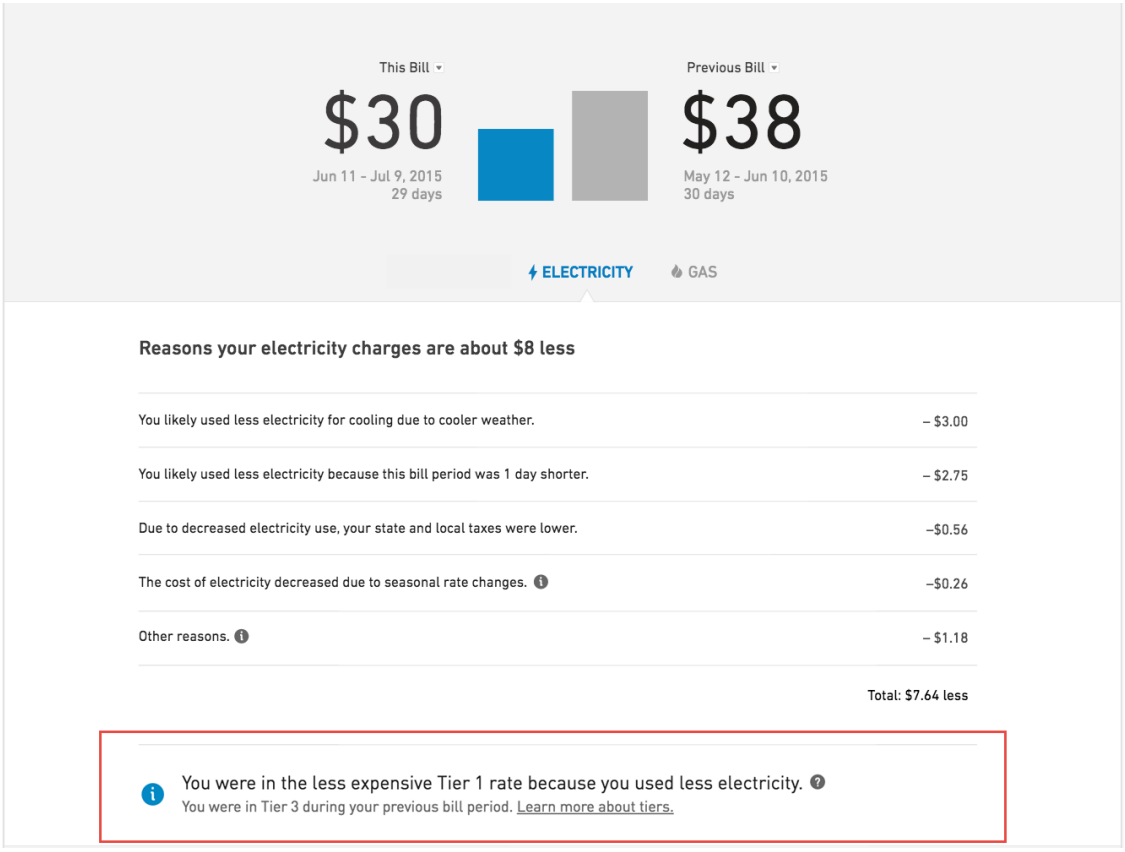
The rate plan insight highlights cost differences in bills due to the customer switching rate plans. This information can only appear if the customer's rate plan is different for the two bills,

and both rate plans have been modeled in the Rate Engine. The cost of the reference period's usage on the previous rate plan is calculated and subtracted from the cost during the reference period on the actual rate plan to determine the difference. Note that differences in prices between bills charged on the same rate plan are not called out separately.

A rate plan in the Oracle Utilities Opower system has two parts: a base plan and one or more components added onto it. For example, a base plan may be an electricity plan for residential customers in a utility's territory, but different versions of that plan could be: (1) electricity residential customers on a community assistance program, and (2) electricity residential customers on a solar plan. The rate plan change insight can be triggered if a customer moves from one of these combinations to another, even though the base plan—electricity residential customer—is the same.

Rate Tier Insight

For customers on a tiered rate plan, the bill comparison can display cost differences due to being on a cheaper or more expensive rate tier between bill periods. The switch between rate tiers depends on how much energy the customer uses.



Requirements:

- Rates must be modeled. See Rate Modeling for details.
- The rate plan structure must not be substantially different from those which the tool already supports. Contact your Delivery Team for more information.
- The customer's tier has changed between the bills being compared.

Time of Use Insight

Information about a customer's energy costs due to time-of-use rates can be displayed below the cost difference information, if a utility applies different rates during different times of day.

Bill comparison

ELECTRICITY | GAS

PREVIOUS BILL | LAST YEAR

Your electricity charges are about **$7 lower** than your previous bill.

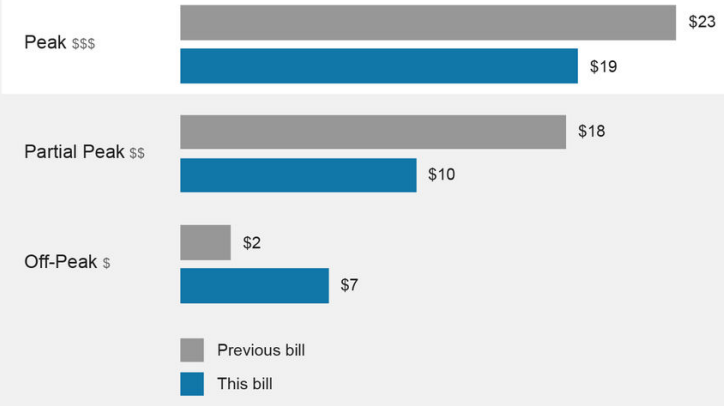
Reasons your electricity charges are about $7 less:

Cost of energy The cost of electricity was lower this bill period.	- $5.23
Taxes Due to decreased electricity costs, you paid less in state and local taxes.	- $0.87
Other energy use Your charges likely decreased based on how you used energy. Explore your energy use.	- $1.08
	Total: - $7.18

You spent less than your previous bill during peak times. Details ▲

Time-of-use comparison

You are charged a different price for energy depending on the time of day. To save money, shift as much use as possible to Off-Peak times. Learn more



Time-of-Use periods and prices change between the winter (Nov-Apr) and summer (May-Oct).

For a detailed breakdown of your charges, download your bill on your account.

Requirements:

- Rates must be modeled. See Rate Modeling for details. For more information and examples about modeling a time of use (TOU) rate plan, see Rates Data File Specifications - Time of Use Rate Plan.
- The rate plan structure must not be substantially different from those which the tool already supports. Contact your Delivery Team for more information.

Appliance Disaggregation Insight

Appliance Detection and Disaggregation insights can be displayed below the cost difference information. These insights explain how much of the cost difference between bills was due to changes in large appliance use (such as electric vehicle charging, water heating, or HVAC systems). This allows customers to better understand how their behavior affects their utility bill. Customers can increase the accuracy of the cost comparison by completing the **Home Energy Analysis**.

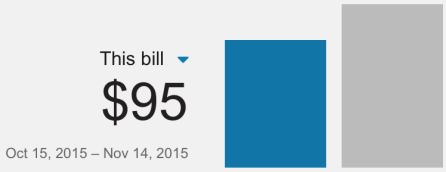
UtilityCo

Your Energy Use Ways to Save

Bill comparison

ELECTRICITY | GAS PREVIOUS BILL | LAST YEAR

Your electricity charges are about **$14 lower** than your previous bill.



Why are my electricity charges $14 lower?

Weather - $1.38

You likely used less electricity due to changes in weather.

Cost of electricity - $0.67

The cost of electricity was lower this bill period.

Bill period + $7.29

You likely used more electricity because this bill period was 1 day longer.

Electricity use - $19.56

Changes in your electricity use likely lowered your bill this period. Here are some estimates based on your recent energy use. To get a more accurate breakdown, update the information about your home.

Electric Vehicle	+ $9.21
Water Heating	+ $1.23
Appliances	- $8.21
Pool	- $12.10
Other	- $9.69
Total	- $19.56

Your bill may be different for a variety of other reasons, including number of people in your home, new appliances or electronics, and amount of time spent at home.

Total: - $14.32

Requirements: Appliance disaggregation insights require more data in addition to the base data requirements. For example, for the year-over-year comparison, 13 months of historical AMI data is required. Other requirements as well as setup and configuration apply. Contact your Delivery Team for more information.

Solar Insights

Differences due to the use of solar technology. While negative bills can be shown in the interface whether or not a customer has solar technology, additional solar insights can be displayed if the utility has purchased the Distributed Energy Resources cloud service. See Solar Messaging in Bill Comparison for details.

Critical Peak Pricing Insights

For customers who are part of a critical peak pricing program, information about critical peak pricing charges and credits can be displayed below the cost differences section of the feature. This information may explain to customers how they can save energy on certain critical peak days in order to earn credits on their bills. Additionally it can display a bar chart that summarizes the customer's charges and credits in the current and previous bill periods.

Requirements:

- Rates must be modeled. See Rate Modeling for details.
- Peak event data (day and time of peak event, as well as rebate amounts) is required.
- The rate plan structure must not be substantially different from those which the tool already supports. Contact your Delivery Team for more information.

Non-Usage Insight

Differences due to changes outside of a customer's normal energy consumption, such as taxes, flat fees, and adjustments. This information allows the Bill Comparison to better match the amounts that customers see in their bills. Displaying this information may require additional setup and configuration. Contact your Delivery Team if you have any questions.

Other Factors

Differences due to factors not explained by the above reasons. Such reasons could include being on vacation, buying a new appliance, or having additional people at home. A call-to-action link is included with this insight, directing customers to the interactive Data Browser.

Customer Feedback Module

A customer feedback module is displayed at the bottom of the Bill Comparison. See Customer Feedback for more information.

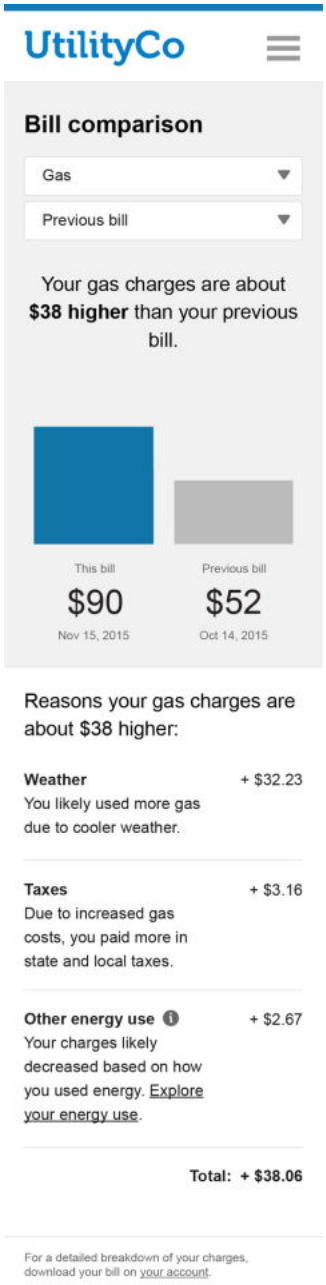
User Experience Variations

Locale

This feature can display locale-appropriate language and units of measure. Additionally, this feature may compare Quarterly Reads as opposed to monthly or bi-monthly bills, since quarterly bills are more common in non-US locales.

Mobile Experience

The experience of the bill comparison for smaller mobile screen sizes consists of the same components as the desktop experience. However, the layout changes to fit the smaller screen size by stacking the components vertically.



Multiple Accounts

The multiple accounts experience varies depending on whether the feature has been configured for a standalone implementation or an embedded implementation.

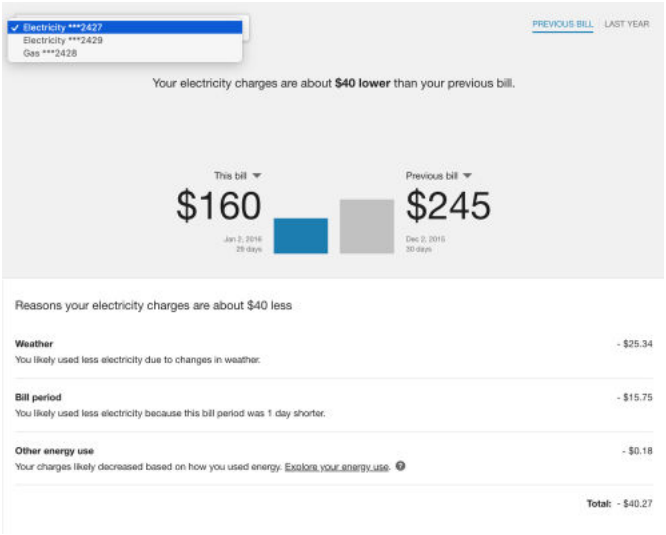
In a standalone implementation, the Bill Comparison shows a drop-down list that allows customers to choose which account to view. This drop-down list replaces the fuel type toggle.

In an embedded widget implementation, the account drop-down is hidden since the utility site is expected to have its own account selection tools. In this case, customers can switch between their accounts by logging into their utility account using single sign-on, and then clicking an account selector hosted on the utility website. All embedded widgets are then reloaded with data for the specified account.

Multiple Service Agreements

A drop-down menu is displayed if there are multiple service agreements for a billing account. If your customer has multiple service points (that is, multiple meters) for a single service agreement, the drop-down menu will not display.

The example below shows a case where a customer has a single gas service agreement and two electricity service agreements.



Negative Bill

Customers with a negative bill are shown the negative bill value, along with a message that explains the reason for the negative bill. The bar for the negative value uses a green color. A common cause of a negative bill is a utility applying a credit to the customer's account. Or, customers with solar technology might have produced more electricity than they used.

Quarterly Reads

If a customer has quarterly reads, the comparison will be between quarterly bills, with each bar representing a three-month period. The labels under the bars will show the start and end dates of the bill period, which will be in separate months. The cost and usage values will likely be higher because of the longer bill period. Furthermore, the feature will take longer to display data for a new quarterly-billed customer, because the feature requires two bill periods (or 6 months of data) before a comparison can be shown.

Single Fuel

If a customer only has one fuel type (such as electricity but not gas), then the Bill Comparison widget displays the label for the fuel type by default. However, utilities can choose to hide this label during the setup and configuration process.

Water and Wastewater Customers

When integrated as part of Digital Self Service - Transactions, water and wastewater customers can use the Bill Comparison widget to compare their water or wastewater bills in many of the same ways that customers can compare electricity and gas bills, providing a consistent bill comparison experience.

Insights for water and wastewater customers include a **Days in Bill Period** insight and **Other Water Use** insights. Other insights, such as weather and rate plan insights, are not currently available for water and wastewater services.

Calculations

Bill Comparison

The bill comparison calculation compares a customer's energy use and/or cost against the previous bill period, or against the same period from the previous year. At a high level, the calculation involves the following steps:

1. Identify the start and end date of the selected bill.
2. Identify the amount of energy consumed in the billing period, as well as the cost of the bill.
3. Identify the average temperature during the selected bill period (if weather data is available).
4. Check whether there was a change in the customer's rate plan.
5. Retrieve the same information for the compared bill.
6. Compare the information and generate a statement about how the customer is doing, as well as reasons why there may be a difference between the billing periods.

Weather Insight

The Bill Comparison feature estimates how much the customer *would* have spent during each compared bill period if weather conditions had been identical. The bill costs are adjusted as a result, and the likely impact of weather is the difference in cost between the two adjusted bills. This difference is then displayed as the Weather Insight.

> **Note**
>
> The weather normalization calculation does not use the Oracle Utilities Opower Rate Engine to calculate the dollar amount attributed to weather, even if rates are modeled at a given utility. Instead it relies on bill charges and energy usage amounts for both the selected and reference bills.

More specifically, the feature calculates the adjusted total for each compared bill period using a weather normalization algorithm. The weather normalization algorithm is based on the following inputs:

- **Cooling Degree Days (CDD)**: A measure of how *warm* a location is over a period of time relative to a base temperature, specifically 65°F. You get CDDs when the average temperature of a day is over 65°F. For example, if the average temperature for a single day is 67°F, then the CDD for that day is 2, since it is two degrees over the base temperature. CDDs are proportional to the amount of cooling energy usage. The more CDDs, the more energy is used to cool a home or building.
- **Heating Degree Days (HDD)**: A measure of how *cold* a location is over a period of time relative to the same base temperature, 65°F. For example, if the average temperature for a single day is 55°F, then the HDD for that day is 10, since it is ten degrees under the base temperature. HDDs are proportional to the amount of heating energy usage. The more HDDs, the more energy is used to heat a home or building.

- **Weather Sensitivity Coefficients**: These coefficients are defined on a per-utility, per-fuel-type, and per-dwelling-type (if available) basis. If enough customer data is available, then the Bill Comparison can use *customer*-specific heating and cooling coefficients rather than *utility*-wide coefficients. Customer-specific coefficients result in more accurate and personalized assessments of how much money a customer spent or saved on their bill due to variations in weather. At minimum, nine months of historical AMI usage data and 75% data coverage are required for customer-specific coefficients. If there is not enough data, the feature will fall back to utility-wide coefficients.

Using these inputs, the weather normalization calculation performs the follow high-level steps:

1. Get the average temperature on each day of the *current* period and each day of the *comparison* period.
2. Derive the average heating degree days (HDD) and cooling degree days (CDD) for each period.
3. Calculate the difference in HDD and CDD between the periods.
4. Use the difference in HDD and CDD, along with utility-specific heating and cooling coefficients, to calculate an "adjustment factor."
5. Multiply the adjustment factor by the amount of energy usage from the bill period in question. The resulting "adjusted" usage data (or "normalized" usage data) can then be displayed to customers.

With weather normalization, the comparison between bill periods is more fair than making an unadjusted comparison, since it accounts for differences in weather conditions. The calculation automatically corrects for differences in bill length.

Neighbor Comparison

The Neighbor Comparison compares the customer ("You") to two groups: "Efficient Neighbors" and "All Neighbors." The results are displayed in a horizontal bar graph, and a message explains how the customer compares to their efficient neighbors. The customer can fall into one of three states: "Great," "Good," or "Using more than average". "Efficient Neighbors" are defined as the most efficient 20% of the customer's neighbors. An informational section below the bar graph provides details about the comparison.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Same as listed in the Requirements and Limitations.
Scale	No applicable scale requirements.

Customer Requirements

Billing Frequency	Monthly, bi-monthly, or quarterly.
Data Delivery Frequency	Monthly, bi-monthly, or quarterly.

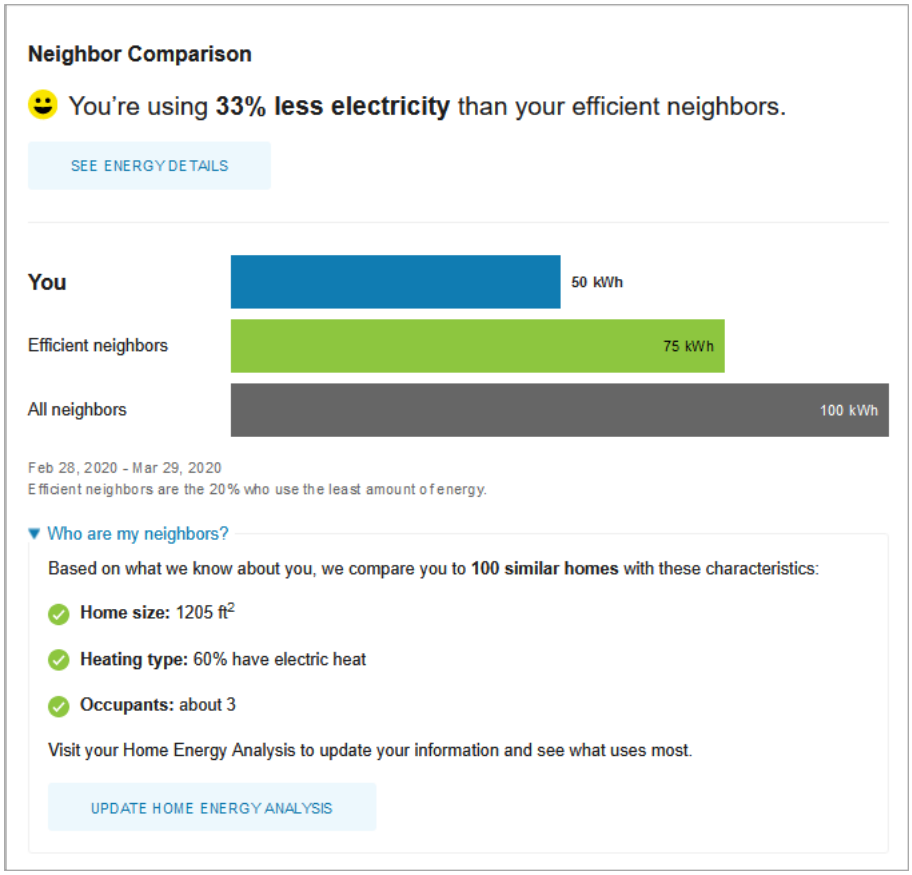
Data Requirements	Billing data is required. Additionally, some third-party data (geospatial data and parcel data, for example) is required to select other similar neighbors or households for the comparison. The feature will not display if it is unable to select the minimum number of neighbors. The minimum threshold may vary depending on your utility's setup and configuration. Contact your Delivery Team if you have any questions.
Data History	A single bill from the last bill period or previous to last bill period.
Data Coverage	Not applicable. Data at the bill level is used.
Supported Fuels	Electricity, gas, and dual fuel.

Limitations

- **Neighbor Comparisons on the Web Versus Printed Reports**: The neighbor comparison on the web may be slightly different than the neighbor comparison in printed Home Energy Reports. Both report types still depend on the same set of neighbors selected for a customer.
- **Dynamic Neighbor Calculations**: A new set of neighbors is not dynamically calculated whenever a customer signs in to their web account and views the neighbor comparison. This is because the neighbor selection algorithm is an intensive matching process that takes a non-trivial amount of time to run, and so the web version of the feature would take a very long time to load. This also means that if customers update their home information on the web (for example, by using the Home Energy Analysis survey), they will not see an updated neighbor comparison until Oracle Utilities systems are able to run neighbor re-selection processes at a time later.
- **Dual Fuel Customers and Combined Energy View**: Dual fuel customers see a combined "Energy" view as the default view in the neighbor comparison. If a customer has no gas data, but is part of a dual fuel utility, the customer will still see a neighbor comparison for electricity (and vice versa). Additionally, note that for dual fuel customers, the neighbor selection process selects neighbors based on all the home characteristics, but performs a comparison for each fuel independently. The gas values are calculated based on the gas bill periods, not the electric bill periods (and vice versa).
- **Customers with Electric Vehicles or Heat Pumps**: The neighbor comparison will not be impacted if custom survey questions about electric vehicles (EVs) or heat pumps are added to the Home Energy Analysis. In other words, customers who have these attributes will not be compared to other customers who have these attributes, because the data on these attributes is not widely available. Even if these specific questions were added as new rules in the neighbor selection process, most customers would end up matching with neighbors based on standard information about a premise (such as square footage), unless a very high number of people completed the Home Energy Analysis survey and provided enough data to affect the selection.

User Experience

The user experience described in this section is for customers who have a desktop screen, a single fuel (electricity), and "neighbor" terminology as opposed to "similar homes" terminology.



Insight Statement: The insight statement above the chart ("You used x% more [fuelType] than your neighbors") provides information about why the bar chart appears the way it does. Specifically, it displays a percentage for how much more or less the customer used compared to their "efficient neighbors", or how much more or less the customer used compared to "all neighbors" (including efficient neighbors).

How You're Doing Icon: This icon visually represents whether the customer is doing "Great," "Good," or "Using more than average." There are different states for the icon depending on the customer's state.

Customer State	Icon Displayed
Great	
Good or using more than average	

See Energy Details: This link takes customers to the Data Browser to explore their historical energy costs.

Bar Chart: The bar chart displays how much energy each group in the comparison used. The order of the bars should be: the bar with the smallest value on top and the bar with the largest value on the bottom.

- **You**: This bar indicates how the customer is doing. This is often a color that corresponds to the utility brand color.
- **Average Neighbors**: This bar indicates how all the customer's neighbors are doing. It is usually a gray or neutral color.

- **Efficient Neighbors**: This bar displays a usage value for the most efficient 20% of the customer's neighbors. It is usually colored green because green is commonly associated with energy efficiency. Note that the efficient neighbors value is not an average of the top 20% of neighbors. A threshold value—the 20th percentile neighbor—is used to determine the value.

Date Range: The date range displays the time period that is covered by the comparison. The comparison always covers the last completed billing period. The year accompanies both the start date and end date (for example, Dec 20, 2019 – Jan 20, 2020).

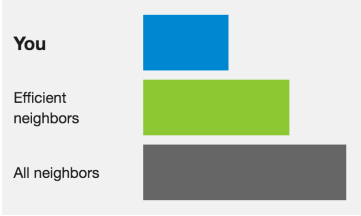
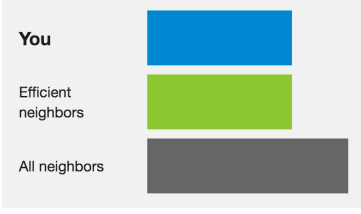
Who Are My Neighbors: When clicked, information about the characteristics that match between the customer's home and the neighbors' homes is displayed. See Who Are My Neighbors below for details.

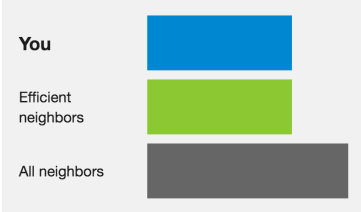
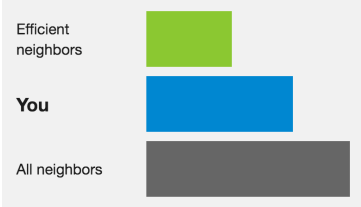
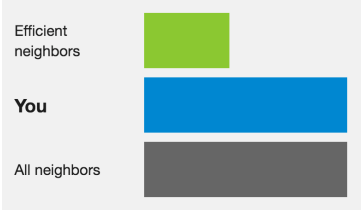
Call-to-Action: The call-to-action is a link (such as **See Energy Details**) that directs customers to additional information. The link varies depending on how well the customer is doing.

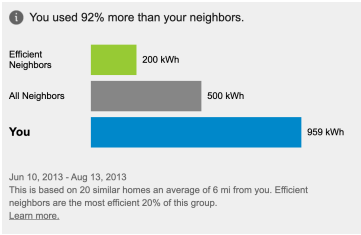
Customer State	Link Displayed
Customer falls in the "Great" or "Good" categories.	SEE ENERGY DETAILS Links to the interactive Data Browser.
Customer falls in the "Using more than average" category.	SEE WAYS TO SAVE Links to Ways to Save.

Neighbor Comparison States

Different components of the neighbor comparison module can take on different states depending on how the customer is doing. This section captures the different neighbor comparison states that may be displayed. Most of these states apply to both single and dual fuel customers, though there is an edge case that applies only to dual fuel customers. See Edge Case: Less Than Neighbors below for more information.

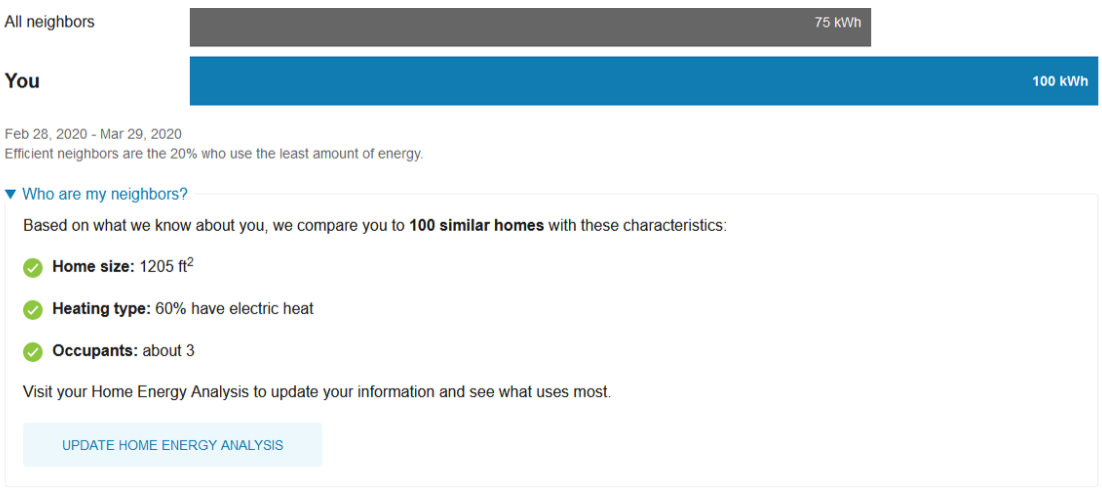
Normative Message / Insight	Customer State	Description
"You're using X% less [fuelType] than your efficient neighbors."	Great	Customer uses the least of both groups. 
"You're using about the same amount of [fuelType] as your efficient neighbors."	Great	There is a negligible, less than, or equal to difference between the customer and efficient neighbors. 

Normative Message / Insight	Customer State	Description
"You're using about the same amount of [fuelType] as your efficient neighbors."	Good	There is a negligible, greater difference between the customer and efficient neighbors. 
"You're using X% more [fuelType] than your efficient neighbors."	Good	Customer used less than all neighbors, but more than efficient neighbors. 
"You're using X% more [fuelType] than your efficient neighbors."	Good	There is a negligible difference between the customer and all neighbors. 

Normative Message / Insight	Customer State	Description
"You used X% less than your neighbors"	Good	**Web Only**: This message may display for dual fuel customers when they select just electricity or just natural gas from the fuel selector, rather than the combined "energy" option. This is a known edge case, as most messages compare the customer to their efficient neighbors. 
"You're using X% more [fuelType] than your neighbors."	More than average	Customer has used the most. A warning icon is displayed is displayed as part of the messaging text. 

Who Are My Neighbors

Customers can click **Who are my neighbors?** to display information on the characteristics of the neighbors that the customer is being compared to. The purpose is to give customers a better idea of the fairness of the comparison. The contents of the description vary depending on what data is available. The information available is broken down into a message about the number of similar homes, a list of characteristics, and a link to the Home Energy Analysis.



Number of Similar Homes: A summary message specifies the number of similar homes that are included in the comparison. The number is targeted at 100, but if not enough qualified neighbors exist a smaller number may be used. Reports are only generated for households with a minimum number of qualified neighbors.

> **Note**
>
> Neighbors are defined by site rather than by occupant. For example, if an occupant of a neighbor home relocates over the course of the program and another resident moves in, the comparison will subsequently be to the new occupant of the same home. Neighbor sites are nearby homes that have characteristics that typically lead to similar energy needs, and only include homes that appear to be occupied at the time of the comparison. They are not necessarily homes on the same street.

Comparison Characteristics: A list of characteristics a customer shares with the neighbors included in the comparison are displayed with a green check mark. If a characteristic is unknown for a customer, it is not included in the comparison and hidden from view. The characteristics may include:

- **Location**: The average distance or proximity of the neighbors' homes. The number is rounded to the nearest whole unit and is meant to assure customers they are being compared against homes that are nearby.
- **Home Size**: The average home square footage among neighbors.
- **Heating Type**: The percentage of neighbors with the same heating type, such as gas or electric heating.
- **Building Type**: The percentage of neighbors with the same building type, such as apartments, condos, or single family homes.
- **Occupants**: The average number of occupants among the neighbors.

Update Home Energy Analysis: Clicking this button takes the customer to the Home Energy Analysis so that they can provide the latest details about their home and make the neighbor comparison more accurate. Note, however, that the neighbor comparison is not updated in real time based on a customer's updates. Additionally, the call-to-action button does not change even if the customer has already visited the Home Energy Analysis.

User Experience Variations

Competitive Markets Terminology

Utilities in competitive markets may choose to use different language in the neighbor comparison to make it clear that the customers is being compared to other customers of the same utility.

Insight Statement: The insight statement above the chart either says "similar ABC homes" or "your ABC neighbors," where ABC is the name of the utility.

Who Are My Neighbors Message: This message says "Based on what we know about you, we compare you to [numberOfHomes] similar [Utility] homes with these characteristics", where [Utility] is the name of the utility.

Dual Fuel Experience

If the customer is dual fuel, they will see an additional drop-down menu for switching between fuel types. By default, the "Energy" fuel label is shown, which is a view that combines natural gas and electricity using a price-weighted Energy Index. Electricity is the second label and gas is the third. The drop-down only appears for dual fuel customers. Single fuel customers only see a comparison for their fuel type, without a drop-down.

Edge Case: Less Than Neighbors

For dual fuel customers, the neighbor comparison has to compare the customer to the *same* neighbor group ("all neighbors" or "efficient neighbors") for *all three* options available in the fuel selector: energy, electricity, and gas. This rule results in an edge case where the customer may see a "You used less than your neighbors" message. (In most cases, the feature only compares the customer to *all* neighbors when the customer is using more than *all* neighbors. Otherwise, the module compares them to *efficient* neighbors in order to encourage more efficient behavior.)

> **Note**
>
> This limitation only applies to the neighbor comparison for the web.
>
> For example, let's say a duel fuel customer signs in to their online account and views their neighbor comparison. Imagine that the comparison says the customer used 28% more *energy* than all neighbors. Then let's say the customer clicks the fuel selector and switches to *electricity*. Imagine they find that they used 88% more electricity than all neighbors. But then let's say they switch to *natural gas* and find that they used 22% less than all neighbors.
>
> In this case, the statement about natural gas will compare the customer to all neighbors (not efficient neighbors), resulting in the statement, "You used X% less than your neighbors." This is the only scenario in which this particular wording will be used.

Efficiency Zone Experience

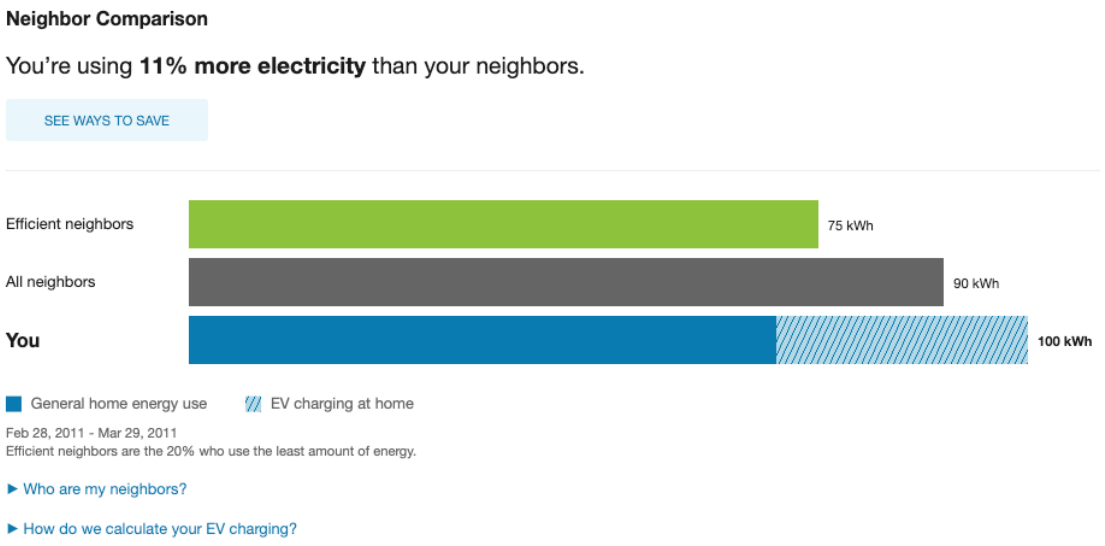
The Efficiency Zone widget replaces the standard Neighbor Comparison for customers who receive the Efficiency Zone module in their Home Energy ReportsorEmail Home Energy Reports reports. It features a two-bar graph comparing the customer's usage to similar homes, alongside an "Efficiency Zone" threshold, with insights that provide context for the customer's

performance. The Efficiency Zone represents the top 20% most efficient similar homes for that billing period. A customer's position relative to the zone may change from one report to the next.

Note: The customer's web experience for the Efficiency Zone mirrors what is shown in their print or email report. For example, customers who receive the Efficiency Zone in their report will also see an Efficiency Zone widget in the Digital Self Service – Energy Management portal. Utilities also have the option to replace the Efficiency Zone with the standard Neighbor Comparison.

Electric Vehicle Experience

Customers who receive the Email Home Energy Reports Electric Vehicle (EV) report edition or the print Home Energy Reports EV report edition can view personalized insights about the impact of EV charging on their overall energy use in the Neighbor Comparison web widget. The EV web experience takes into account the impact of the customer's EV charging on their total energy usage. It also incorporates additional insights (such as disaggregation and detection) and makes it clear to customers how their EV use factors into their report.



This experience is only available to EV customers with Level 2 (L2) chargers and varies from the standard experience in several ways.

Normative Message / Insight Statement: The normative message that appears above the chart includes a link to Ways to Save.

Bar Chart: The "You" bar in the bar chart displays two parts: a solid color to represent the customer's general home energy use, and a lighter shaded color to represent the customer's energy use attributable to EV charging. When a customer selects one of these parts of the bar, a tooltip appears to indicate how much energy use it represents. The usage amounts of each part add up to the total energy use amount displayed at the end of the bar. Additionally, beneath the bar chart is a short legend that explains what the colors of the "You" bar represent.

Who Are My Neighbors: This section contains the same information as in the Who Are My Neighbors. There is no additional EV attribute highlighted as a reason for the comparison. Customers with an EV are compared against other customers based on standard premise information, such as home type and square footage. One reason for this is that EVs are not widespread, and finding other households where an EV is present is a challenge. However, the

EV Neighbor Comparison experience shows customers the impact of EV charging on their overall usage, which helps explain why their comparison is the way it is.

How Do We Calculate Your EV Charging: When this link is clicked, information is displayed to explain that the customer's EV energy use is estimated based on what is known about their home profile as well as the energy use data available for their home.

Requirements

The preferred approach for the EV experience is to use an advanced AMI data science model, since this model generates the most accurate neighbor comparison results. In this case, there are minimum AMI data and weather data requirements for the utility to meet. Contact your Delivery Team for details.

If not enough data is available to use the advanced AMI data science model, then the "EV charging at home component" can be based on billing data and utility-wide average percentages for end use categories (including for EV end use), as well as the customer's answers to the Home Energy Analysis.

Mobile Experience

The Neighbor Comparison for smaller screen sizes consists of the same components as the desktop experience. The only difference is that the layout changes, and the components of the feature stack vertically to fit the screen. Since the Oracle Utilities Opower web features or widgets adapt their layout based on screen size rather than device type, the mobile experience may differ slightly between devices.

Calculations

The neighbor comparison calculation compares a customer's energy use against two groups: All Neighbors and Efficient Neighbors. At a high level, the calculation involves the following steps:

1. Identify the start and end dates of the period of comparison.
2. Identify the customer's neighbors. The number of neighbors is targeted at 100, but if not enough qualified neighbors exist, a smaller number may be used.
3. Identify the customer's efficient neighbors—the 20th percentile of neighbors with the lowest use for the selected period.
4. Calculate the customer's total energy use over the time period.

5. Calculate the average energy use of all of the customer's neighbors over the time period. This results in an energy use value for the "All Neighbors" group.
6. Calculate the 20th percentile of energy use of all the customers' neighbors over the time period. This results in an energy use value for "Efficient Neighbors" group.
7. Compare the information and generate a graph that indicates how the customer is doing.

> **Note**
>
> - **Report Generation:** Reports are only generated for households that have a minimum number of neighbors in the "good" state. Households that do not meet this requirement will not receive reports.
> - **Neighbors Defined by Site**: Neighbors are defined by site rather than by customer. For example, if an occupant of a neighbor home relocates over the course of the program and another resident moves in, the comparison will subsequently be to the new occupant of the same home.
> - **Neighbor Comparison Data**: The calculation can compare customers to neighbors who have been selected to participate in the program, as well as neighbors who have *not* been selected. However, it does not calculate or store comparison data for non-program customers.
> - **Pro-Rating Neighbors' Bills**: A customer's neighbors' previous bills do not always coincide exactly in time with the customer's previous bills. To arrive at the neighbor averages used to calculate the comparison, it is necessary to align neighbors' past energy use amounts with the customer's past energy use amounts. In these scenarios, the application pro-rates, or "time-shifts," the neighbor bills to align with the customer bills by determining and adjusting for the amount of overlap. The time-shifted neighbor bills are then used to determine the neighbor averages.

Data Browser

The Data Browser is an interactive tool that allows customers to visualize and explore their energy use trends and costs, and make comparisons to useful benchmarks, such as weather and similar homes. One or more views for Energy Costs View, Energy Use View, and Neighbors View are available in the feature. If applicable, customers can also use menus to switch between multiple accounts or service points.

Requirements

Utility Requirements

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, and quarterly.
Data Delivery Frequency	Monthly, bi-monthly, and quarterly.

Category	Description
Data Requirements	**Billing Data**: Customers must have a minimum of one historical bill to view data in the Year view. **Weather Data**: Weather data is required for the weather line graph to display. If the Oracle Utilities Opower Premise Data Transfer specification is being used, then the `country` field in the Premise data entity is required. **AMI Data**: The Digital Self Service - Energy Management AMI cloud service must be purchased for daily or subdaily energy use AMI data and insights to display. A minimum of one historical bill with at least one day of historical AMI data is required to view such data. **Rates Data**: The Rates Engagement cloud service must be purchased and rates must be modeled in order for rates or cost insights to display in certain parts of the Energy Costs View. Additional data requirements may apply for other "views" and features of Data Browser. See User Experience below for more details about each view.
Data History	A minimum of one historical bill is required for data to display in the **Year** view. For AMI customers, a minimum of one historical bill which includes at least one day of historical AMI data is required for the **Bill view** and **Day view**.
Data Coverage	Not applicable. By default, all graphs and views of the Data Browser display any data that is available, even if some reads are missing.
Supported Fuels	Electricity, gas, and dual fuel. Customers with two fuels can switch between electricity and natural gas views. A combined view, which combines electricity and natural gas use, can also be enabled.

Limitations

- **Taxes and Fees Limitation**: The amounts shown for energy use typically do not include taxes or fees, so they will not match the customer's bill. However, with additional setup and configuration, the costs can be made to match a customer's bill.
- **Responsive Display**: Daily energy use can be displayed in 15 or 30-minute intervals for all customers with sub-hourly read data. When viewed on smaller screens such as for mobile devices, the responsive design displays hourly intervals to account for reduced screen space.

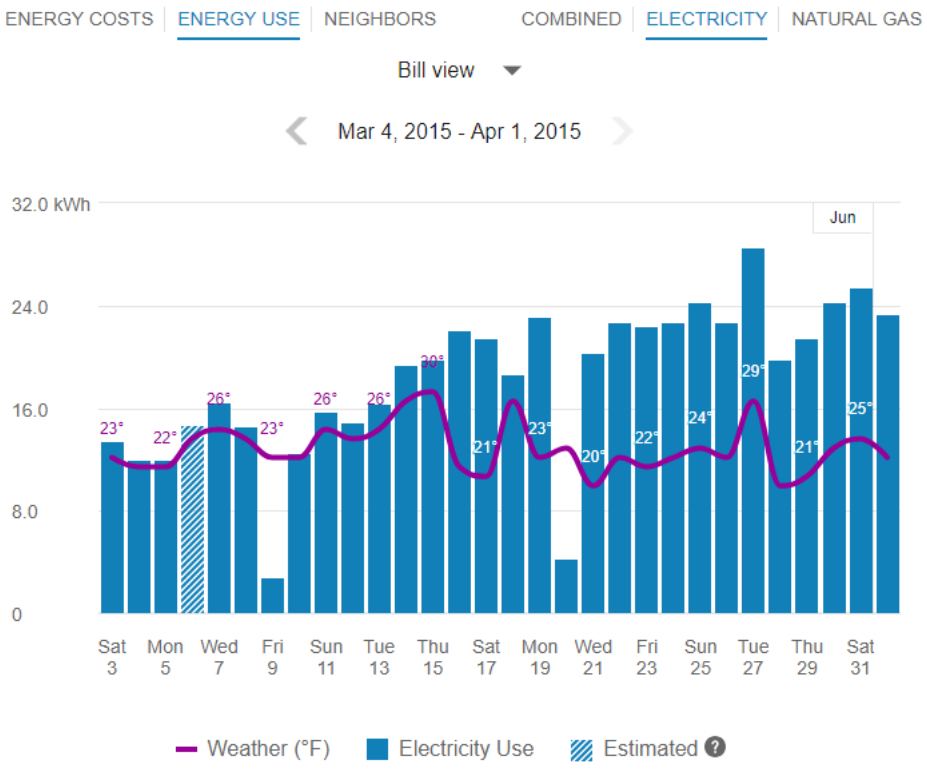
User Experience

The Data Browser is an interactive visualization tool that allows customers to analyze their energy use trends by fuel type, time period, and a series of other views. Customers can hover

over or select a data point in the Data Browser to Energy Tooltips containing more information about it. The major views available are:

- Energy Costs View: The cost of energy usage over time, alongside factors such as a weather and solar power (if applicable).
- Energy Use View: The amount of energy usage over time, alongside factors such as a weather and solar power (if applicable).
- Neighbors View: The amount of energy use compared between the customer and their neighbors.

The image below is an example of the Energy Use view.



(missing or bad snippet)

For more information on how the feature behaves and displays data, see General Display Rules below. Some insights may not be available depending on data availability and the customer's fuel type.

General Display Rules

The Data Browser follows some general rules regarding when and how to display data. These rules vary depending on the view.

Year View

Rules for the Year view include:

- For all major views (Energy Costs, Energy Use, and so on), the Year view will always display any available data, even if some data is missing. For example, if 12 out of 13 months are missing data, the Data Browser will still show data for the one month that is available.
- Energy use and cost data for a bill must be sent to Oracle Utilities Opower for the same billing period. For example, if a customer has quarterly bills, the utility cannot send monthly

energy use data, and then later send the total cost of the customer's bill at the end of the quarter. Both the total usage and cost of the quarter must be sent together in order for it to display it in the Year view of the Data Browser.

- Data points are always shown for a full year plus one additional data point. This means that there are 13 data points for monthly billing, 7 data points for bi-monthly billing, and 5 data points for quarterly billing.

Bill View

Daily AMI data is required to display the Bill view. In general, the Bill view will display any available data, even if some data is missing. For example, if only four days of data are available, the Data Browser will still show data for those four days.

Day View

Subdaily AMI data is required to display the Day view. Data reads are shown by hour or by whatever time interval matches the customer's AMI meter. The supported intervals are 60-minute, 30-minute, and 15-minute.

For the Energy Costs and Energy Use graphs, the Day view will always display any available data, even if some data is missing. For example, if only five hours of data is available, data for those five hours will be shown. Since 24 hours in a day can be assumed, missing data is shown as gaps in the graph.

High and low temperatures are not displayed in the tooltips for the Day view. However, average hourly temperature data will be displayed if it is available.

X-Y Axis

The Data Browser displays data in the form of lines, bars, and data points along an X-Y axis. Customers can hover over a given data point for more information and see a Energy Tooltips containing standard details such as a date range, energy use amount, and other information depending on the view selected.

X-Axis

The labels on the X-axis of the graph represent an interval of time (months, days, or hours).

View	Display Rules
Year view	The abbreviated month and final day for each bill is displayed. For example, if a customer is billed monthly on the 20th of every month, the label for September is Sep 20. This ensures that if more than one bill ends in a given month, each bill can be distinguished by the day information. Labels appear across the X-axis for every bill. Labels are hidden in a manner to ensure that labels do not overlap for reduced screen sizes. For example, labels can be displayed for every other bill when a browser window is reduced.
Bill view	The abbreviated day of the week and numeric day for each daily read is displayed. Labels appear across the X-axis for every other day. Labels are hidden in a manner to ensure that labels do not overlap for reduced screen sizes. For example, labels can be displayed for every third bill when viewing area is reduced due to viewing the graph on a mobile device.

View	Display Rules
Day view	Time of day intervals are displayed, such as 12am, 6am, 12pm, and so on. Labels appear across the X-axis for every six hours. Labels are hidden in a manner to ensure that labels do not overlap for reduced screen sizes. For example, labels can be displayed for every twelfth hour when viewing area is reduced due to viewing the graph on a mobile device.

Y-Axis

The labels on the Y-axis of the graph represent an applicable unit of consumption, cost, or demand. The axis begins at 0 and displays increments up until an applicable maximum value that ensures all data can be shown.

Estimated Bills and Usage Reads

Utilities are sometimes unable to obtain billing reads or AMI usage reads for their customers, in which case such bills or reads may be estimated.

- **Estimated Bills**: An estimated bill is an approximate monetary amount that is calculated based on the energy that a customer has consumed in the past rather than the present billing period. Estimated billing reads are marked in the data file sent by the utility to Oracle Utilities Opower. Estimated bills are corrected the next time the customer's meter is read. Any extra costs they were charged will be adjusted in the following bill, ensuring that customers never pay for more energy than they actually used.
- **Estimated AMI Reads**: An estimated AMI read (that is, granular usage reads such as daily or subdaily reads) is an approximate usage amount that is calculated based on the energy that a customer that has consumed in the past rather than in the present billing period. Like estimated bills, estimated AMI reads are marked in the data file sent by the utility to Oracle Utilities Opower.

In the Data Browser, estimated bills or AMI reads are indicated by a tooltip message that displays when the customer hovers over an applicable data point. This message will appear if any bill or usage read shown in the Data Browser was estimated. For example, a single bill period could be estimated or a single day could contain three hourly reads which are estimated.

> **Note**
>
> Estimated bills and AMI reads are flagged separately in the data files sent by the utility to Oracle Utilities Opower. If a utility has not marked that a billing read was estimated, then no indication of an estimated bill will be displayed for any of the bill periods shown in the Year view of the Data Browser—even if one of the billing periods contains one or more *daily* estimated AMI reads.

Energy Tooltips

A tooltip is displayed when a customer interacts with a data point in the Data Browser. At minimum, the tooltip includes the time period covered and the amount of energy used by the customer. Other elements of a tooltip vary depending on which view of the Data Browser is selected and what data is available.

Time Period: The time period for the selected data point. The information shown varies slightly depending on the interval of time being viewed.

- **Year View**: The tooltip shows the month and date range of a bill period. Example: May 3, 2020 - June 1, 2020
- **Bill View**: The tooltip shows details about a day in a bill period. Example: Thurs, May 8, 2020
- **Day View**: The tooltip shows an hourly or sub-hourly interval in a bill period. Example: 9:00 - 10:00am

Energy Cost: The cost of energy for the selected fuel type and time period. Energy costs are shown on tooltips for the Energy Costs graph. Hyphens are displayed for any data that is missing. The cost amounts typically do not include taxes and fees, and so do not match a customer's bill. However, with additional setup and configuration, the costs can be made to match a customer's bill.

Energy Use: The energy used for the selected fuel type (kWh, therms, and so on) and time period. Hyphens are displayed for any data that is missing.

Energy Insight: In the Neighbors View view, the energy tooltip provides insight into the customer's energy use for the applicable time period as compared to their neighbors. For example, the tooltip may show that a customer used more, less, or about the same as their neighbors.

Weather: The average temperature for the selected time period. Weather data is available in the Energy Costs View and Energy Use View views. High and low temperatures are also provided when using the Year view or Bill view.

Click Bar to View Each Day or Hour: For customers with AMI data, a message is displayed in tooltips in the year view and bill view, directing customers to more granular data. This message allows customers to quickly view data for the days in a bill period or the hours in a day.

Estimated Bills: Estimated bills are listed as estimates in a tooltip. When unusual circumstances prevent a utility from obtaining an actual billing read for a customer, it is sometimes necessary to calculate an estimate. See Estimated Bills and Usage Reads above for details.

Virtual Bills

A virtual bill shows a customer's daily energy use and energy costs up to the present day in the Data Browser, even though the bill period is not finished yet. This is accomplished by determining the maximum number of days to display along the horizontal axis in the Bill view. This feature requires AMI data.

A virtual bill is useful because it assumes an end date for an in-progress bill, and it therefore allows daily usage data to be displayed in the Data Browser before the bill period is finished. Because of virtual bills, customers can go to the Bill view and navigate past their most recent bill period to see their daily usage data up to the present day.

Solar Data

The Data Browser supports solar data by displaying a customer's net energy usage in a given interval of time on the horizontal axis. (This may also be referred to as net energy metering, or NEM.) For example, if a customer has solar power and generates more energy than they consume, the Data Browser will show the customer's energy use as a credit or as a negative value. This data can be configured to display in different ways for a utility. See the Energy Costs View and Energy Use View for details.

Weather Data

Any weather data displayed in the feature is based on the geolocation (latitude and longitude coordinates) of the customer. A weather service is used to select the closest weather station with weather data for the customer. This usually corresponds to the nearest airport station, usually within ~40 kilometers from the customer. Daily average temperatures are based on hourly temperatures.

Multiple Billing Accounts, Premises, Service Agreements, and Service Points

The experience with the Data Browser varies depending on how many billing accounts, premises, service agreements, and service points a customer has.

> **Note**
>
> The description below is meant to cover the most common scenario for utilities who send data to Oracle Utilities Opower using the core data transfer specifications. There may be a different experience depending on several other factors, such as the use of the legacy billing data transfer specification, the specifics of your setup and configuration, and any data extract and transformation scenarios.

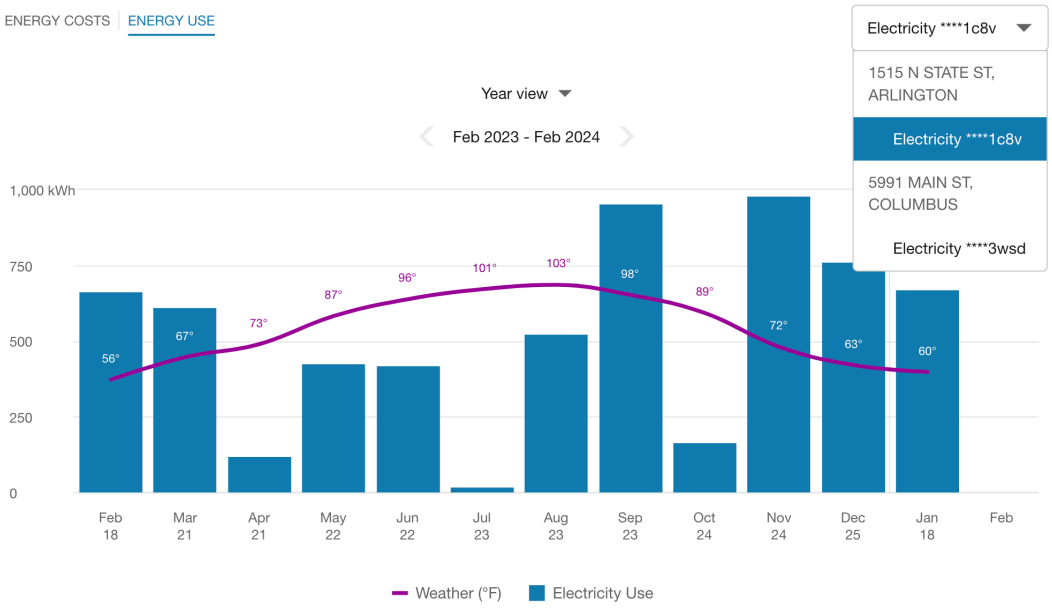
Multiple Billing Accounts

A customer may have one or more billing accounts, and each billing account may include one or more premises. In such cases, the utility typically has an account selector that allows customers to switch to a different billing account to view associated energy information.

> **Note**
>
> When a customer selects a billing account, the Data Browser refreshes and displays data for it. Data can only be displayed for one selected billing account at a time.

Multiple Premises

A premise is a location that receives energy service from the utility. If a customer has a billing account with multiple premises, then in the year view of the Data Browser, a menu displays a list of premises. The premises are represented as addresses. In the example below, each premise has one service agreement.



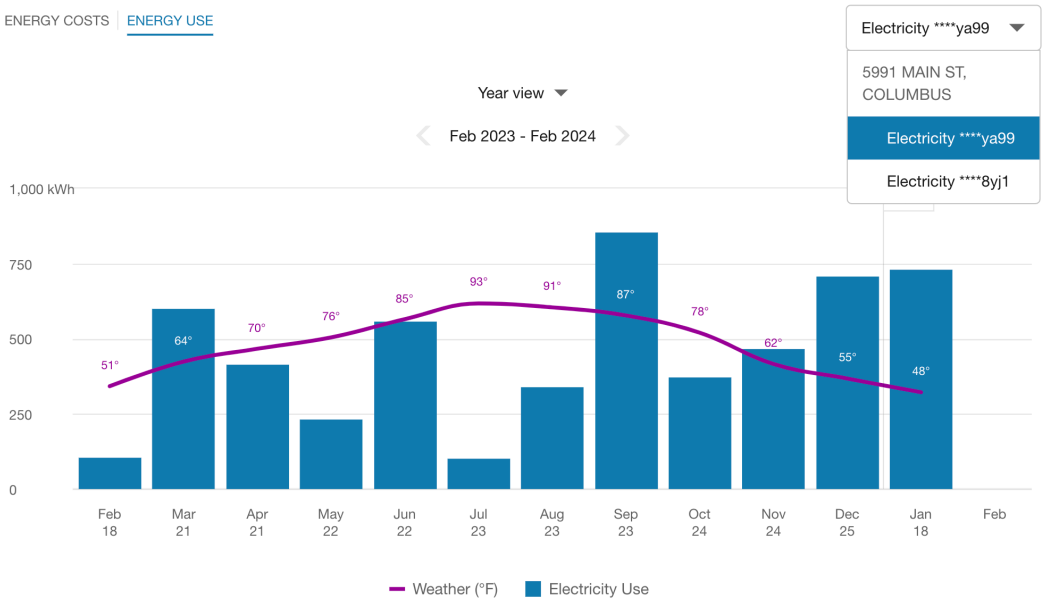
Premises will display in the bill and day views of the Data Browser as well, with service agreement or service point information grouped under them.

Multiple Service Agreements

A service agreement defines the type of service the premise receives, as well as the cost of that service. Even in the case of single-fuel utilities (for example, utilities that only provide electricity to customers), a customer could have multiple service agreements associated with a premise.

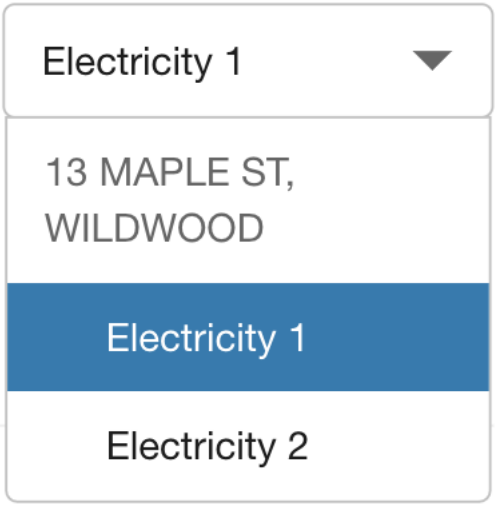
For example, a customer could have two or more electricity service points—one for a house and one for some other purpose like a shed or an electric vehicle—each of which could be under its own separate service agreement.

In such cases, in the year view of the Data Browser, a menu displays a list of service agreements grouped by premise. Customers can select a service agreement to see the usage associated with it. In the example below, the customer has a premise with multiple service agreements.



Multiple Service Points

A service point is the physical channel through which gas or electricity flows into the home, unit, or building. If a customer has multiple service points within a premise, then in the bill or day view of the Data Browser, a menu displays a list of service points grouped by premise. Depending on your setup and configuration, either a simple number or service point ID is displayed. (The customer must navigate back to the year view in order to switch to a different premise.)



If a premise has multiple service agreements, each of which has one or more service points, then in the bill or day view of the Data Browser, a menu displays a list of service points grouped by service agreement. However, the service agreement value does not actually

appear in the menu. The service point numbers or IDs display in the order in which the service agreements would be listed if they were shown.

For example, let's say there is a customer with the following premise and service agreements:

- **Premise 1**: 1234 Main Street
- **Electric Service Agreement 1**: 9876543210
- **Electric Service Point 1**: 11100097
- **Electric Service Point 2**: 11100013
- **Electric Service Agreement 2**: 3456789012
- **Electric Service Point 3**: 11100099

In this case, the menu would display all the service point IDs as follows:

- 1234 Main Street
- 11100097
- 11100013
- 11100099

The first two numbers, 1110097 and 1110013, are grouped together even though their associated service agreement is not shown.

Missing Data

As discussed above, all available data is displayed in the Data Browser even if there is missing data.

For the Year View and Day View, any missing bills, data reads, or weather data are displayed as missing data points on the graph. In the case of bar graphs, gaps will be shown for each interval of missing data. In the case of line graphs (such as the Neighbors View), a dotted line is displayed for the missing data point if the missing data is between other data points. If it is at the end, a gap will be shown with no line. The tooltips for these data points use hyphens in place of any missing data.

Customer Feedback

A customer feedback module can be displayed at the bottom of the Data Browser to collect input and inform ongoing improvements. See Customer Feedback for more information.

Energy Costs View

The Energy Costs view of the Data Browser displays how much a customer was billed for energy use, based on historical bill amounts. Customers can view energy costs for each bill over a 13-month period. Daily and subdaily views are also available if there is enough data.

Requirements

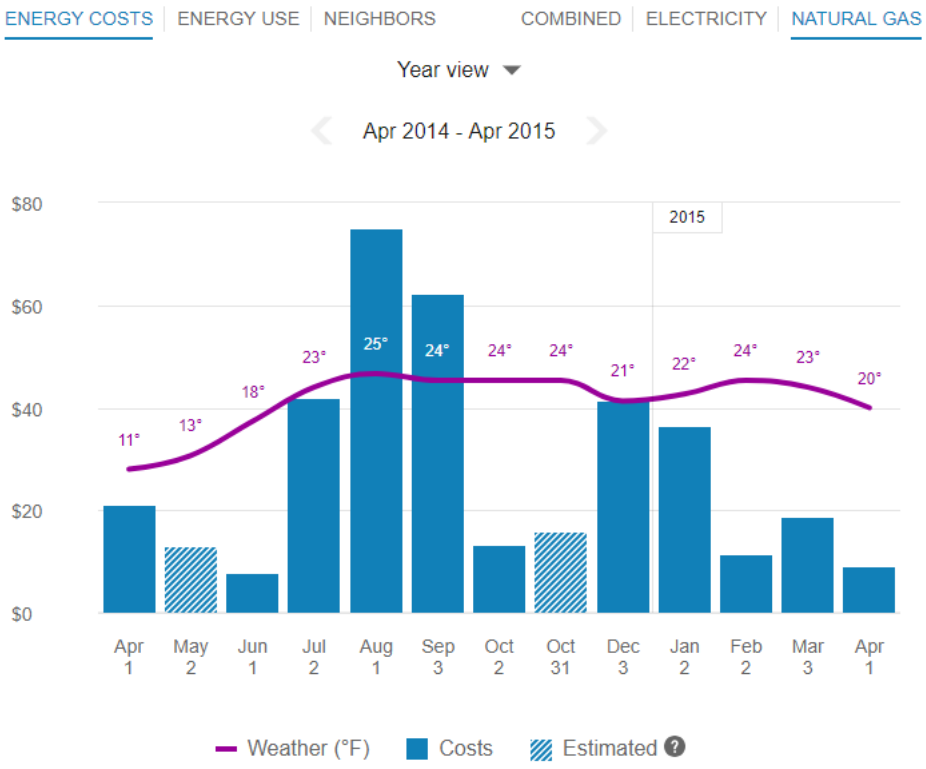
Same as listed in Data Browser. Additional data and cloud service requirements may apply depending on the types of insights (such as rate plan insights or peak time rebates) that the utility chooses to display. See the feature descriptions and User Experience Variations for details.

Limitations

Same as listed in Data Browser.

User Experience

The Energy Costs view displays how much a customer was billed for energy use over time. This section describes the user experience for customers who have billing data and daily AMI data.



Fuel Menu

The fuel menu allows customers to select which fuel to view data for. By default, electricity is shown. An additional gas menu only appears for dual fuel customers.

A Combined view can be displayed, which combines electric and gas costs into a single number using a price-weighted index. When the Combined view is enabled, the data point Tooltips also display combined totals.

Time Menu

Depending on what data is available, the Energy Costs view presents different kinds of trends and insights at varying levels of granularity over time:

- **Year view**: Energy cost by each bill period in a year. Monthly, bi-monthly, and quarterly bills are supported.
- **Bill view**: Energy cost by each day in a bill period. AMI data is required for this view.
- **Day view**: Energy costs by each hour of a day (or another subdaily interval such as quarter of an hour). AMI data is required for this view.

Bar Graph

The bar graph uses a vertical axis (Y-axis) to show the cost, and a horizontal axis (X-axis) to show the time period. The bars use the "You" color, which is blue by default and commonly changed to the utility's brand color. See General Display Rules for details on how the graph behaves and how the data visualization can change depending on the selected view.

Weather Data

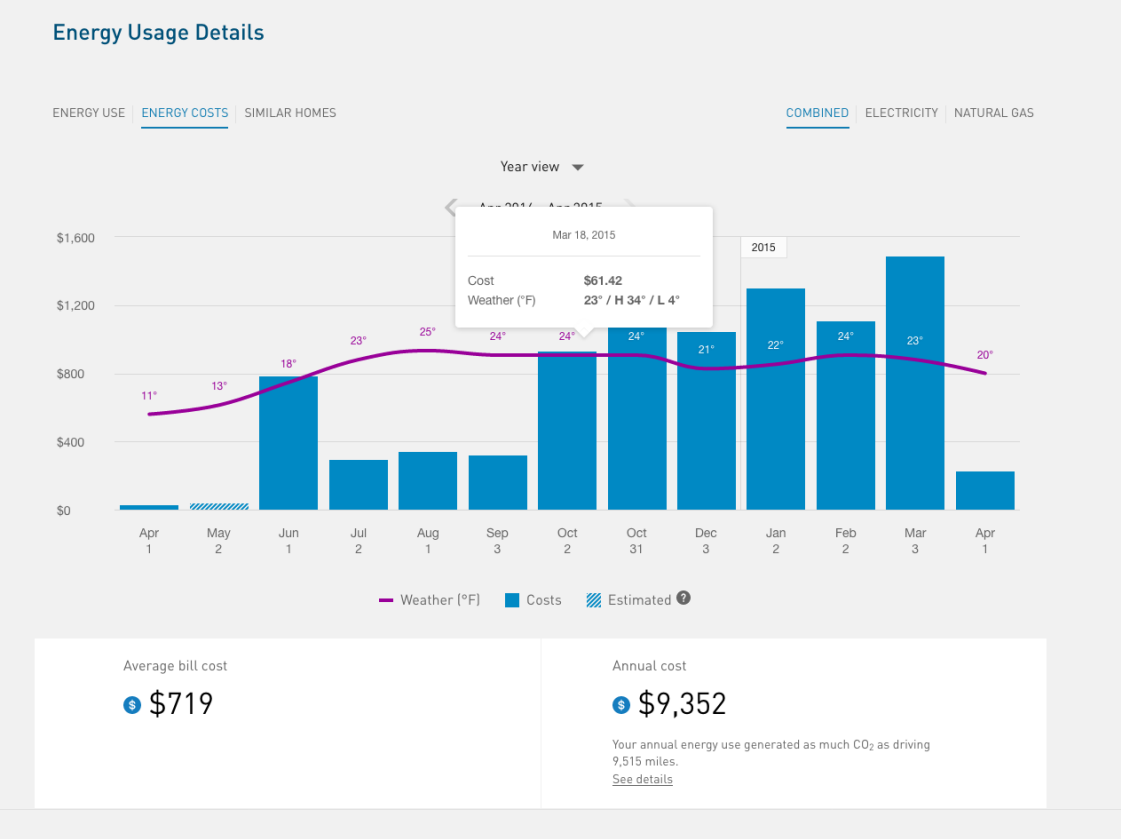
A line graph representing the average temperature during each time period is overlaid on the bar graph. This allows customers to see how their usage relates to local weather patterns. The weather data is based on data from the airport weather station closest to the location of the customer. See Weather Data for details on how weather data is retrieved.

Cost Insights Bar

For each fuel type available in the Energy Costs view, a bar is displayed beneath the graph to show additional cost insights. This bar is available for single fuel and dual fuel customers and displays only in the Year and Bill views.

Year View: The bar displays the average bill cost and total annual cost for the selected year. If the year is not yet complete, the average bill and total cost-to-date is shown. The bar can also include an insight about how the customer's energy use equates to miles driven, if applicable.

In the example below, the year is complete, and the customer is using the Combined view.



Bill View: The bar displays the customer's average daily cost and total bill cost for the selected bill. If the bill period is not yet complete, then the daily average and cost to date is shown. The bar can also include an insight about how the customer's energy use equates to miles driven, if applicable.

In the example below, the bill period is complete, and the customer is using the Combined view.

Carbon Emissions / Miles Driven Insight: The cost insights bar can include an insight explaining how the customer's energy use equates to carbon emissions and miles driven. This information allows customers to understand their energy use in more practical, familiar terms. The insight is followed by a link to the US Environmental Protection Agency's greenhouse gas equivalencies calculator.

> **Note**
>
> The carbon emissions insight is disabled by default since it depends on data from the US Environmental Protection Agency. It is therefore only available to utilities in the US. It can be enabled for US utilities upon request.

Tooltips

Tooltips are displayed when customers interact with a data point on the graph. See Energy Tooltips for details on what the tooltips may include.

For AMI customers, a message is displayed at the bottom of tooltips for data points for each bill. This messaging acts as a tip for how a customer can quickly view hourly or sub-hourly data for a given bill.

Customers can also view data points for energy costs that have not yet been included on a bill. By default, up to 30 days of in-progress billing data can be displayed to a customer, which can be configured to align with the length of a customer's billing cycle. See Virtual Bills for details.

Legend

A legend below the graph defines the elements displayed in the graph. If applicable, the legend includes an indicator for Estimated Bills and Usage Reads.

Disclaimer

Disclaimer messages can be added to the Energy Costs view that are specific to the view. For example, if applicable, a disclaimer message can explain that the amounts shown do not include taxes and other fees. The disclaimer message can also include links to other resources where customers can find more information.

User Experience Variations

Multiple Accounts and Service Points

If a customer has multiple accounts and service points, a drop-down list is displayed above the graph allowing customers to choose one and view data related to it. See Multiple Billing Accounts, Premises, Service Agreements, and Service Points for details.

Solar Customers

If a customer has solar power and generates more energy than they consume, the Energy Costs view will show the customer's energy use as a credit. The example below shows short green bars for negative values. Additionally, a tooltip denotes the negative cost value. This default experience can be configured to display in different ways. Utilities must coordinate with their Delivery Team to determine which display to use.

Additional solar insights and messaging can be displayed if the utility has purchased the Oracle Utilities Opower Distributed Energy Resources cloud service. See Solar Insights for the Data Browser for more information.

One-Day Bill Period

In some cases, customers may see a one-day bill period. This can occur when a customer is on their first day of the bill period, and Oracle Utilities Opower has received interval usage data for that day but has not yet received billing data for the bill period's end date. When this happens, a single bar is displayed in the Bill view, centered on the graph, for the single day. The weather data line graph is disabled.

Energy Use View

The Energy Use view of the Data Browser displays how much energy a customer consumed over specific periods of time. Customers can view energy usage for each bill over a 13-month period. If the required data is available, the customer can also view daily and subdaily data.

On this page:

Requirements

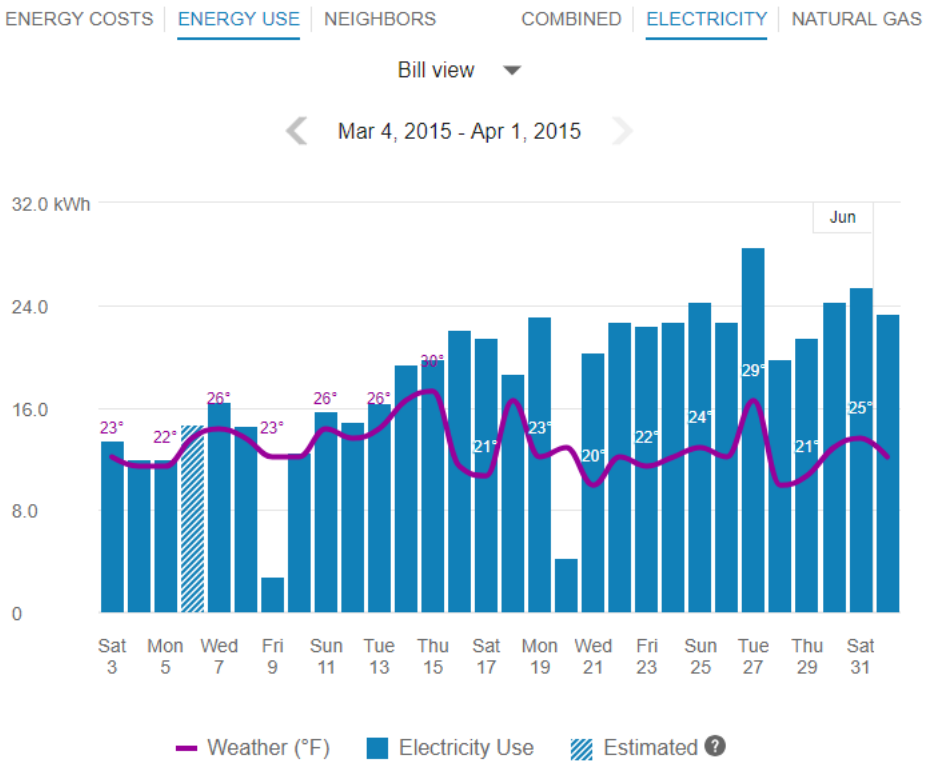
Same as listed in Data Browser. Additional data and cloud service requirements may apply depending on the types of insights (such as solar insights) that the utility chooses to display. See the feature descriptions and User Experience Variations below for details.

Limitations

Same as listed in Data Browser.

User Experience

The Energy Use view displays how much energy a customer is using over time. This section describes the user experience for customers who have billing data and daily AMI data.



Fuel Menu

Electricity is displayed by default. Dual fuel customers will see options that allow them to switch between electricity and gas use.

A Combined view can be displayed, which combines electricity and gas costs into a single number using a price-weighted index. When the Combined view is enabled, the data point Tooltips also display combined totals.

Time Menu

Depending on what data is available, the Energy Use view presents different kinds of trends and insights at varying levels of granularity over time:

- **Year view**: Energy use by each bill period in a year. Monthly, bi-monthly, and quarterly bills are supported.
- **Bill view**: Energy use by each day in a bill period. AMI data is required for this view.
- **Day view**: Energy use by each hour of a day (or another interval such as quarter of an hour). AMI data is required for this view.

Bar Graph

The bar graph uses a vertical axis (Y-axis) to show the cost, and a horizontal axis (X-axis) shows the time period. The bars use the "You" color, which is blue by default and commonly changed to the utility's brand color. Lighter bars represent Estimated Bills and Usage Reads. See General Display Rules for details on how the graph behaves and how the data visualization can change depending on which view is selected.

Weather Data

A line graph representing the average temperature during each time period is overlaid on the bar graph. This allows customers to see how their usage relates to local weather patterns. The weather data is based on data from the airport weather station closest to the location of the customer. See Weather Data for details on how weather data is retrieved.

Tooltips

Tooltips are displayed when customers interact with a data point on the graph. See Energy Tooltips for details on what the tooltips may include.

For AMI customers, a message is displayed at the bottom of tooltips for data points for each bill. This messaging acts as a tip for how a customer can quickly view hourly or sub-hourly data for a given bill.

Customers can also view data points for energy use that has not yet been included on a bill. See Virtual Bills for details.

Disclaimer

Disclaimer messages can be added to the Energy Use view that are specific to the view. For example, a disclaimer message can explain estimated usage. The disclaimer messages can also include links to resources where customers can find more information.

User Experience Variations

Multiple Accounts and Service Points

If a customer has multiple accounts and service points, a drop-down list is displayed above the graph allowing customers to choose one and view data related to it. See Multiple Billing Accounts, Premises, Service Agreements, and Service Points for details.

Solar Data and Net Energy Display

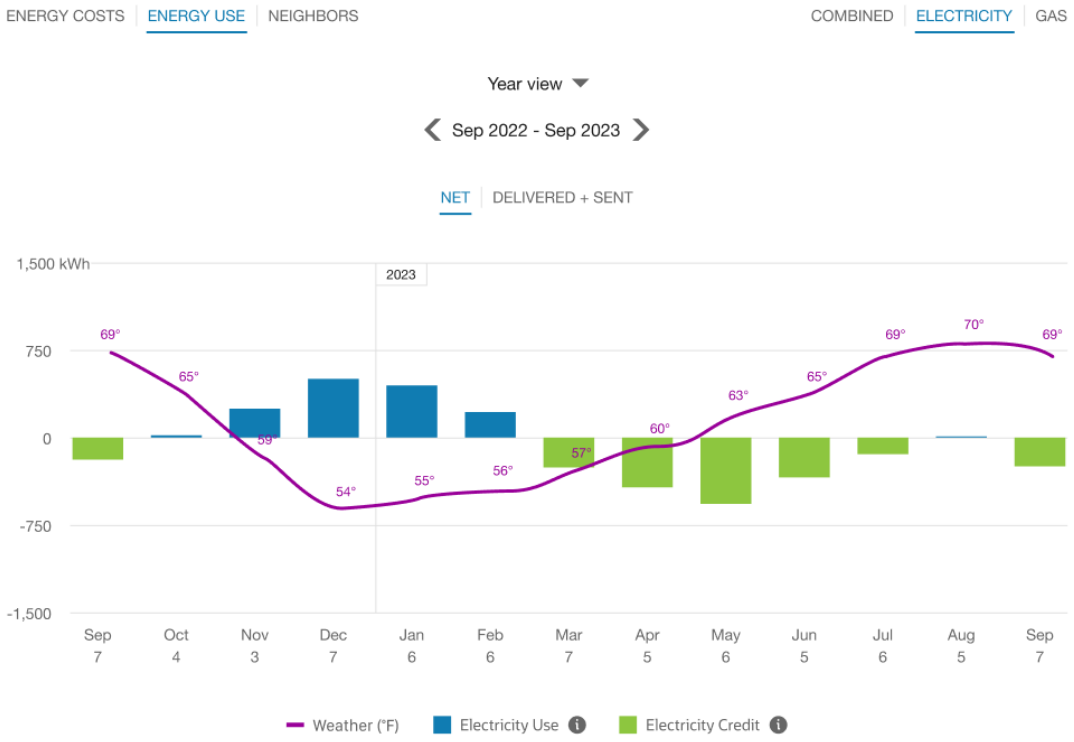
If a customer has solar power and generates more energy than they consume, the Energy Use view will show the customer's energy use as being sent to the grid. The example below shows short green bars for negative values. Additionally, a tooltip denotes the negative use value.

This default experience can be configured to display in different ways. Utilities must coordinate with their Delivery Team to determine which display to use.

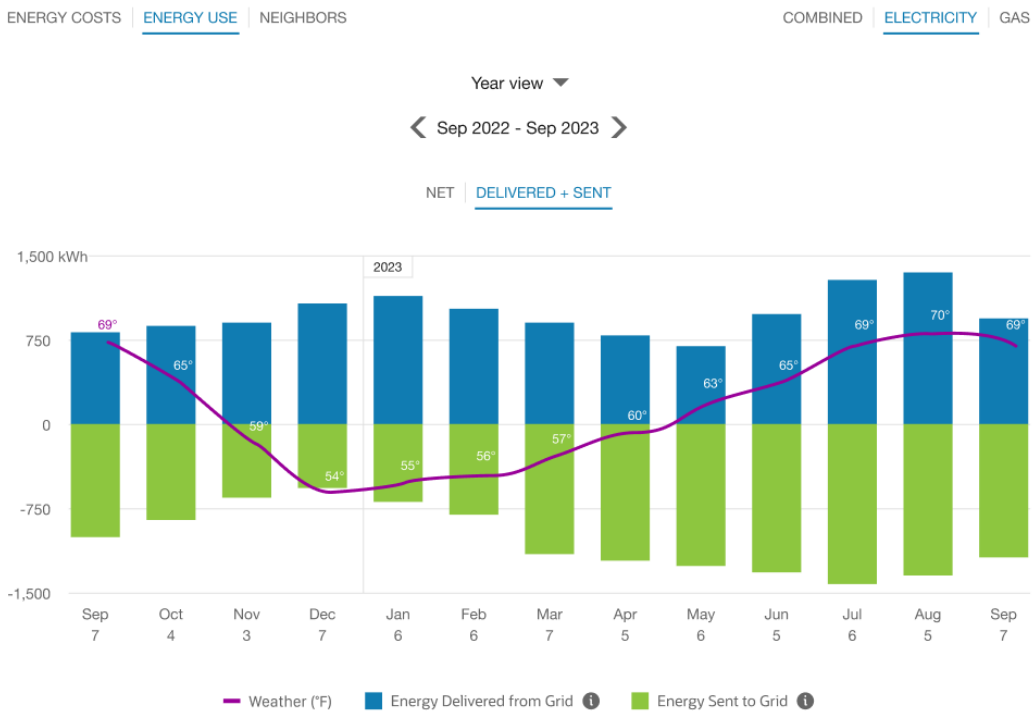
Solar Data, Net Usage, and Delivered + Sent Toggle

If a customer has solar power, the Energy Use view can display a toggle between **Net** and **Delivered + Sent** tabs when electricity is selected from the fuel menu. The toggle appears beneath the time menu. Customers can use the tabs of the toggle to gain insight into their electric energy usage and solar production separately, as well as their net usage. This information is available in all time resolutions (year, bill, and day views) if there is sufficient data.

Net Tab: The Net tab displays the customer's final amount of energy consumption or energy generation for a given interval of time. It is determined by subtracting the customer's solar power generation amount from their energy consumption amount. If the customer has a net usage amount, it is displayed as electricity use. If the customer has a net generation amount, it is displayed as an electricity credit.



Sent + Delivered Tab: This tab displays the customer's energy consumption and production data in the same time interval on the horizontal axis of the graph. "Sent" refers to energy sent to the grid through solar technology. "Delivered" refers to energy delivered from the grid to the customer's premise.



Requirements

- The customer must be on a net metering rate. Customers on a net billing rate or a non-net metering or billing rate are not eligible.
- Account, Billing, and Premise data feeds must be established with the utility.
- Billing data is required to display energy information in the year view. Interval (AMI) data is required to display energy information in the bill and day views. (If the customer only has billing data, then only the year view will be available.) The data must contain an indication of how much energy was consumed and how much was exported or sent back to the grid.
- Some additional configuration is required to enable the view. Contact your Delivery Team for more information.

Neighbors View

The Neighbors view of the Data Browser allows residential customers to compare their energy use against their neighbors over each billing period from last year. Three lines are displayed on the graph to compare the energy use of the customer, all neighbors, and efficient neighbors. If there are not enough neighbors for a customer or the customer is ineligible for a neighbor comparison, then an applicable message is displayed in place of the view.

> **Note**
>
> he term **Neighbors** is used in this view by default, but it is often replaced with the term **Similar Homes**. The terminology is configurable for each utility.

Requirements

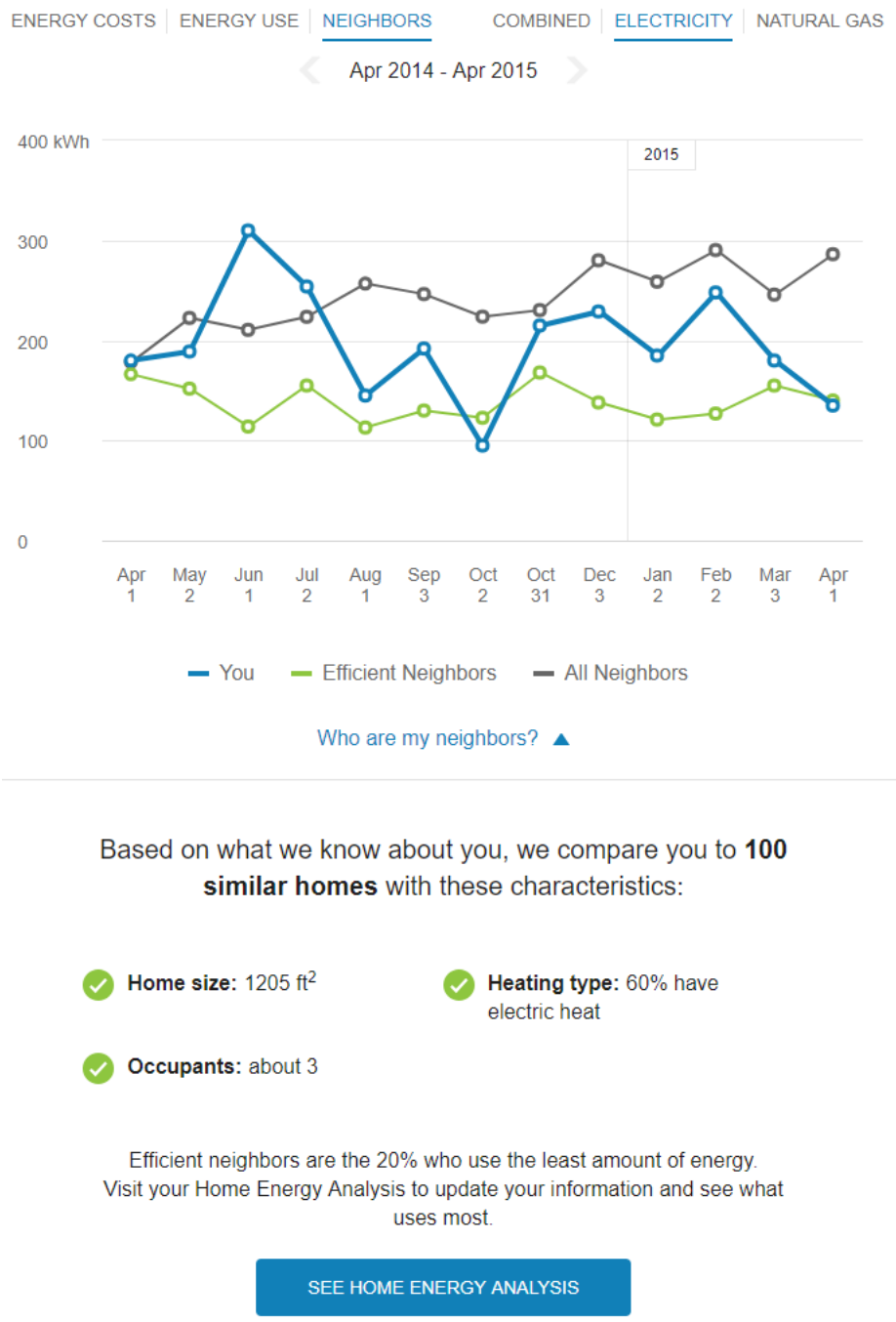
Same as listed in Data Browser.

Limitations

Same as listed in Data Browser.

User Experience

The Neighbors view allows customers to compare their energy use against similar homes over each billing period that falls in the last year. This section describes the user experience for customers who have billing data.



Fuel Menu

Electricity is displayed by default. If the customer is dual fuel, they will see options that allow them to switch between electricity and gas use.

A Combined view can be displayed, which combines electricity and gas costs into a single number using a price-weighted index. When the Combined view is enabled, the data point Tooltips also display combined totals.

Time Menu

Above the data graph are forward and backward buttons that customers can select to display contiguous blocks of time. In the year view, for example, clicking the forward or backward button displays contiguous 13-month blocks of time for customers on monthly billing.

Since the data granularity available for a customer does not always match that of their neighbors, the energy use trends are only shown on the year view. Customers do not have the option of switching to a more granular view of data (such as the bill or day view).

Line Graph

The line graph uses a vertical axis (Y-axis) to represent energy use, and a horizontal axis (X-axis) to represent the time period. Three lines are displayed on the graph:

- **You (the customer):** Uses the "You" color, which is blue by default and commonly changed to the utility's brand color.
- **All Neighbors**: Uses a gray or neutral color.
- **Efficient Neighbors**: Commonly uses a green color because green is associated with energy efficiency.

See General Display Rules for details on how the graph behaves and how the data visualization can change depending on which view is selected.

Neighbor Details

The Neighbors view includes a section in the legend of the graph that, when clicked, displays a **What homes are compared?** dialog, which shows the characteristics of the homes that the customer is being compared to. The description can be dynamic or static.

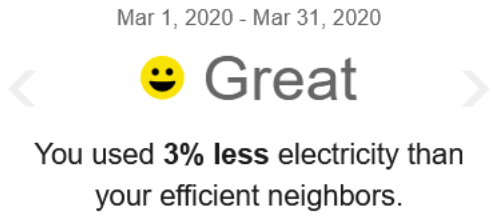
The static neighbor description is nearly identical to the dynamic neighbor description, except that it is much shorter and does not dynamically display neighbors' characteristics based on available data. The dynamic description includes a list of comparison characteristics and other information about the comparison, followed by a link to the Home Energy Analysis survey.

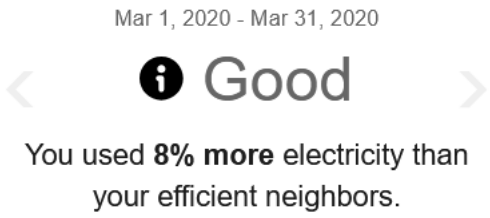
- **Summary Message**: A summary message provides the number of neighbors or similar homes that are included in the comparison.
- **Comparison Characteristics**: A list of characteristics that a customer shares with their neighbors is displayed with a green check mark. If a characteristic is unknown for a customer, it is not included in the comparison and hidden from view.
- **Neighbors or Similar Homes Definition**: A brief line defining neighbors or similar homes as the 20% that use the least amount of energy.
- **Link to Survey**: Clicking this button takes the customer to Home Energy Analysis survey so that they can provide the latest details about their home and make the neighbor comparison more accurate.

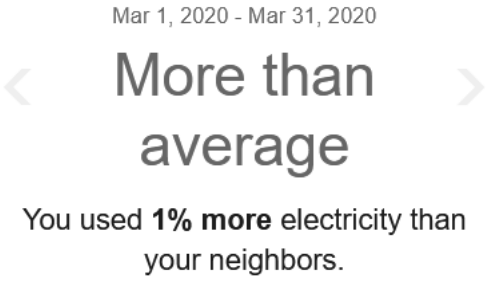
> **Note**
>
> The neighbor comparison does not get automatically updated in real time based on a customer's updates. This link will still appear even if the user has already visited the Home Energy Analysis.

Tooltips

Tooltips are displayed when customers interact with a data point on the graph. In addition to showing the time period and the customer's energy use, the tooltips in the Neighbors view also show an insight about how the customer compares to their neighbors or similar homes.

Comparison State	Description
Customer is using less than efficient neighbors.	**Logic**: Customer uses at least 1% less than efficient neighbors. **Example Message**: "You used n% less than your efficient neighbors." **Example Mobile Tooltip**: 
Customer is using the same as efficient neighbors.	**Logic**: The difference between the customer and efficient neighbors is 0%. **Example Message**: "You used about the same as your efficient neighbors." **Example Desktop Tooltip**:

Comparison State	Description
Customer is using less than average neighbors, but more than efficient neighbors.	**Logic**: Customer uses at least 1% or more than efficient neighbors. **Example Message**: "You used n% more than your efficient neighbors." **Example Desktop Tooltip**:  **Example Mobile Tooltip**:  **Notes**: • The **Good** label in the mobile tooltip means that the customer used more than efficient neighbors but less than average neighbors. The customer could be using significantly more than efficient neighbors (such as 90% more), and the mobile state will still display **Good** as long as the customer is using less than average neighbors. • The **Good** label in the mobile tooltip is meant to parallel the **Good** label that can appear in the Energy Use Benchmark module of customers' print Home Energy Reports. The goal is to motivate customers to keep doing better even though they are already doing better than their average neighbors.

Comparison State	Description
Customer is using about the same as average neighbors.	**Logic**: The difference between the customer and average neighbors is 0%. **Example Message**: "You used about the same as your average neighbors." **Example Desktop Tooltip**: 
Customer is using more than average neighbors.	**Logic**: Customer uses at least 1% or more than average neighbors. **Example Message**: "You used n% more than your average neighbors." **Example Mobile Tooltip**: 

See Energy Tooltips for details on what the tooltips may include in other views of the Data Browser.

Disclaimer

Disclaimer messages can be added to the Neighbors view that are specific to the view. For example, the disclaimer in the Neighbor view might provide information about how neighbors are determined. The disclaimer messages can also include links to resources where customers can find more information.

User Experience Variations

Multiple Accounts and Service Points

If a customer has multiple accounts and service points, a drop-down list is displayed above the graph allowing customers to choose one and view data related to it. See Multiple Billing Accounts, Premises, Service Agreements, and Service Points for details.

Energy Use Overview

The Energy Use Overview compares customers' energy use from their most recent bill period to their energy use in the same bill period from the previous year. An analogy insight may appear to help customers understand how their usage relates to real-world examples. The Energy Use Overview is included in the Smart Dashboard.

Requirements

Utility Requirements

Same as listed in the Requirements and Limitations.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, and quarterly.
Data Delivery Frequency	Daily, monthly, bi-monthly, and quarterly.
Data Requirements	Bill-level reads from two service points at most (for example, one for gas and one for electricity). The start and end dates for each service point may not differ by more than three days.
Data History	At least one bill is required for the feature to render. A total of 12 bills or more is required to display the most recent bill period and compare it with the same period in the previous year. Customers with less data may see: • A comparison to the previous bill period • Energy use for the current bill period only • A message that indicates additional information will be displayed once enough data is available
Data Coverage	Not applicable. By default, any data that is available is displayed, even if some reads are missing.
Supported Fuels	Gas, electricity, and dual fuel.

Limitations

- **Sub-Bill Views**: Because the widget uses bill-level data rather than AMI data, customers cannot select any sub-bill views, such as daily or hourly views. Users who want this level of detail can go to the Data Browser.
- **Negative Values**: The display of negative energy use or cost information is not supported. If a customer has a negative bill, then no data is displayed for it in the bar chart.

User Experience

The Energy Use Overview displays the most recent bill period's energy use in comparison to that of a bill period in the past. Energy use for dual fuel customers is displayed in combined energy units, while an applicable energy unit of measurement is used for single-fuel customers. Dual fuel customers do not see a menu to view bill trends for a specific fuel type.

Title: The name of the widget reflects its focus on energy usage patterns over time.

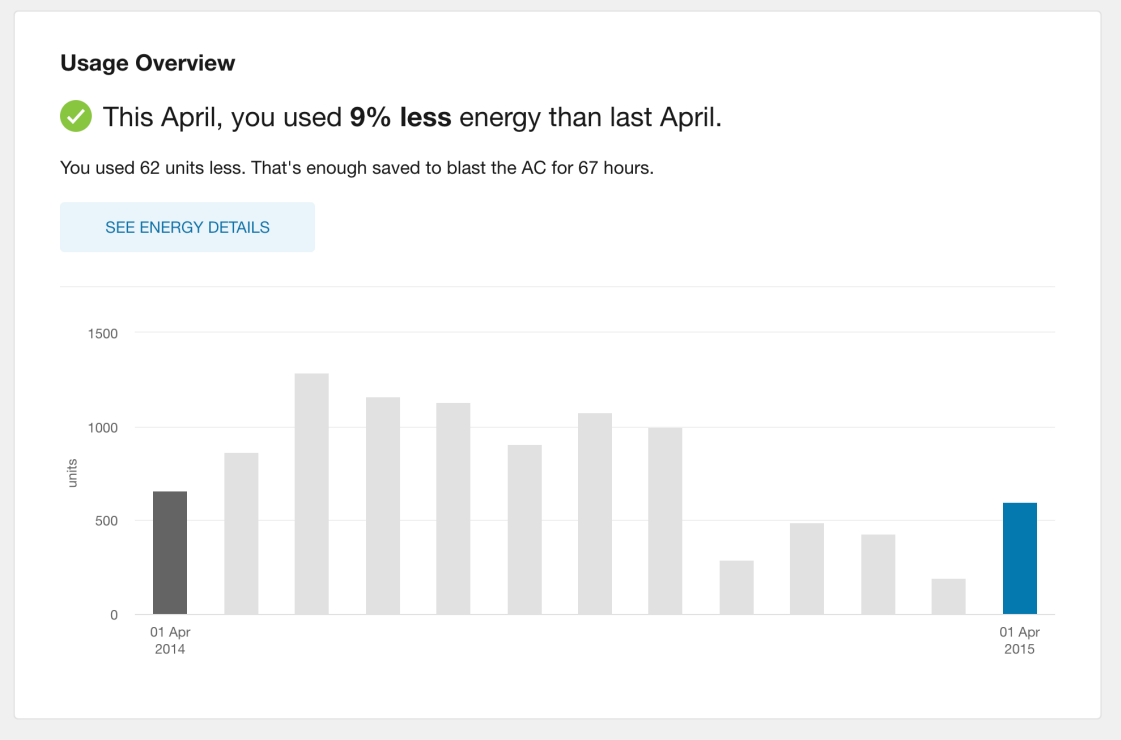
Insight Statement: An insight statement appears above the bar chart telling the customer whether their most recent bill period's usage is higher, lower, or about the same as the same period last year. The exact amount is shown in bold to draw the customer's attention to the comparison point of the insight. If there is no historical bill from the same period last year, the

insight statement simply shows the cost or usage of the present bill period, without any comparison.

- **Threshold**: The default threshold that controls the statement is 6%. For example, if the customer's usage is 6% above or below the compared period, then the appropriate insight message will display. If the customer's usage does not exceed the threshold, then the insight message states that the customer's usage is about the same.
- **Data States**: The insight statement is different depending on how much energy the customer used.

Data State	Insight
Usage compared to past period is lower	"This <month>, you used X% less energy than last <month>."
Usage compared to past period is higher	"This <month>, you used X% more energythan last <month>."
Usage compared to past period is about the same	"This <month>, you used about the same amount of energy as last <month>."
Usage of current bill period without any comparison to a previous bill period	"This <month>, you used X."

Energy Use Analogies: An analogy may appear in the feature comparing the customer's difference in energy use to common energy use scenarios. For example, energy use can be expressed in the number of days it would light your home. An analogy only displays if there is a difference in energy use. It will not display if the customer used the same amount of energy as in the last comparison period.



Bar Chart: The bar chart highlights the most recent bill in a blue color, and the previous comparison period in a dark gray color. Other bill periods that occurred between those points are shown in a light gray color. The y-axis shows the bill amount, and the x-axis shows the month and year of the bill period.

- **Hover**: When hovering over a bar in the bar chart, both the associated dollar amounts and energy units for the bill period are displayed in a tooltip above the bar. The energy units resolve to electricity-only, gas-only, or combined energy units depending on whether the customer is single or dual fuel.
- **Data States**: The bar chart displays differently based on how many bills are available.

Data State	Bar Chart Display
12 or more bills	The most recent bill period is highlighted and compared with the same bill period from the previous year.
2 to 12 bills	The most recent bill period is highlighted and compared with the previous bill period using an analogy.
1 bill	The bill period cost or usage is displayed. There is no previous bill period show, and no comparison to the same bill period from the previous year.
No data (or less than one bill's worth of data)	A message is displayed indicating that there will be data available soon. This message encourages customers to complete the Home Energy Analysis while they wait for their data to be available.

User Experience Variations

Single Fuel

The Energy Use Overview uses the applicable unit for the fuel type. For gas-only customers, energy use analogies are limited to a set that are applicable for gas-only customers. All analogies are available to dual-fuel and electric-only customers.

Home Energy Analysis

The Home Energy Analysis is a visual, interactive survey that prompts customers to answer simple questions about their home attributes and energy habits. This information is used to provide customers with a more detailed breakdown of how they use energy. Additionally, utilities can use this information for more targeted Oracle Utilities campaigns and promotions.

There are two versions of the Home Energy Analysis. If you need help identifying which version is applicable to you, contact your Delivery Team.

- Home Energy Analysis v1
- Home Energy Analysis v2

Home Energy Analysis v1

Home Energy Analysis v1 is a visual, interactive tool that prompts customers to answer simple questions about their home attributes and energy habits. A customer's responses to the questions are used to create an energy use disaggregation that estimates how much energy the customer is consuming in different categories, such as heating, cooling, lighting, and so on. The breakdown is paired with personalized tips designed to help customers lower their energy use. The more information a customer provides, the better prioritized the tips will become.

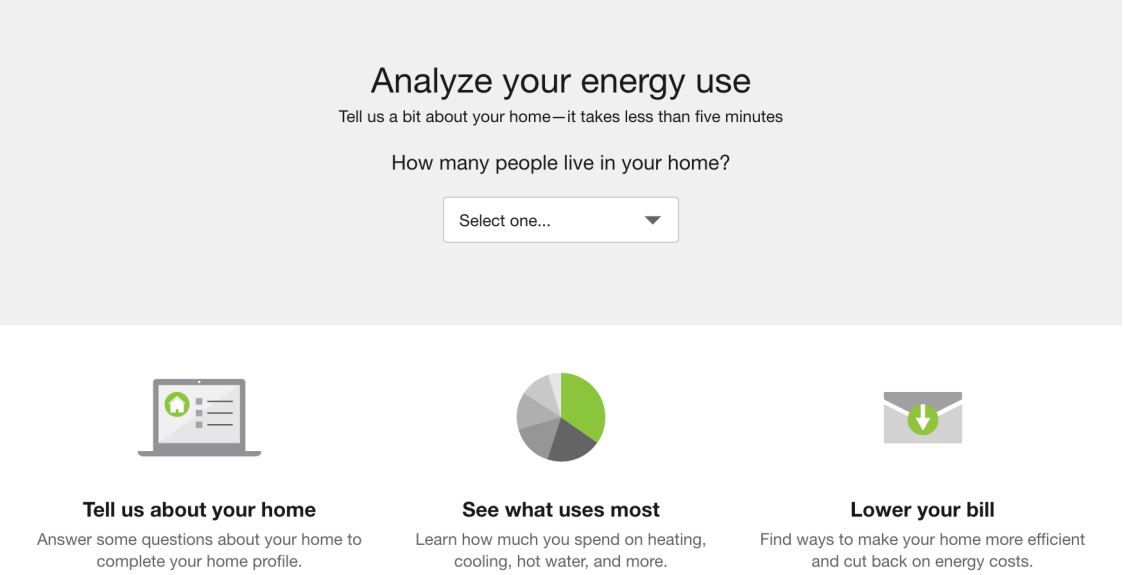
On this page:

Pre-Survey

A customer can follow several different paths to the survey. The path taken depends on how the survey is promoted and the utility's setup and implementation. Below are some examples of common pathways.

- A customer follows a link in an Oracle Utilities Opower email communication (such as an Email Home Energy Report) to the survey.
- A customer signs in to the Web Portal, and then clicks a promotional banner on one of the pages or navigates directly to the survey (for example, by clicking the **Home Energy Analysis** tab).
- A customer visits their utility's website and clicks a banner promoting the survey, or signs in to their account and navigates to the survey by browsing the available links.

Survey Not Started: For customers who have not yet started the survey, the Home Energy Analysis displays information about the survey and provides the first question to begin the analysis. This messaging can include information on the estimated time it would take to complete the survey, as well as the benefits of completing the analysis. Customers who select to take the survey are directed to the full survey.



Survey Started, Not Completed: If the customer has started but not completed the survey, the pre-survey screen shows a progress bar and returns the customer to where they left off.

Survey

The survey prompts customers with individual questions about their home and their energy use. It is designed to be easy to understand and simple to complete. Customers should be able to answer all of the questions they are asked, even if their answer is to skip the question.

> **Note**
>
> Customers are not required to answer every question. They can skip questions and complete the survey to see an energy use breakdown and top tips based on what the survey knows about them so far. However, customers are encouraged to answer every question in order to receive the most accurate results.

- **Question Types**: Each question is broken down into a single question and answer. The default question types include a majority of single-select or multi-select radio buttons, drop-downs, checkboxes, or image checkboxes. Free text entry questions are also included. Customers should be able to answer all the questions they are asked, even if their answer is "I don't know."
- **Answers to Multi-Select Questions**: Some questions in the survey are multi-select questions that allow customers to choose more than one answer, such as which appliances and which electronics are in the home. If a customer does not select a particular answer option, the value for that answer option is recorded as false. For example, if a customer does not select "clothes dryer" or "stand-alone freezer" when responding to the question about which appliances are in the home, then the values for those answer options are recorded as false, and it is assumed that the customer does not have those appliances. The customer will not receive any tips, promotions, or other types of content that are only applicable to households with dryers or stand-alone freezers. If the customer later acquires one or both of those appliances, the customer can re-take the survey and update their answers, and become eligible for tips or promotions related to those appliances.
- **Free Text Entries**: There are free text entry answers, such as when indicating the size of their home. If a customer does not enter a valid number (for example, if a customer accidentally enters "10" in the square feet field) a message displays asking the user to change their entry.
- **Pre-Populated Questions**: Some questions may be pre-populated with any data that already exists for the customer. Customer data may already come from sources, such as demographic data provided by the utility (for example, data indicating whether the customer has a "single family home" or "apartment / condo"), data in the **My Account** section of the Web Portal, or previously-answered survey questions (if the customer started or completed the survey at a previous time).
- **Irrelevant Questions Skipped**: The survey will skip irrelevant questions based on answers to previous questions. For example, the survey will not ask how the customer heats their pool if they answered that they do not have a pool.
- **Questions Variations by Locale**: Certain questions and response options in the survey may vary based on a utility's locale. For example, for some countries or regions, the "Cooling" category is not applicable and therefore may be hidden from a utility's customers. Or, the question "What is the main way you heat your home?" may present different response options depending on what heat types are commonly-used in a customer's country or region.
- **Saved Questions**: Customers can click a link at the top of the survey to exit the survey at any time. Any questions the customer has answered are saved prior to exiting the survey.

As customers answer questions, visual cues provide customers a gauge to see how quickly they are progressing through the survey.

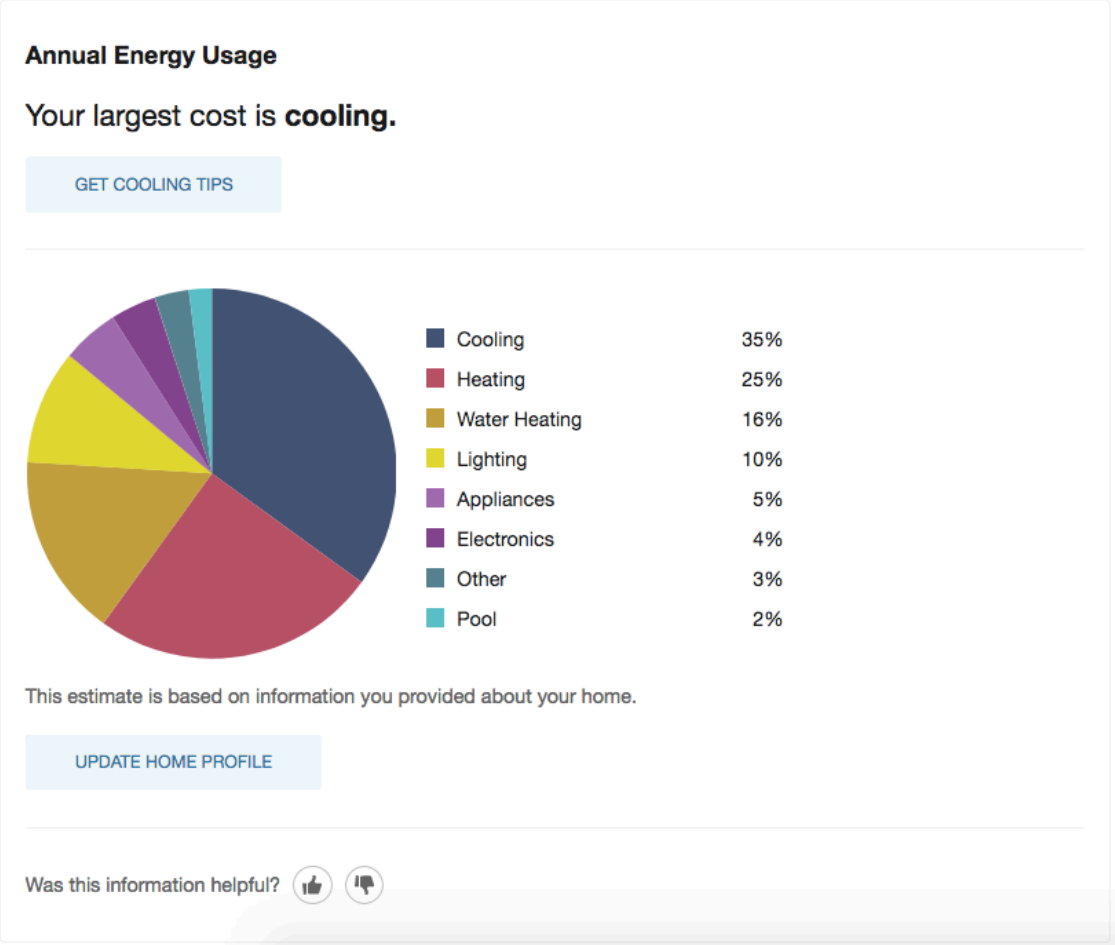
If a customer begins the survey but does not finish it, when the customer returns to the survey they are automatically taken to the question that comes after the last question they answered.

If a customer completed the survey while not logged in to their utility account, all answers are saved for their account and are available when the customer logs in to their utility account.

Disaggregation

After the customer answers the last question and finishes the survey, the Home Energy Analysis displays their energy use breakdown based on their responses. Customers can select each individual energy use category to see what percentage of their home's energy use it comprises, category-specific tips, and a list of what contributes to energy use for the category. The category that has the highest energy costs is highlighted, along with a link for related tips.

Customers who have already completed the survey are taken directly to the energy use breakdown the next time that they access the Home Energy Analysis. They can use the **Update Home Profile** link at any time to view the survey again and update their answers.

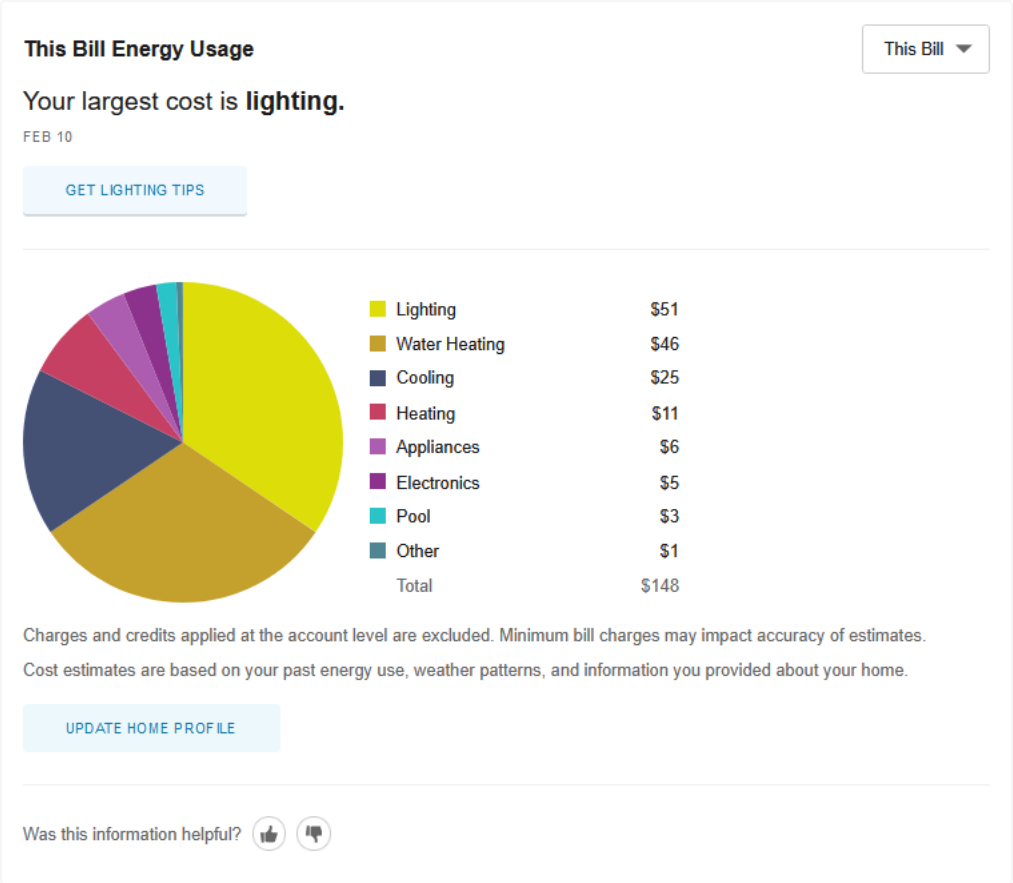


If customers complete the survey without being logged in to their utility account, the energy use breakdown includes links for the customer to create an account or sign in to their account.

A set of buttons can be shown beneath the breakdown allowing customers to provide feedback about the usefulness of the feature. See Customer Feedback for more information.

Bill-Level Disaggregation

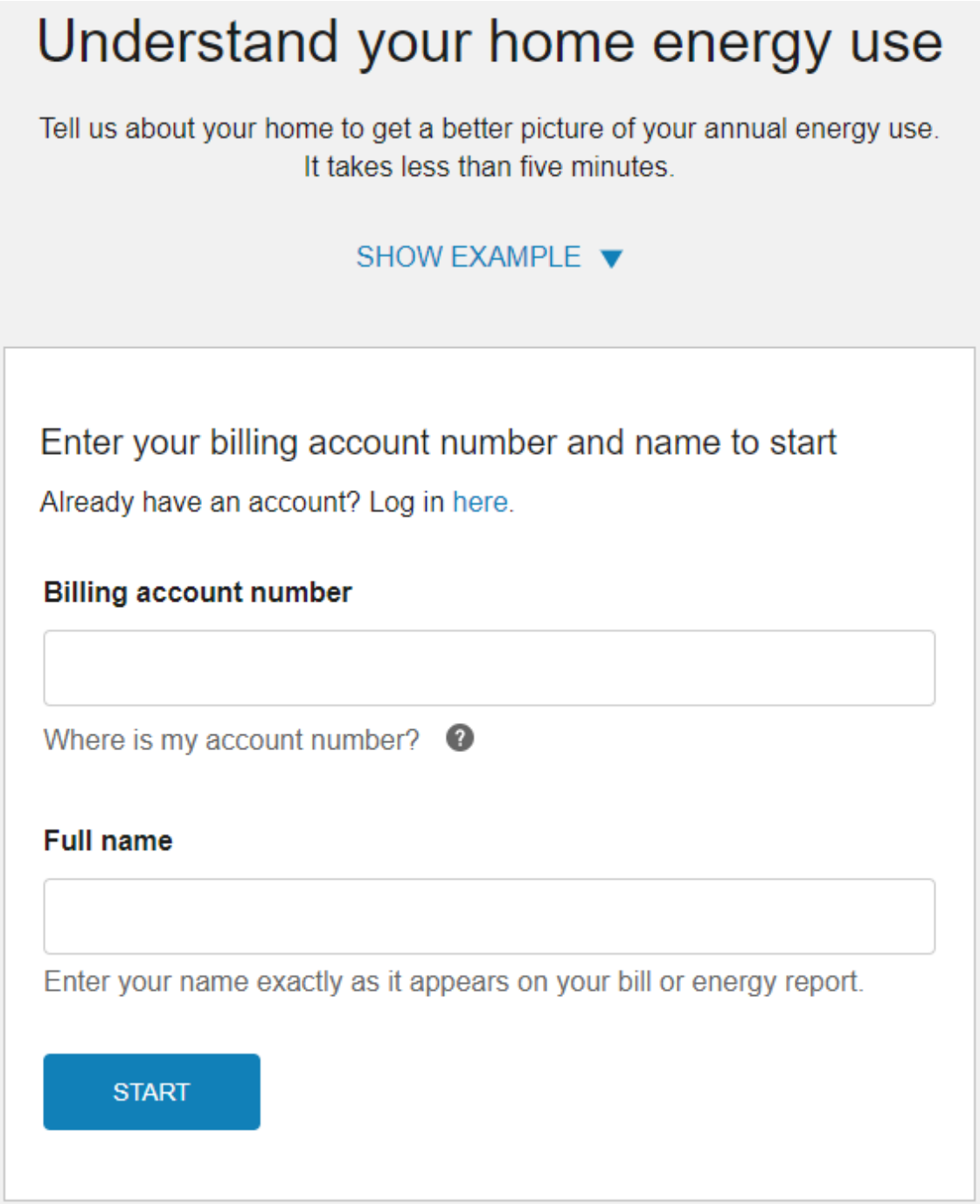
The bill-level disaggregation provides the customer with a breakdown of their energy use and costs by bill period, as opposed to an annual energy use breakdown as shown in the standard disaggregation. Customers can switch between an **Annual** and **This Bill** view. Costs are totaled for gas and electric if applicable.



If the feature is unable to deliver a bill-level disaggregation for any reason, the **This Bill** navigation is hidden, and the annual results are shown. Insufficient historical billing data is the most common reason for this fallback.

Pre-Authenticated - EasyOpen

Customers can also access the survey without logging in to their utility account. For example, customers who receive Email Home Energy Reports can follow a link from within the email to begin the survey, which includes a token to automatically identify the customer. If the customer navigates directly to the survey rather than following a link from an email communication, they are prompted to provide their billing account number and their full name as it appears on their bill.



After completing the survey, customers can view the energy use breakdown the same way that an authenticated user can. All survey responses are saved for the user account and are available to the customer when they log in to their account. Differences in the user experience include:

- Links are provided for the customer to either create an account or log in to their account.
- Only an annual breakdown with percentages can be shown. A bill-level breakdown containing more personalized cost information is disabled to protect a customer's privacy. (A customer can still view their bill-level disaggregation if they sign in to their account.)

Data Requirements and Limitations

Requirements

- At a minimum, average energy use data for households in a utility's region and responses to the survey are required. The survey then uses the customer's responses to adjust the average energy use values and yield personalized results.
- The recommended minimum is to use weather data and at least six historical bills, as this will support a bill-level disaggregation and lead to more accurate disaggregation results.
- There are other data requirements to show the bill-level disaggregation for AMI customers. Contact your Delivery Team for more information.

Limitations

- The customer must be residential, and can be electricity-only, gas-only, or dual fuel.
- The customer may see different categories, questions, and response options in the assessment based on the utility locale.
- Customers can access and complete the survey without logging in to their account. Any answers to the survey are saved for the customer's account. For subsequent attempts, customers must then be logged in to their utility account to view the Home Energy Analysis results for their account. This functionality is available for standalone deployments. To implement this experience in embedded deployments, refer to the Oracle Utilities Opower Digital Self Service - Energy Management Embeddable Widgets Integration Guide .
- The Home Energy Analysis does not allow customers to switch between accounts.

Home Energy Analysis v2

Home Energy Analysis v2 is a visual, interactive survey tool that prompts customers to answer simple questions about their home and energy habits. A customer's responses to the questions are used to create an energy use disaggregation of a customer's top three categories of energy use. The disaggregation is paired with personalized tips related to each top category, as well as a more granular breakdown of additional energy use categories. If sufficient AMI data is available, the feature can also include insights about a customer's individual appliances as well as their energy use for devices that are always on.

Requirements

Utility Requirements

Category	Description
Required Cloud Service	Same as listed in the Requirements and Limitations. The base requirement is to purchase the Digital Self Service - Energy Management cloud service. For any AMI enhancements in the appear in the product, the Digital Self Service - Energy Management AMI cloud service must also be purchased.
Scale	No applicable scale requirements.

Customer Requirements

Category	Description
Billing Frequency	Monthly.
Data Delivery Frequency	Monthly.
Data Requirements	**Minimum**: Average energy use data for households in a utility's region. This data is typically obtained from public data sources. The feature then uses the customer's responses to the Home Energy Analysis v2 to adjust the average energy use values and yield personalized results. This requirement applies to both the authenticated as well as Pre-Authenticated User Experience user experiences of the feature. **Recommended**: The recommended minimum is to use weather data and at least six historical bills, as this will provide more accurate results for annual as well as bill-level disaggregations. Without this data, only an annual disaggregation can be made available. **AMI Requirements**: There are additional AMI data requirements to show advanced insights such as appliance-level insights or insights about a customer's always-on devices. See Always-On Insight and Appliance-Level Insights below for details, or contact your Delivery Team for more information.
Data History	Varies depending on the utility's setup and configuration. At a minimum, the Home Energy Analysis requires utility-wide disaggregation percentages obtained from a public data source and approved by the utility. The percentages are then adjusted and personalized for customers based on their responses to the survey. If AMI data is used, then additional data history requirements may apply.
Data Coverage	Varies depending on the utility's setup and configuration.
Supported Fuels	Electricity, gas, and dual fuel.

Limitations

- **Non-Residential Customers**: The Home Energy Analysis was built and optimized for residential customers. Non-residential customers such as commercial, industrial, and small and medium business customers are not currently supported.
- **Customers with Multiple Accounts**: To view the Home Energy Analysis for a particular account, customers must log in to the account through their utility's website, which provides access to the Web Portal through single sign-on. The Home Energy Analysis does not provide customers an option to switch between accounts.
- **Survey Updates**: If a utility updates the content of the survey by adding a new question, customers who have previously taken the survey are required to take the survey again from the start. The answers to questions they previously answered are pre-populated when the customer completes the survey again. The customer can click **Confirm** instead of re-answering the question.

- **Deep Linking**: Utilities are encouraged to support deep linking capabilities. Deep linking allows an unauthenticated user to click a link to the Home Energy Analysis from another part of the utility web site, log in with their credentials, and automatically continue to the intended page instead of being redirected to a landing page, such as the utility's home page.
- **Feature Eligibility**: Some customers may not be eligible for the Home Energy Analysis if their disaggregation has any of the following characteristics:
- – There is only one category with a non-zero energy use value.
  - There is one category that is greater than 90% of the customer's total energy use.
  - The survey returns negligible energy use for all categories. ("Negligible" in this case means that based on the survey's back-end logic, no energy use is predicted to come from utility-supplied fuels or resources.)
  - All service points have zero or negative costs or energy use.
- **Customers with Electric Vehicles or Heat Pumps**: Custom survey questions about electric vehicles (EVs) or heat pumps could potentially be added to the Home Energy Analysis survey, but responses to these questions will not impact a customer's neighbor selection. See Limitations for details.

User Experience

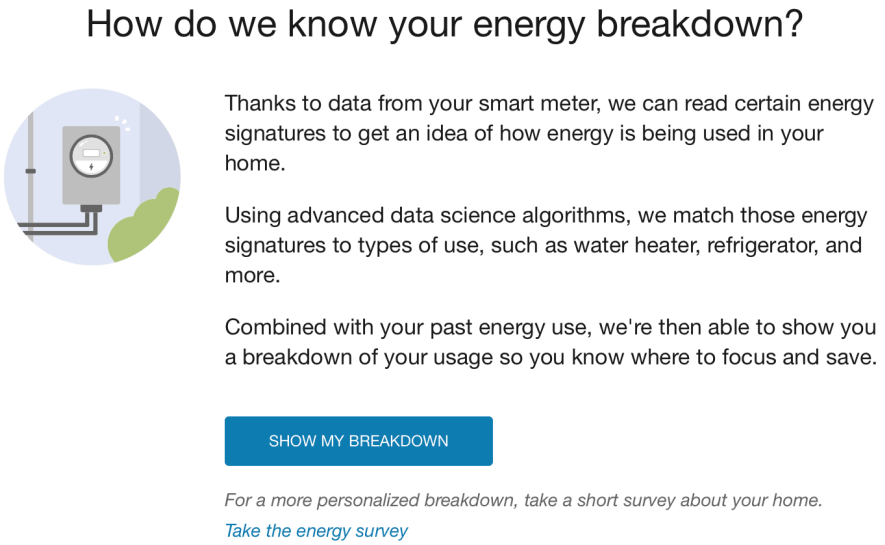
This section describes the user experience for dual fuel utility customers who are logged into their account and have not yet taken the Home Energy Analysis Survey. Additionally, it describes customers who have enough data to see a bill-level and annual Disaggregation of their energy use before completing the survey.

Pre-Survey

A customer can follow several different paths to the survey. The path taken depends on how the survey is promoted and configured. Below are some examples of common pathways.

- A customer follows a link in an Oracle Utilities Opower email communication (such as an Email Home Energy Report) to the survey.
- A customer signs in to the Web Portal, and then clicks a promotional banner on one of the pages or navigates directly to the survey (for example, by clicking the **Home Energy Analysis** tab).
- A customer visits their utility's website and clicks a banner promoting the survey, or signs in to their account and navigates to the survey by browsing the available links.

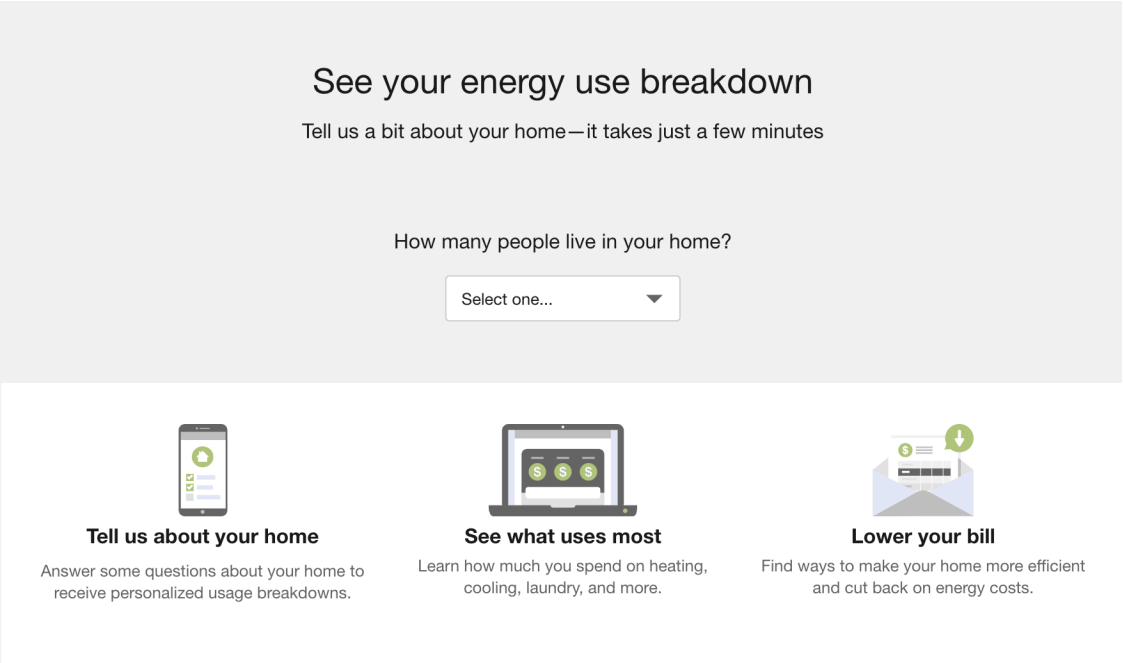
Onboarding Screen: Depending on the utility's configuration, an introductory onboarding screen can be presented to explain the energy breakdown, and to allow customers to view a Disaggregation of their energy use before completing the survey. This screen lets customers bypass the effort it takes to answer questions and see results.



If the onboarding screen is enabled, it is only displayed once for customers who have either not started the survey or who have started but not completed it. For all subsequent return visits to the Home Energy Analysis, a customer will be presented with a Disaggregation of their energy use.

> **Note**
>
> There may be cases when a utility launches the survey but decides not to enable the onboarding screen until a later time. If any customers complete the survey before the onboarding screen is enabled, they will not see the onboarding screen at a later time even though it is enabled.
>
> The messaging in the onboarding screen varies slightly depending on whether the customer has AMI data or not. For customers with AMI data, the message will include language about a smart meter. For customers with non-AMI data, the message will include language about energy use patterns.

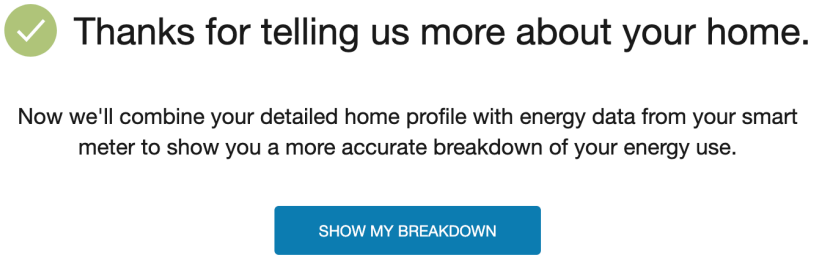
Survey Not Started: For customers who have not yet started the survey, the Home Energy Analysis displays information about the survey and provides the first question to begin the analysis. This messaging can include information on the estimated time it would take to complete the survey, as well as the benefits of completing the analysis. Customers who select to take the survey are directed to the full survey.



Survey Started, Not Completed: If the customer has started but not completed the survey, the pre-survey screen shows a progress bar and returns the customer to where they left.

Survey

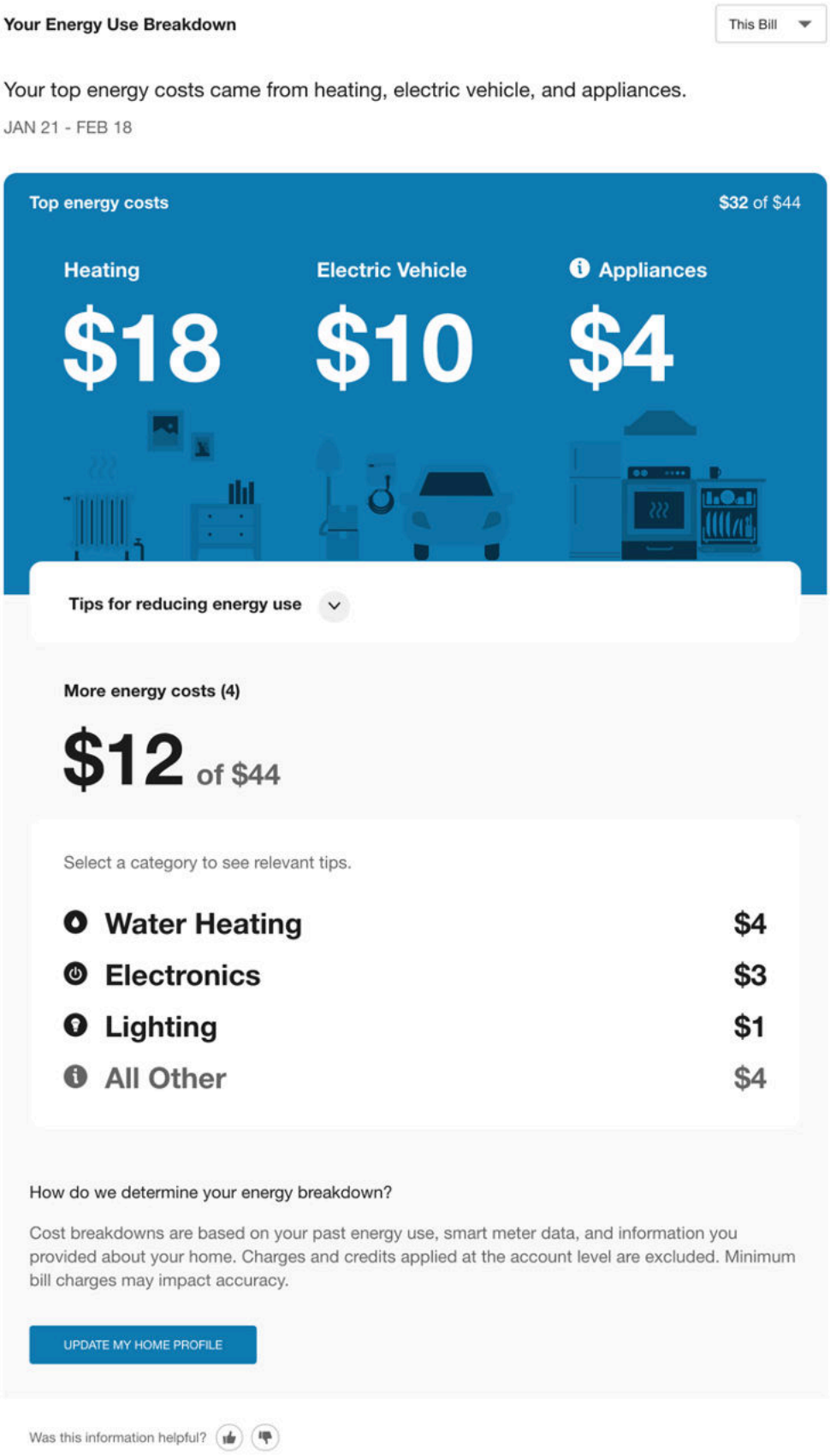
The survey prompts customers with individual questions about their home and energy use. The user experience with the survey is the same as that described in Home Energy Analysis v1, except that when the survey is finished, an additional screen appears to thank the customer for providing answers. The messaging of this final screen varies slightly depending on whether the customer has AMI data or not. For customers with AMI data, the message includes language about a smart meter. For customers with non-AMI data, the message includes language about energy use patterns.



Disaggregation

After customers complete the Survey, they are shown a disaggregation (also called a "breakdown") that displays their energy use divided into top three categories. The top three categories are followed by personalized tips and an additional list of end-use categories. Customers can take different paths to the disaggregation:

- If the onboarding screen is used, customers can click to see their disaggregation without taking the survey. The onboarding screen is only displayed once. This means that the next time a customer clicks to see the disaggregation, they are taken directly to it and will not be shown the onboarding screen.
- If no onboarding screen is used, customers must complete the survey before seeing the disaggregation. Customers must complete all of the required questions before the disaggregation can be displayed. Required questions cannot be skipped.



Title: The title of the widget reflects its focus on giving customers a more detailed view into how they consume energy. If there is not enough historical data for a customer to choose between an annual or bill-level breakdown, then the title changes to specify that it is an annual breakdown.

Time Period Selector: A selector is displayed at the top to let users choose between a breakdown for This Bill or Annual. If the annual time period is selected, percentage values are displayed in the breakdown. If the bill time period is selected, dollar amounts are displayed in the breakdown.

If there is not enough weather data and historical billing data to show a breakdown by bill period, then the time period selector is hidden, and the feature shows an annual breakdown only. (See the Customer Requirements above for more information about what is required to enable both annual and bill-level disaggregations.)

Insight Statement: An insight statement appears above the breakdown explaining where the customer used the most money or energy. The language of the insight varies slightly depending on different data states, such as whether the customer has completed the survey. It also changes slightly if there are only two top categories or if the insight focuses on usage instead of cost information.

State	Example Insight Statement
Survey completed	"Your top energy costs came from ..."
Survey not started or completed	"It looks like your top energy costs came from ..."

Date Range: A date range is displayed at the top of the breakdown to communicate that the breakdown applies to a specific bill period. This information is hidden if the Annual time period is selected from the time period selector.

Cost or Usage Summary: A cost or percentage is displayed at the top of the breakdown to show how much of the customer's total cost or usage can be attributed to their top three categories. For example, when a bill period breakdown is shown, the summary might show "$123 of $159." If an annual view is shown, the summary might show "75%." These values are meant to reinforce the idea that the top three end uses make up a large part of the customer's overall usage or bill, not the full amount.

Note: The annual view can only show estimated annual usage percentages for each category rather than estimated annual costs. This is because a customer's bill periods do not align exactly with a 12-month period, and so the feature is unable to retrieve and calculate costs for that time period.

Top Energy Costs or Uses: The focus of the feature is a breakdown showing up to three top end-use categories. See End-Use Categories below for a list of all available categories. Each category includes the following elements:

- **Category Name**: Each category includes a name, such as "Cooling," "Water Heating," or "Electronics."
- **Category Cost**: Each category shows a cost rounded to the nearest whole dollar. The costs represent the portions of a customer's energy use in each category, and are not meant to add up to the customer's total bill. The breakdown can show percentages if cost information is not available. It can also show two categories instead of three. See User Experience Variations below for details.
- **Category Icon**: Each category is paired with a graphic so that customers have a visual reference and can more quickly understand the meaning of the category.

- **Category Tooltip**: A tooltip is displayed when a customer hovers their pointer over a category. The tooltip prompts the customer to view a personalized tip related to that category. Selecting the tooltip takes the customer to that tip lower on the screen.
- **Category Order**: The categories are shown from left to right, in the order of most expensive to least expensive. If the cost of two or more categories is the same, there is system logic to determine which ones are displayed, and in what order.

Personalized Tips: Beneath the top three categories is a set of tips related to each category. Each tip message includes:

- An illustration that allows customers to quickly recognize the concept or purpose of a tip.
- A short title that summarizes the purpose of the tip.
- A brief description of the tip and actions the customer can take.
- The estimated annual savings if the customer completes the tip.
- If applicable, a message about a rebate offer from the utility and a link to where the customer can learn more about the rebate. This is hidden if there is no applicable rebate.
- A link to more detailed information about the tip. See Tip Details.
- A link to a tip guide containing tips about the top end-use category. See Tip Details.

More Energy Costs or Uses: Beneath the tips is a breakdown of the rest of the customer's end uses. The section begins with a cost or usage insight stating how much of the customer's overall usage or bill is attributable to the additional categories. The insight is followed by the list of end-use categories.

- **Category Order**: The categories are ordered from highest to lowest. The exception is the 'Other' category, which always appears at the bottom. If two or more categories have the same value, there is system logic to determine the order.
- **Category Links**: Users can hover each item in the list for a link to a tip guide related to that category. Upon hovering, the title of an item dynamically expands to include the word "tips." For example, when hovering over the Heating category, the title expands to say "Heating tips." When clicked, the link points to a tip guide called "Heating tips to help you save."

For the full list of categories that could be displayed, see End-Use Categories

Breakdown Explanation: Beneath the breakdown is a link to more details about how the customer's breakdown is determined. This is meant to educate customers about the method behind their breakdown. The explanation may prompt the customer to update their answers to the survey.

Feedback Prompt: A set of buttons can be shown beneath the breakdown allowing customers to provide feedback about the usefulness of the feature. See Customer Feedback for more information.

End-Use Categories

After customers complete their survey, they are shown a Disaggregation (also called a "breakdown") of their total energy use divided into specific end-use categories. The table below lists the categories available and their supported fuel types.

If a customer does not have the required fuel type for a category, then the customer will not see that category. For example, a gas-only customer would not see the Cooling category since that category is only available for the electricity fuel. There are also cases in which additional rules are used to show or hide a category. If you need more insight about these rules, contact your Delivery Team.

End-Use Category	Supported Fuels
Heating: The impact of how a home is heated.	Gas, Electricity
Cooling: The impact of how a home is cooled.	Electricity
Appliances: The impact of common household items such as refrigerators and ovens. Depending on your utility's setup, configuration, and available data, this category may be the sum of several other categories (such as 'Dishwasher' and 'Laundry'). It will not be shown if an appliance-level disaggregation is shown.	Electricity
Refrigerator: The impact of food storage appliances.	Electricity
Oven: The impact of oven use.	Electricity
Dishwasher: The impact of dishwasher use.	Electricity
Laundry: The combined impact of a washing and drying machine. Depending on your utility's setup, configuration, and available data, this category may be the sum of several other categories (such as 'Clothes Washer' and 'Dryer').	Electricity
Clothes Washer: The impact of a clothes washing machine. This category is not shown if the 'Laundry' category is shown.	Electricity
Dryer: The impact of a clothes drying machine. This category is not shown if the 'Laundry' category is shown.	Electricity
Electric Vehicle: The impact of owning and charging an electric vehicle in one's home. Depending on your utility's setup, configuration, and available data, you may only be able to see a breakdown for Level 2-charged electric vehicles.	Electricity
Lighting: The impact of lighting. This category accounts for devices like energy efficient bulbs as well as indoor and outdoor lights.	Electricity
Water Heating: The impact of a water heating device such as a heat pump or conventional storage tank. Depending on your utility's setup, configuration, and available data, this category may show up as 'Electric Water Heating'.	Gas, Electricity
Electronics: The impact of electronics such as TVs, computers, and DVD players.	Electricity
Pool: The impact of owning and maintaining a pool.	Gas, Electricity

End-Use Category	Supported Fuels
Other: The impact of all other devices in a home that do not fall into a clear category. This may include small kitchen appliances, humidifiers, or medical devices. **Note**: 'Other' is never shown as a top end-use category since it contains uncommon devices that are hard to categorize. Even if the impact of the category is high (for example, a customer may use a medical device that consumes a lot of electricity), it will not be shown in top end-use displays.	Electricity

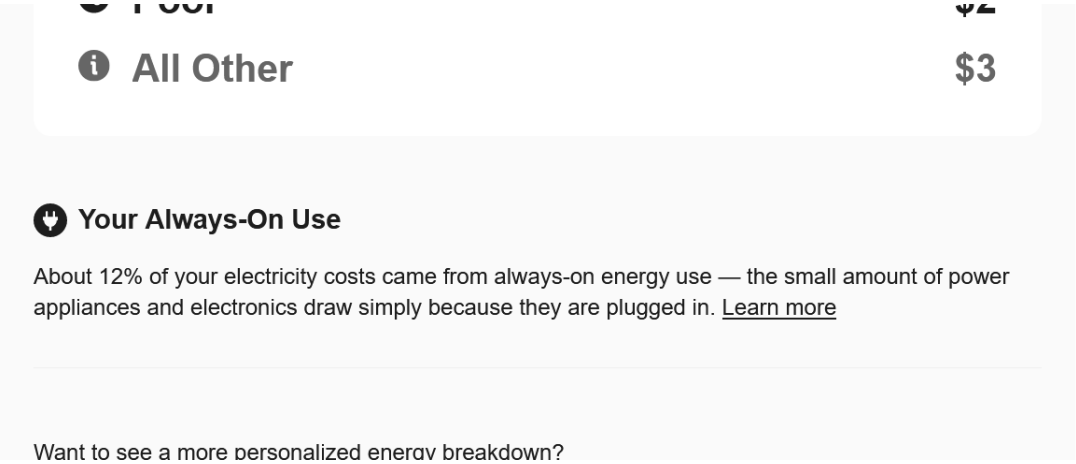
Smart Dashboard (HEA Light)

The Smart Dashboard or other utility-hosted web page can include a separate version of the user experience called Home Energy Analysis Light. Customers viewing HEA Light are either encouraged to take the survey if they have not started (or not completed) the survey, or they are shown disaggregation results if they have completed the survey. Customers that select to take or continue the survey are directed to the full survey experience, which is hosted on a separate page. Depending on the utility's configuration, customers can also be shown the disaggregation before completing the survey.

User Experience Variations

Always-On Insight

If sufficient AMI data is available, an insight about "always-on" usage can display below the breakdown. The insight specifies the customer's estimated energy use in a bill period for devices that do not get unplugged, such as game consoles and security systems.



Within the insight is a **Learn More** link. When this link is selected, the widget refreshes and loads a detailed explanation about always-on devices. (Clicking the link does not open a web page with a new URL.)

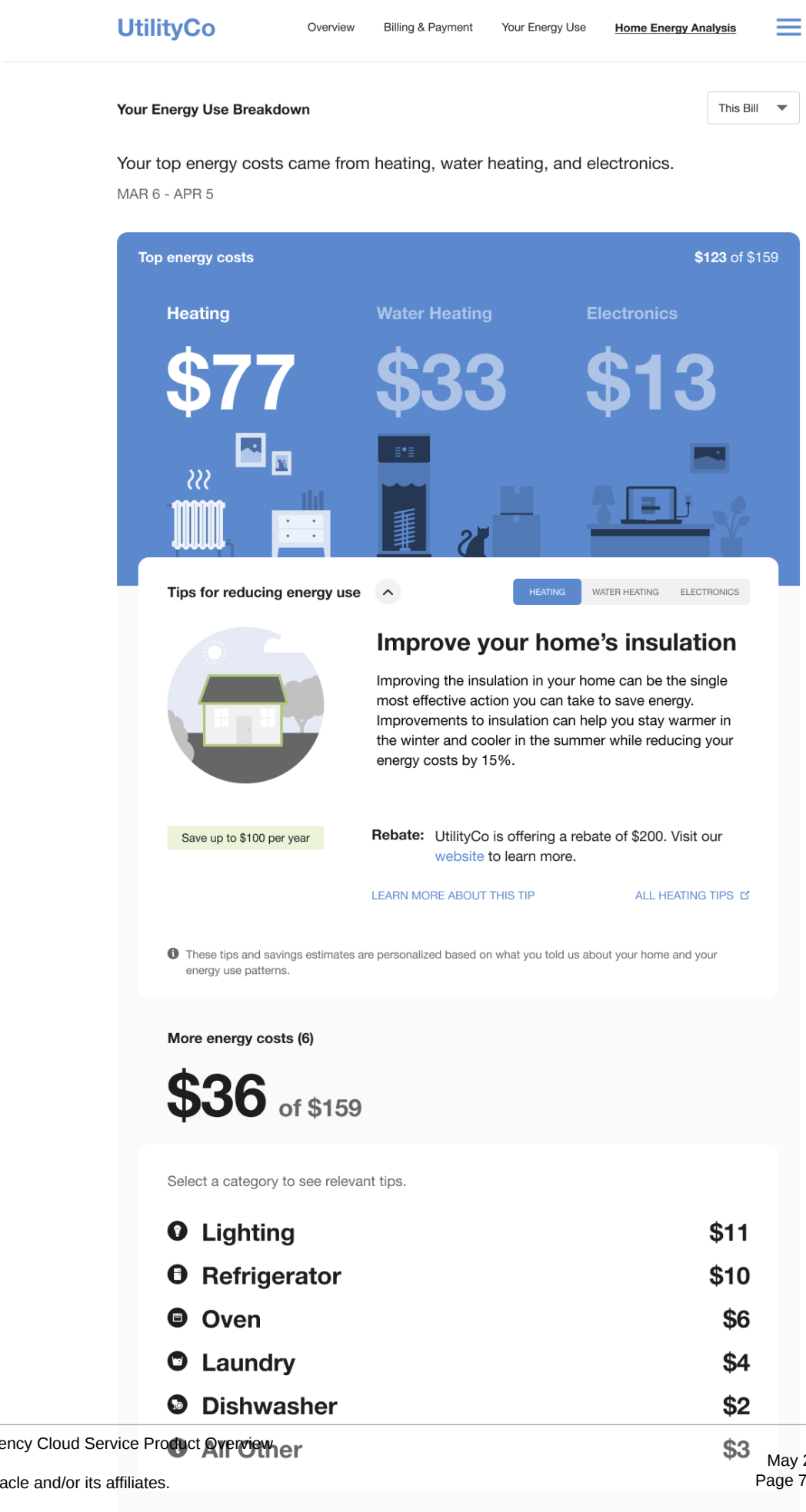
Requirements

One historical bill and hourly AMI data for the bill period are required.

Appliance-Level Insights

If sufficient data is available and the proper configuration has been completed, the usage breakdown can display specific appliances as top end-use categories rather than a general

"Appliances" category. For example, the breakdown can include categories such as laundry, dishwasher, refrigerator, or oven.



Requirements

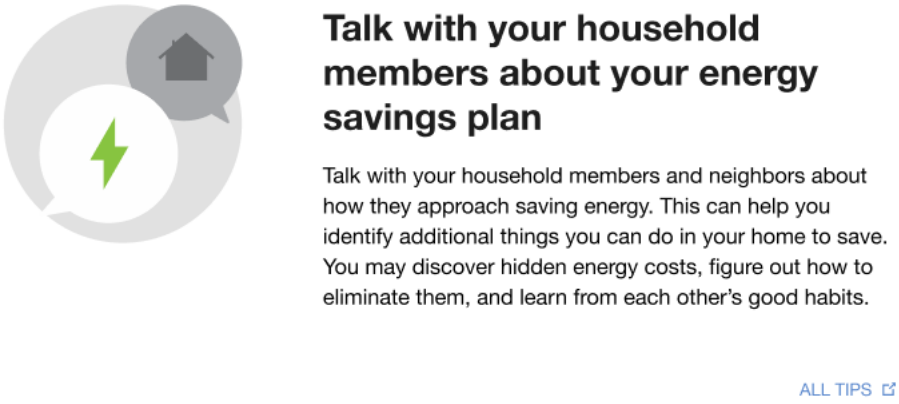
Appliance-level insights require about one year's worth of AMI data at hourly or sub-hourly resolutions.

Embedded Experience

The Home Energy Analysis consists of multiple widgets that can be embedded within a utility's web pages. An overview of the widgets and the embedding guidelines is below. For details on how to embed widgets, see the Embeddable Widgets Integration Guide.

Fallback Tip

There may be cases where a top end-use category tip is not available. For example, a customer may have marked all tips related to a specific end-use category as "Done" or "Won't Do." In these cases, a generic fallback tip is shown, along with a link to a list of all available tips.



Gas-Only Customers

Gas-only customers can be part of gas-only utilities or dual-fuel utilities. The user experience can change for gas-only customers in the following ways:

Survey: The survey is modified to hide questions and results that are not applicable to gas-only energy use. For example, questions related to cooling, lighting, electronics, and electric vehicles would be hidden.

Disaggregation: The disaggregation can only show categories for which gas is a supported fuel type. For example, categories for cooling and appliances would be hidden. See End-Use Categories for a complete list of the categories available for each fuel type.

Higher Percentage for Appliances: Gas-only customers for dual-fuel utilities may see a percentage of energy use for their appliances that is higher than the *actual* energy use for those appliances. This is because the same baseline disaggregation percentages are being applied for *all* customers of the utility—customers who are gas, electric, and dual fuel. The baseline disaggregation percentages would therefore more closely align with dual fuel or electricity-only customers.

Two Categories: Gas-only customers may complete the Home Energy Analysis survey but still not have enough information to determine their energy use in three top categories. In such cases, two top categories can still be shown. See Two Categories below for details.

Always-On Insight: The always-on insight is not available for the gas fuel type, and so it will not display for gas-only customers.

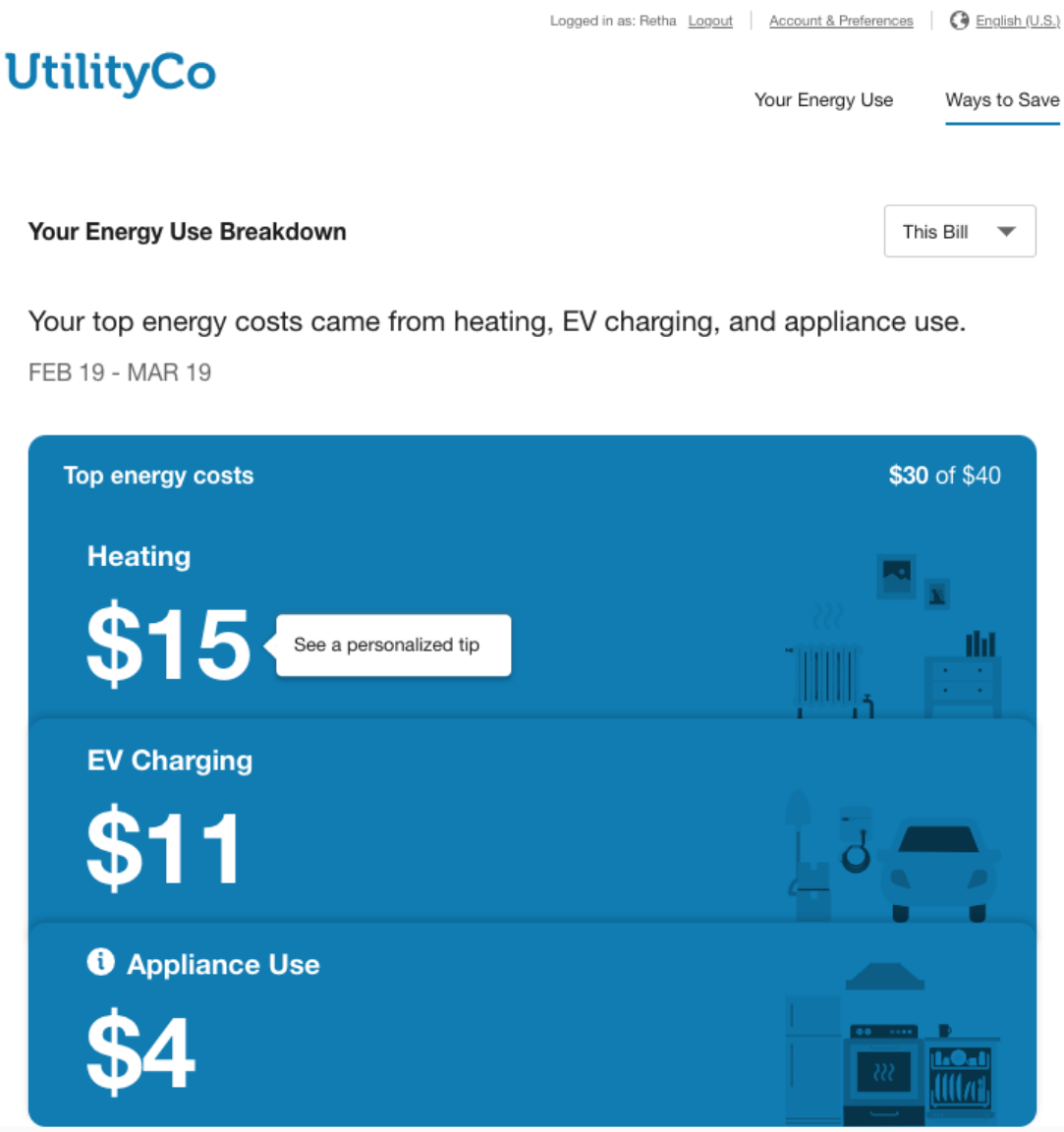
Locale

This feature can display locale-appropriate language and units of measure. A few examples include:

- Some countries might use "flat" instead of "apartment," while others might use number of bedrooms as a measure of living space instead of square feet.
- Some survey questions might be modified or hidden to be more relevant to a utility or locale. For example, in countries where it is hot all year round, the question about heating your home might be hidden.
- Some survey answers might be unique to a utility's locale. For example, for utilities outside of the US, certain answers might specify different heating and cooling technologies that are common to that utility's country.

Mobile Experience

The experience of the Home Energy Analysis for smaller mobile screen sizes consists of the same components as the desktop experience. However, the layout changes to fit the smaller screen size by stacking the components vertically.



> **Note**
>
> In Home Energy Analysis v2, the mobile breakpoint is based on the container size as opposed to the whole browser window. This means that the tablet view may be displayed in the desktop view if the widget is embedded within a container that has a small width. This could happen, for example, if the survey is embedded on a utility website in which the container size is smaller than the minimum width of 1025px needed to display the desktop version of the widget.

Multiple Accounts and Service Points

If a customer has multiple accounts, the customer can view the Home Energy Analysis survey for a different account by clicking an account selector hosted on the utility website. All embedded widgets are then reloaded with data for the specified account.

If customers have multiple service points associated with their account (for example, one for electricity and one for gas), then the Survey and the Disaggregation behave as expected. However, note that the user interface does not display a menu for switching between individual service points.

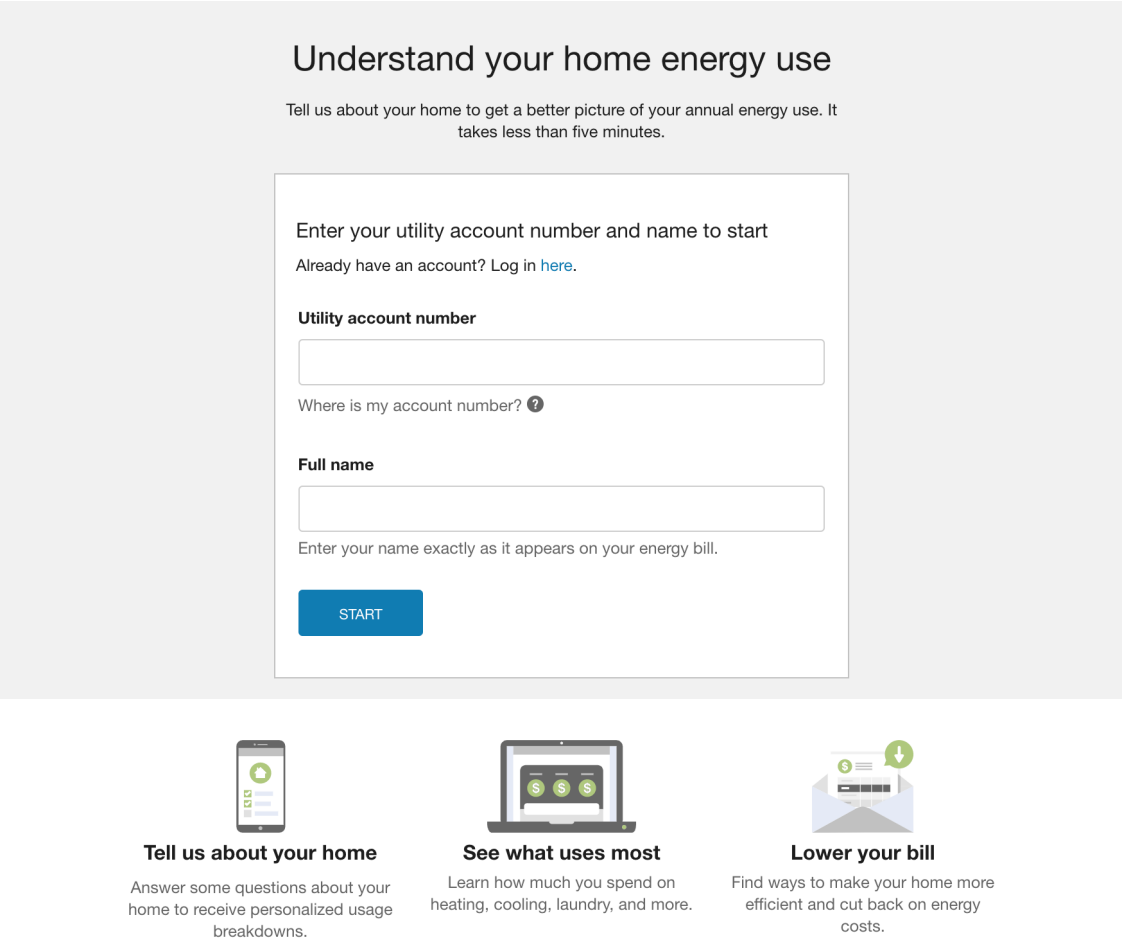
If a customer has two or more service points of the same fuel type (for example, if there is one service point for regular electric usage and another for an electric vehicle), there are several limitations. The survey can be completed, but the disaggregation is limited to an annual disaggregation based on average energy use data for households in a utility's region. A bill-level disaggregation cannot be shown, and more advanced insights and personalization based on AMI data are not supported. Contact your Delivery Team if you have any questions.

Percentage-Based Breakdown

Cost values are shown in the breakdown by default. However, if cost information cannot be calculated for the top three categories, then the feature falls back to a percentage-based personalized breakdown. In this case, the insight shows percentage values, and the insight statement emphasizes where the customer's top energy *uses* came from. The percentages represent the major portions of a customer's entire energy use, and are not meant to add up to 100%.

Pre-Authenticated User Experience

In some cases, customers can access the Survey without logging in to their utility account. For example, customers who receive Email Home Energy Reports can follow a link from within the email to begin the survey, which includes a token to automatically identify the customer. If the customer navigates directly to the survey rather than following a link from an email communication, they are prompted to provide their billing account number and their full name as it appears on their bill.



After completing the survey, customers can view the energy use breakdown the same way that an authenticated user can. All survey responses are saved for the user account and are available to the customer when they log in to their account. Differences in the user experience include:

- Links are provided for the customer to create an account or log in to their account.
- Only an annual breakdown with percentages can be shown. A bill-level breakdown containing more personalized cost information is disabled to protect a customer's privacy. (A customer can still view their bill-level disaggregation if they sign in to their account.)
- Personalized tips for the top end uses cannot be shown.
- Links to tip guides for the **More energy uses** section cannot be shown.
- The background color of the top three categories section is 20% lighter than the primary color. This is meant to convey that the pre-authenticated experience is not the complete experience.
- If a user has previously started but not completed the survey and clicks a link to it from an email communication or the web, they are taken directly to where they left off in the survey.
- If a user has completed the survey already and clicks a link to it from an email communication or from the web, they are taken directly to the disaggregation.

There are a few known limitations in the pre-authenticated experience. The limitations include:

- Customers who follow a link from an email to the HEA is provided with a token that only authenticates the customer for the HEA. If a customer tries to navigate to another widget, they will need to first sign in (or create an account). The ability to navigate to another widget will also depend on what navigation is shown on the pre-authenticated HEA pages. It is possible that there will not be any navigation to another widget availabe if the HEA has been embedded on a utility-hosted webpage.
- A **Create Account** button is displayed in the pre-authenticated disaggregation even if a customer has already created an account. The button cannot be hidden for customers who already have an account. This is because the token that identifies a customer does not include enough information to determine whether or not the customer has already created an account.

Solar Customers

The Home Energy Analysis is supported for solar customers. For utilities that have a lower amount of data (for example, utilities that do not have sufficient customer usage or weather data), the Disaggregation is based on the coefficients that adjust based on known customer attributes that are mainly provided when a customer completes the Home Energy Analysis Survey.

For utilities that have more advanced data capabilities (for example, utilities that have enabled Oracle Utilities Opower appliance detection capabilities), there are fallback strategies in place. These fallback strategies are necessary until the underlying data models for appliance detection have been trained on solar households. In this case, utilities should work with their Oracle Utilities Opower Delivery Team to determine the best method for identifying solar customers and adjusting the disaggregation for them.

Two Categories

If customers complete the Home Energy Analysis survey but there is still not enough information to determine their energy use in three top categories, then the top two categories can still be shown. This experience is only the case for gas customers, since the number of end-use categories that can be displayed for the gas fuel type is much shorter than for electricity customers. See End-Use Categories above for a complete list of the categories available for each fuel type.

If there is only data for one category or less, an error message is displayed.

Calculations

Disaggregation / Energy Use Breakdown

To calculate the energy use Disaggregation (also called an "energy use breakdown") for a customer, the Home Energy Analysis begins by obtaining the average end-use percentages of all utility customers in a utility's service territory. These percentages are obtained from a public source and are aggregated to serve as baseline values; they are not personalized to each individual customer. These average, baseline values represent the typical energy use of a home in a utility's service territory. For many utilities in the U.S., data is available for the following energy use categories: Space Heating, Cooling, Hot Water, Appliances, Lighting, Electronics & Other, and Pool.

The Home Energy Analysis calculation then uses each customer's responses to the Survey to adjust the baseline values and yield personalized energy use percentages. Each answer option is associated with a multiplier, which represents whether the customer uses more, less, or the same amount of energy as the average household in a given energy use category, based on that particular response.

For example, the question "Do you turn off lights when nobody is in the room?" has the following response options: Always, Sometimes, and Never. "Always" has a multiplier of less than 1, since that customer is likely to spend less electricity on lighting than a customer who

never turns off the lights. "Sometimes" has a multiplier of 1, since it was determined to be the average behavior, and "Never" has a multiplier greater than 1.

Recalculations: The disaggregation calculations are run dynamically each time the user accesses their energy breakdown.

Bill Period Cost Calculation

After customers complete the Home Energy Analysis Survey, they are shown a Disaggregation that displays their energy use divided into three top categories, followed by personalized tips and an additional list of end-use categories. If sufficient data is available, customers can see how much money each end-use category costs for a given bill period.

The first step in this calculation is for the feature to determine the percentage of energy consumption for each end-use category. For example, based on the customer's answers in the survey, the feature may determine that the Electric Vehicle category accounts for 15% of a customer's total usage.

Next, the Home Energy Analysis multiplies the percentage of each category by the total usage charge for the bill period. Continuing with the example above, let's say that the total usage charge for the customer's bill period is $300. The cost calculation would be:

*Electric vehicle usage (15%) * total usage charge ($300) = $45*

This means that the Home Energy Analysis disaggregation would show that the customer's Electric Vehicle usage accounts for $45 of the total $300 in the last bill period.

Home Energy Analysis Light

The Home Energy Analysis (HEA) Light widget encourages customers to complete the HEA survey if they have not taken it already, and displays an energy use disaggregation for customers who have completed the survey. The widget is designed to be included in the Smart Dashboard or embedded on other utility-hosted web pages to promote the survey and lead customers to the full Home Energy Analysis experience.

There are two versions of Home Energy Analysis Light. If you need help identifying which version is applicable to you, contact your Delivery Team.

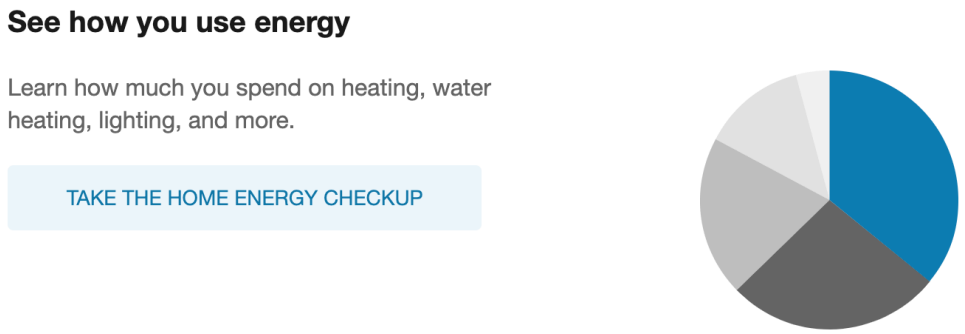
- Home Energy Analysis Light v1
- Home Energy Analysis Light v2

Home Energy Analysis Light v1

The Home Energy Analysis Light v1 widget encourages customers to complete the Home Energy Analysis v1 survey if they have not taken it already, and displays an energy use disaggregation for customers who have completed the survey. The disaggregation is shown as a pie chart and is included in the Smart Dashboard.

Survey Prompt

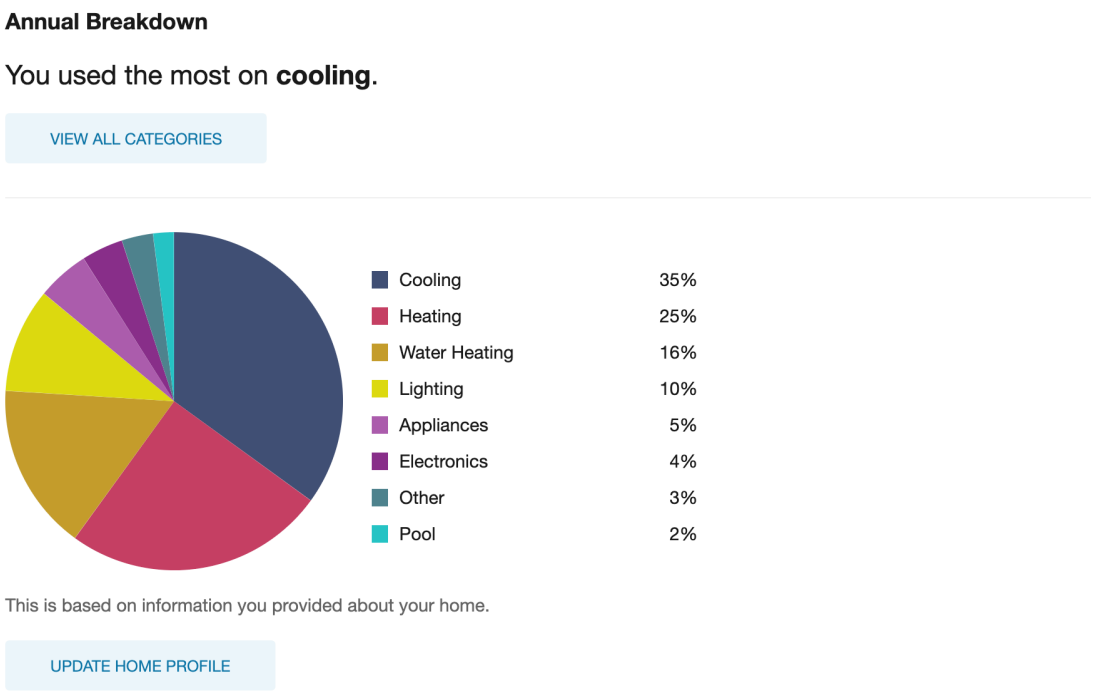
If the customer has not started the Home Energy Analysis v1 survey, then the Home Energy Analysis Light v1 widget shows a prompt to encourage survey completion. The appearance of the prompt is the same whether the customer has not started the survey, or started but not completed the survey.



Disaggregation

If the customer has completed the survey, then the Home Energy Analysis Light v1 widget is updated to display an energy use disaggregation in the form of the pie chart. Compared to the full Home Energy Analysis v1 experience, the Home Energy Analysis Light v1 disaggregation includes the following differences:

- The **View All Categories** link directs the customer to the full HEA v1 disaggregation experience
- The pie chart categories are not interactive
- Only an annual time resolution can be shown (a bill-level disaggregation cannot be shown)



Requirements and Limitations

The data requirements for Home Energy Analysis Light v1 are the same as those described in Home Energy Analysis v1.

> **Note**
>
> ome Energy Analysis Light v1 can only be shown in the Smart Dashboard and is not embeddable on other utility-hosted web pages.

Home Energy Analysis Light v2

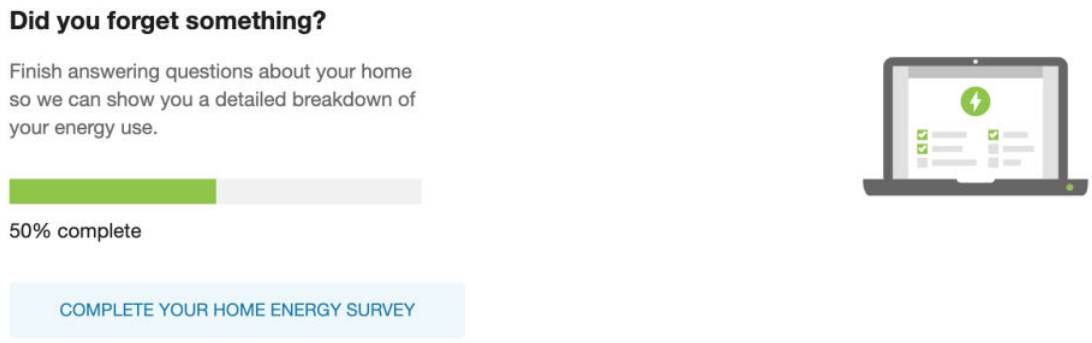
The Home Energy Analysis (HEA) Light v2 widget encourages customers to complete the Home Energy Analysis v2 survey, and can display a disaggregation of a customer's top three categories of energy use before or after the survey has been completed. HEA Light v2 is designed to be included in the Smart Dashboard or embedded on another utility-hosted web page to promote the survey and lead customers to the full Home Energy Analysis v2 experience.

Survey Prompt

A survey prompt is shown if a customer has not started or completed the HEA v2 survey. The appearance of the prompt varies depending on the survey status.

Survey Not Started: The customer sees a prompt to take the Home Energy Analysis survey. It includes a link to the survey and some language about the benefits of completing it.

Survey Started, Not Completed: If the customer has started but not completed the survey, the widget shows a progress bar and returns the customer to where they left off in the survey.



Disaggregation

Before or after the HEA v2 survey has been completed, the HEA Light v2 widget can display a disaggregation of the customer's top three categories of energy use. The pathway used depends on the utility's setup and configuration.

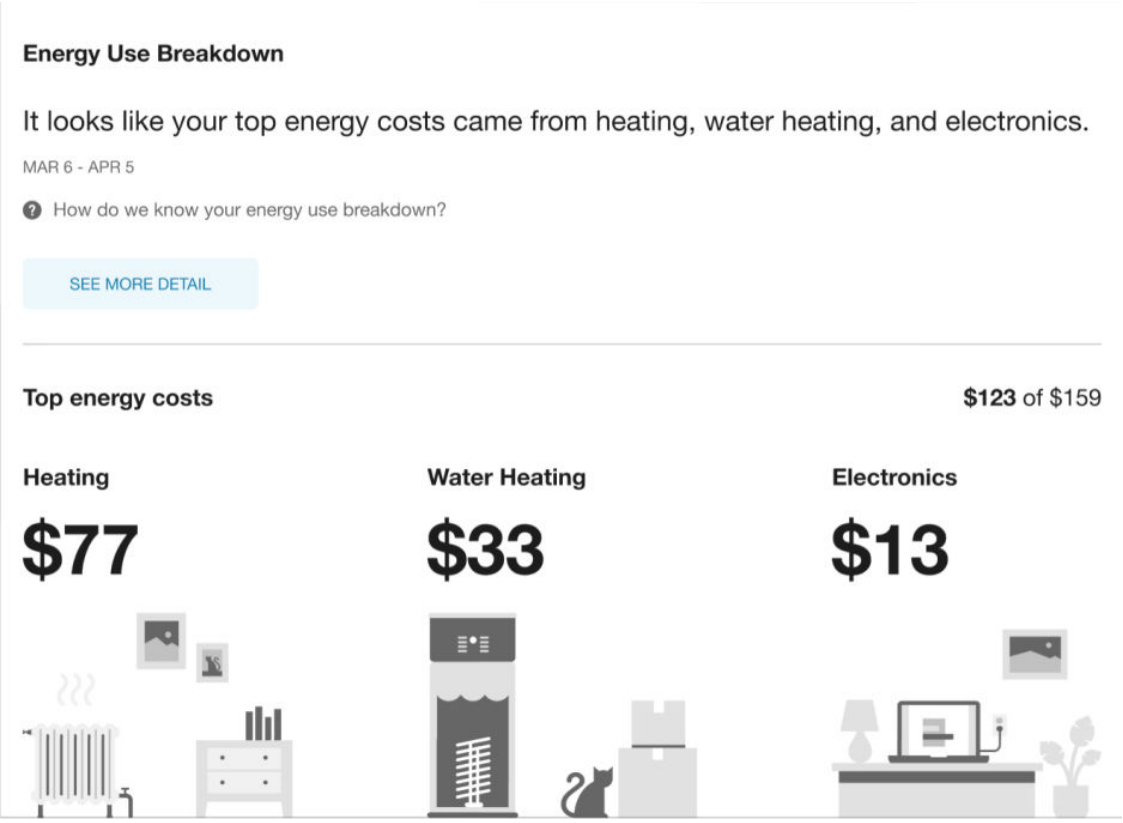
- **Post-Survey Disaggregation**: A disaggregation is shown after the survey has been completed.

- **Pre-Survey Disaggregation**: A disaggregation is shown before the survey has been completed so that customers have quicker access to the results. Customers can still take the survey, and their answers may update the disaggregation results.

Pre-Survey Disaggregation

In the pre-survey disaggregation flow, the HEA Light v2 widget displays a disaggregation automatically based on available data. In this case, there are no survey prompts, and the disaggregation looks the same as in the Post-Survey Disaggregation, except that the messaging changes slightly. The top categories insight says, "It looks like your top energy costs came from...". The phrase "looks like" emphasizes that the disaggregation is an estimate.

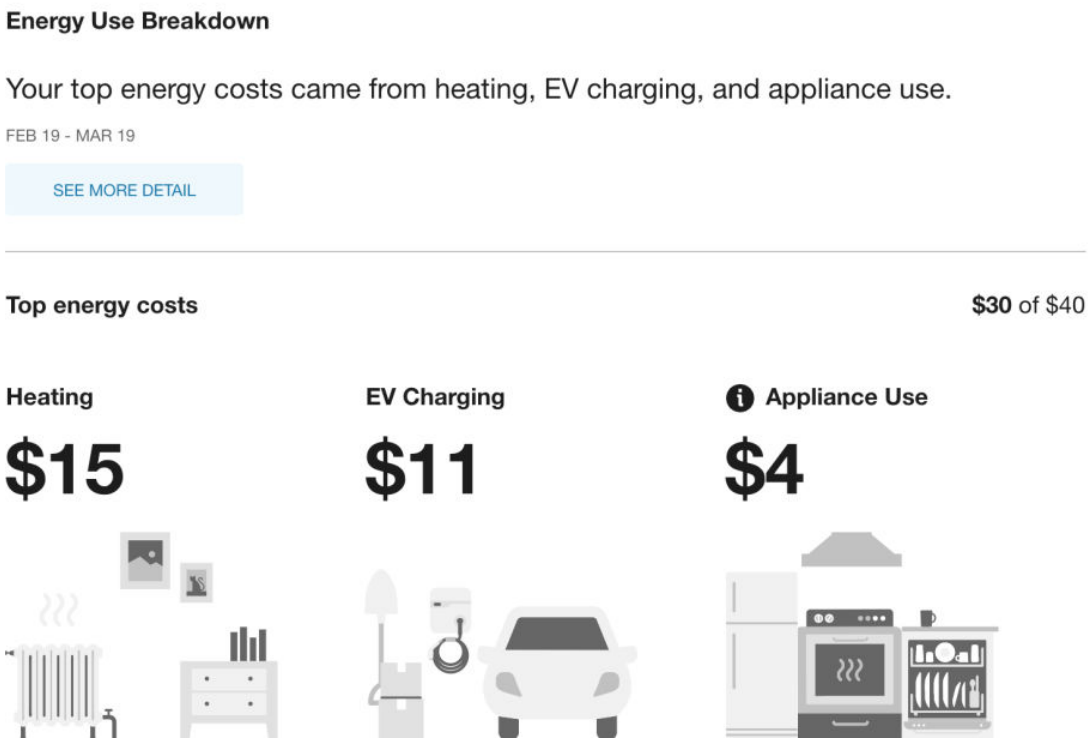
Customers can still visit the full Home Energy Analysis v2 experience. When they click the **See More Detail** link, they are taken to a one-time onboarding screen that explains how their disaggregation is determined, and that includes a link to the full survey. Any changes that result from taking the survey will be reflected in both the full HEA disaggregation and in the HEA Light disaggregation.



Post-Survey Disaggregation

In the post-survey disaggregation flow, customers must complete the survey before seeing a disaggregation. When the survey is complete, the HEA Light v2 widget is updated to display an energy use disaggregation in the form of top three categories. Compared to the full Home Energy Analysis v2 experience, the HEA Light v2 disaggregation has the following differences:

- Only the top three end-use categories are displayed (there are no additional end-use categories, personalized tips, or advanced AMI-based insights).
- The **See More Detail** link directs the customer to the full disaggregation experience.



Explainer: A message below the graph explains how the customer's breakdown is determined. The message varies slightly based on whether the customer has AMI data or solar data, and whether the customer has started or completed the Home Energy Analysis survey. For customers with solar data, the message mentions that all of the customers' energy uses are considered regardless of whether their energy came from solar panels or the grid.

Time Resolution: If a bill-level time resolution is configured, then a date range is displayed to refer to a specific bill period. If an annual time resolution is configured, then no date range is displayed.

Appliance Use Tooltip: If appliance use is highlighted as a top category, customers can click a tooltip for an explanation of what is included in that category. For example, the tooltip may state that the category takes into account the customer's energy use for a stove or refrigerator. The tooltip message changes dynamically to list the appliances that are known to exist at the customer's site based on survey responses or third-party data.

Requirements and Limitations

- The data requirements for HEA Light v2 are the same as those described in Home Energy Analysis v2.
- The data requirements for the Pre-Survey Disaggregation vary slightly depending on what data is available. For utilities with billing data only, the disaggregation can be based on utility-wide disaggregation percentages for customers. For utilities with AMI data, the disaggregation can be based on a combination of billing, AMI, and weather data to produce more accurate results. Utilities must work with their Oracle Utilities Delivery Team to determine the best approach.

Ways to Save

Ways to Save presents a personalized selection of energy saving tips. Customers can browse through the available tips to learn how they can save energy. The tips are organized into various tip guides based on filters like cost, appliance, and season of the year.

Requirements

Utility Requirements

Same as listed in the Requirements and Limitations.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, and quarterly.
Data Delivery Frequency	Not applicable.
Data Requirements	Not applicable. A customer's data and attributes do not determine whether the Ways to Save feature is displayed. However, a customer's attributes and utility-specific configurations may affect which tips within the feature are displayed.
Data History	Not applicable.
Data Coverage	Not applicable.
Supported Fuels	Electricity, gas, and dual fuel.

User Experience

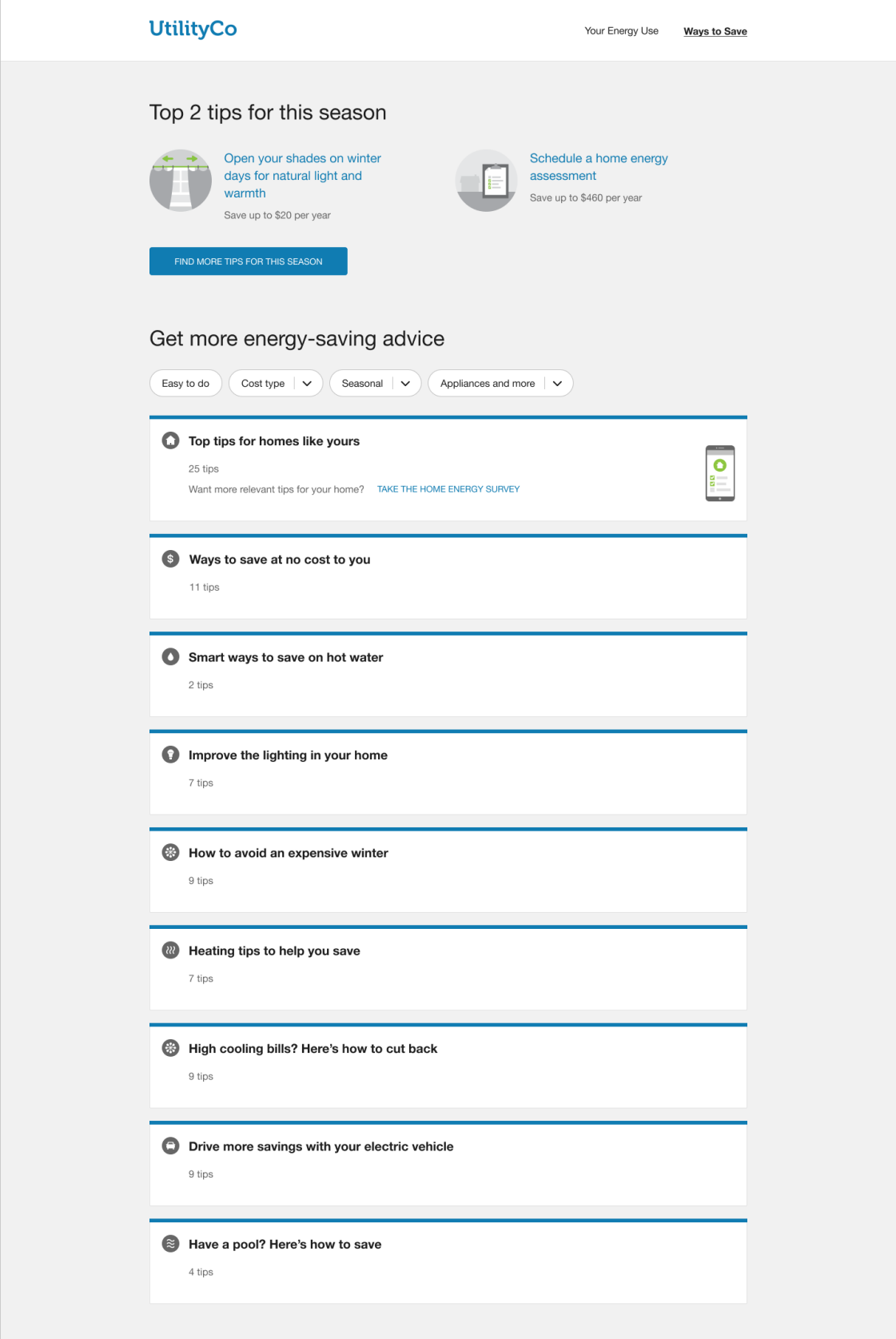
Ways to Save presents a selection of energy tips that customers can follow to lower their usage and save money. The tips are selected based on a customer's attributes and how likely the customer is to follow the tip, and organized into guides based on filters like cost, appliance, and season of the year.

Tip Guides

A tip guide is a collection of tips organized in behavior-oriented, seasonal, and end-use categories that provide customers with relevant cost-saving recommendations. For example, the "How to avoid an expensive summer" guide is displayed to customers during summer months.

A tip guide is only shown if tips are included in the guide after Tip Filtering is applied and irrelevant tips are excluded. Customers can view tips by browsing the tips guides or by selecting filters to identify all available tips that meet the filter criteria.

> **Note**
>
> Customers can access Ways to Save without logging in to their account. See Unauthenticated Experience below for more information.



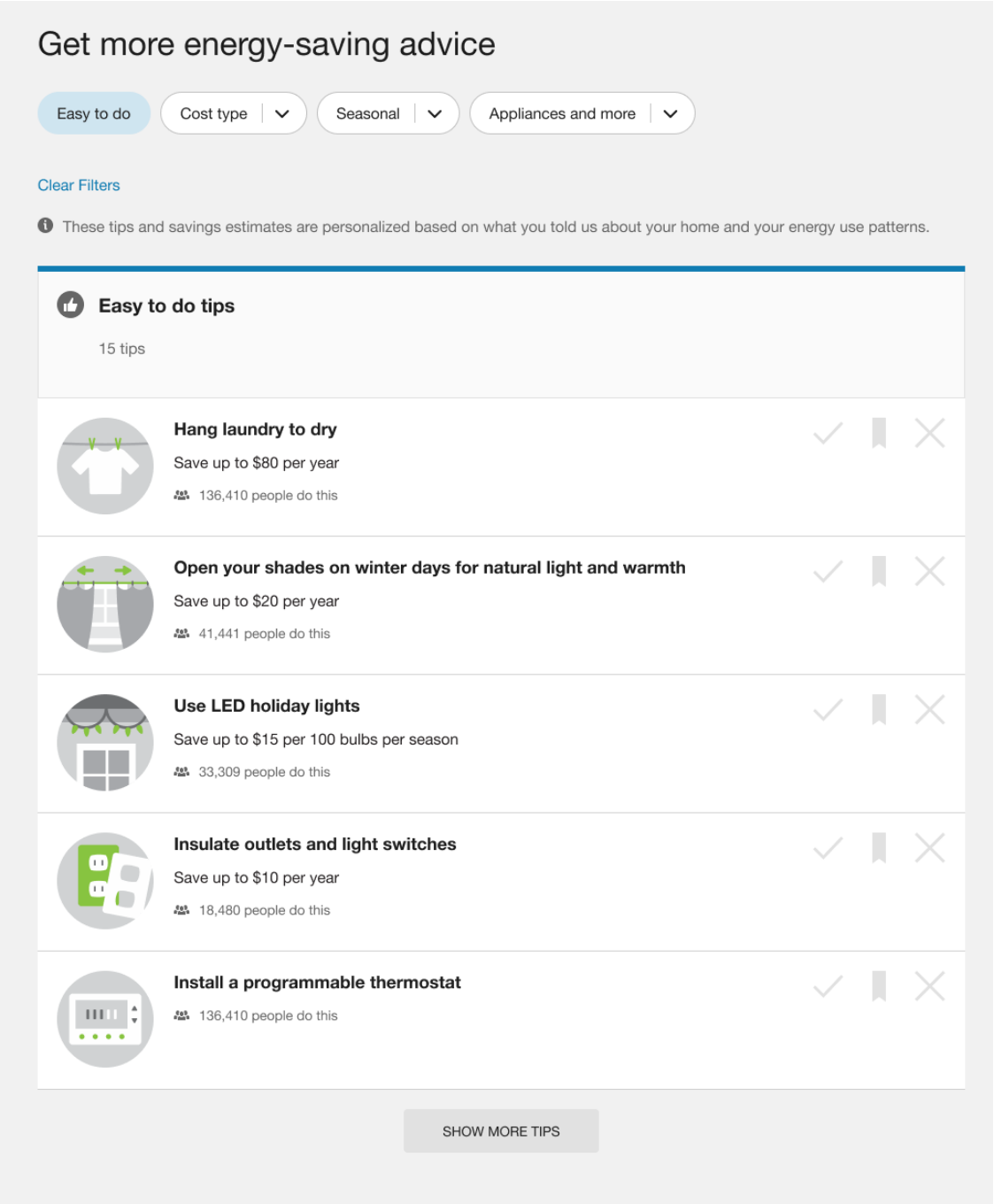
Promoted Tips: A promoted tip guide containing the two most applicable tips of the season is displayed at the top of the Ways to Save page above all other tip guides. The top two tips are randomly chosen from the first seasonal guide shown on the page. These promoted tips can

be selected, and they change upon each page refresh. The customer can also click a button to view all tips available in the seasonal tip guide.

Order of Tip Guides: The default order is to show a promoted seasonal guide first (if applicable), followed by a list of guides defined during the setup and configuration process.

List of Tips in a Guide: Customers can select a tip guide to view the list of tips included in that guide. From this list of tips, customers can review high-level information about each tip, and select a tip to view additional details. Information available for a tip from this list includes the following:

- An illustration allows customers to quickly recognize the concept or purpose of a tip.
- A short title that describes the tip.
- The estimated annual savings if the customer completes the tip.
- The number of utility customers who have completed the tip.



Customers can select a tip in the list to view additional details about the tip, or mark a tip with an applicable Tip Actions.

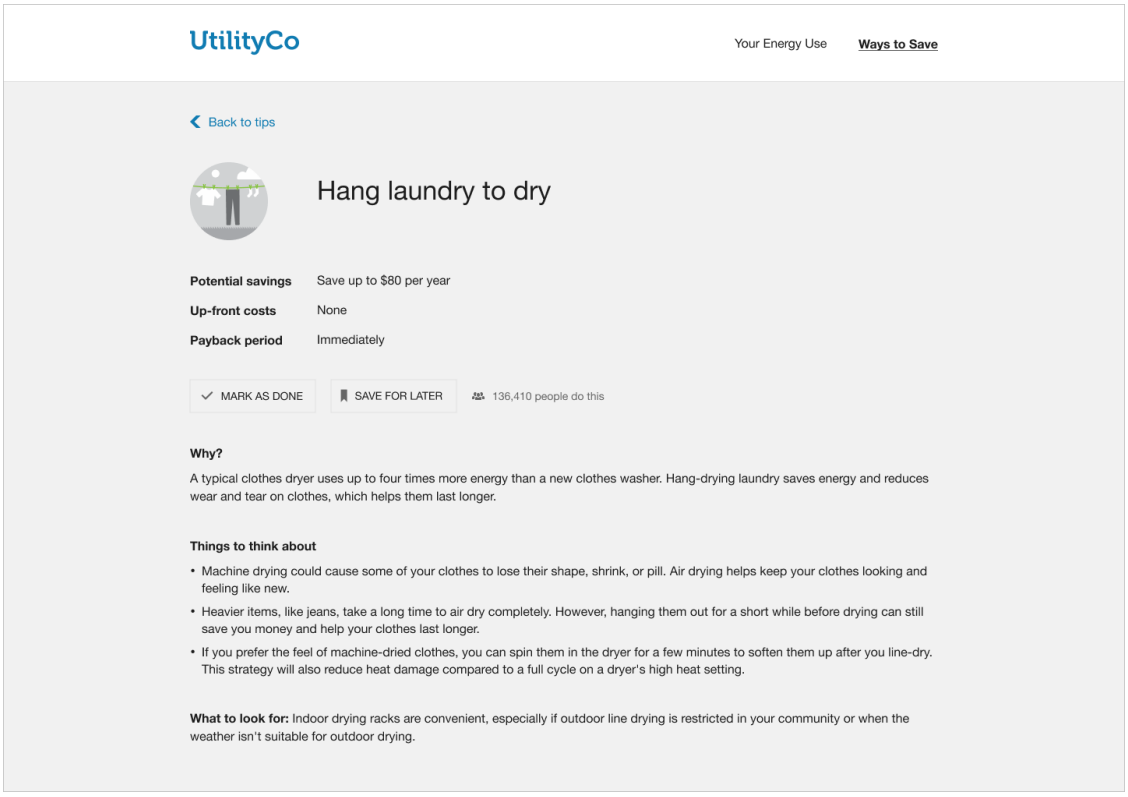
Order of Tips within Tip Guide: The tips are ordered based on Intelligent Tip Targeting, a proprietary automated process that uses logic to show the most relevant tips for the customer at the top of each tip guide. One exception is the Most Popular Tips guide, which shows tips in order of popularity (that is, the tips marked completed by the most users).

In the Unauthenticated Experience of Ways to Save, the Most Popular Tips guide is still ordered by popularity, and the rest of the tip guides are ordered by the default savings estimates.

Tip Details

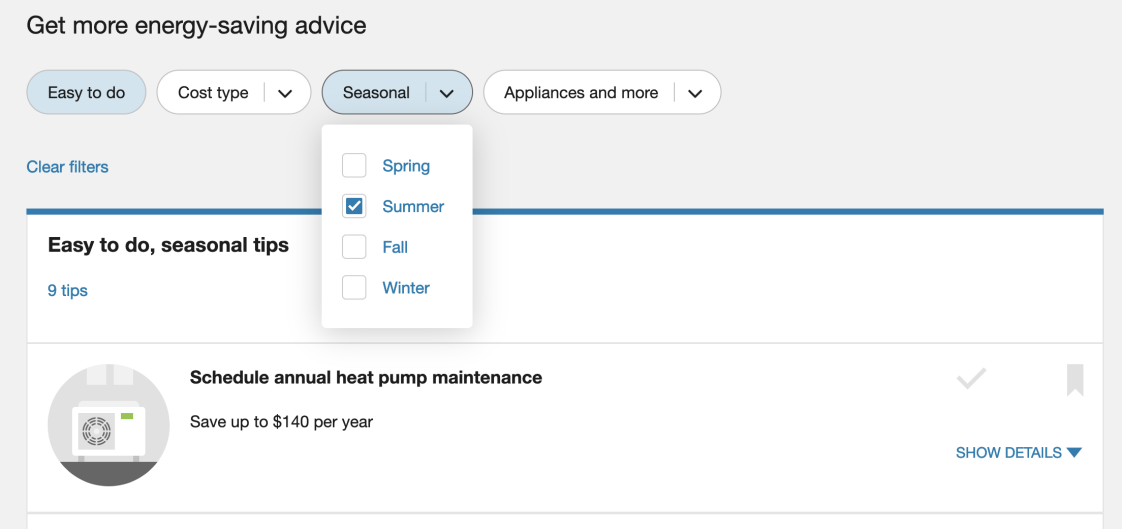
Customers can select a tip to view reasons why they should complete a tip. An option to **Read More** about the tip displays all available information for the tip. This can include the following:

- A tip title displayed at the top, along with the tip illustration.
- A list of financial incentives related to the tip, such as cost savings or tax incentives. By default, a maximum of three of the available financial benefits are displayed. If more than three financial benefits are available for the tip, a link is displayed to show or hide the additional financial benefits. The financial incentives can include:
- Savings amount
- Rebate information
- Upfront costs
- Tax incentives
- Recycling information
- Payback period
- Other incentives
- Links to utility programs and incentives, if applicable.
- Why a customer would perform the tip.
- Information on what actions a tip includes or how to complete a tip can be provided. This optional information is commonly provided for tips that are not as straightforward as simple tips.
- Customers can save a tip to a list of tips to review later, or mark a tip as something they have completed.



Tip Filtering

Tips are automatically filtered for customers based on the characteristics of their home. These characteristics may include the customer's home type, whether they own or rent, the heating system and type (for electric systems), and the type of air conditioning. Customers can browse the tips available in each guide, or select filters to find the tips most relevant to them.



Filter categories and sub-categories include:

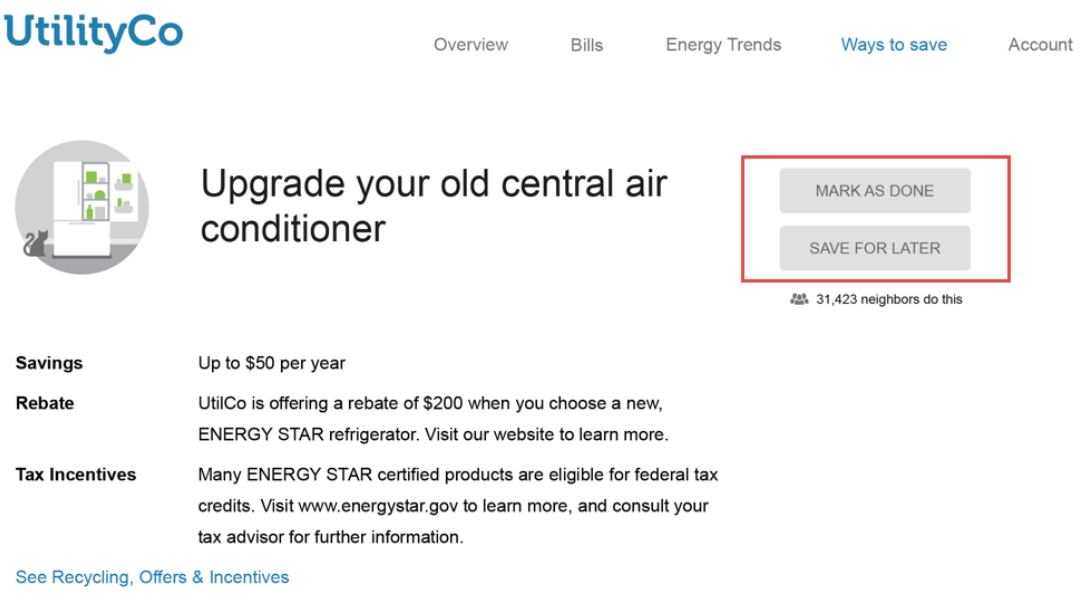
- **Easy Tips**: Easy to Do tips
- **Cost Type**: Free Tips, Low Cost Tips, Great Investments, and Rebates
- **Seasonal**: Spring, Summer, Fall, and Winter
- **Appliances and More**: Heating, Cooling, Water Heating, EV Charging, Pool Energy Use, Laundry, Dishwasher Use, Oven Use, Refrigeration, Electronics, and Lighting

Filters can be combined to display a smaller selection of tips. For example, the Free Tips and Summer filters could be combined so that only free seasonal tips for the summer are displayed. When the filters are cleared, the full list of tip guides is displayed.

Tip filtering is also affected by the Home Energy Analysis, which allows customers to answer questions about their energy use, including whether they live in an apartment and if they rent or own their home. After completing this survey, customers are shown tips that are more relevant to them. See Home Energy Analysis Completed below for details.

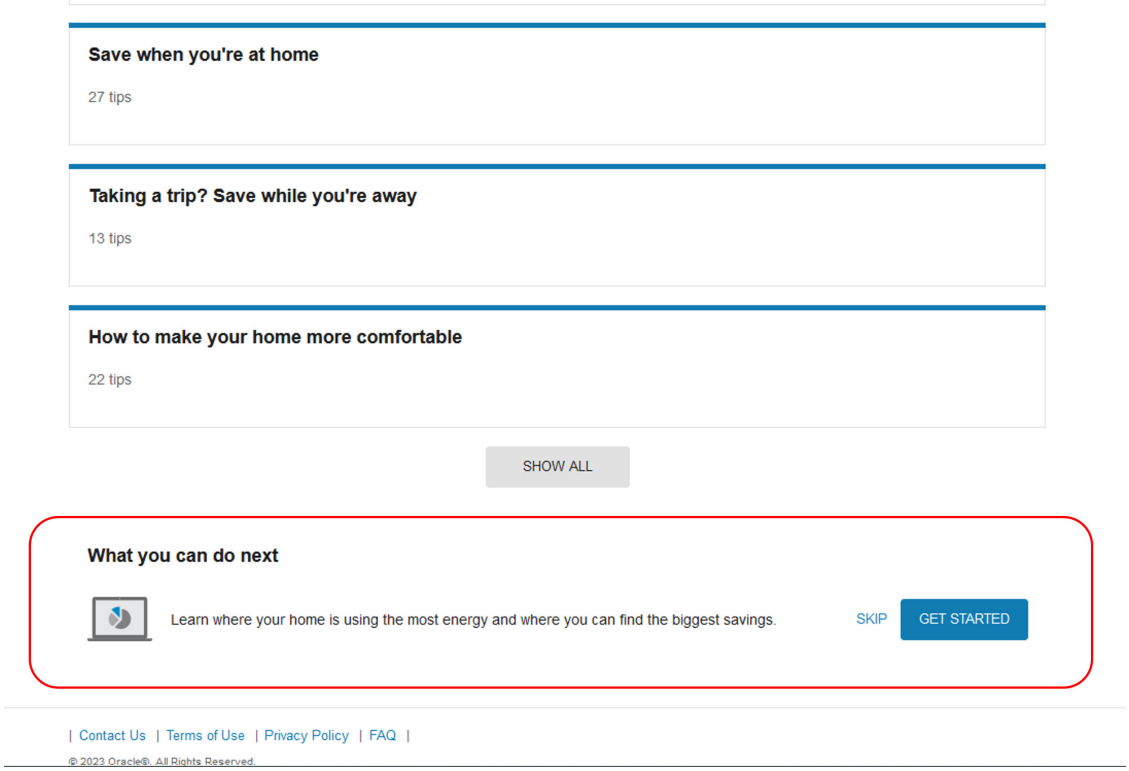
Tip Actions

Tip actions allow customers to save a tip or mark a tip as completed. Customers can view all saved tips and all completed tips in separate tip guides. The number of other utility customers who have completed the tip is displayed to encourage the customer to also complete the tip. If a customer is viewing Ways to Save without being logged in to their account, the customer is prompted to log in to their account to complete any tip actions.



Next Best Action

A Next Best Action banner can be displayed at the bottom of Ways to Save to give customers next steps to lower their energy use. Customers can select Skip in the message to see the next best action, or follow a link to more information.



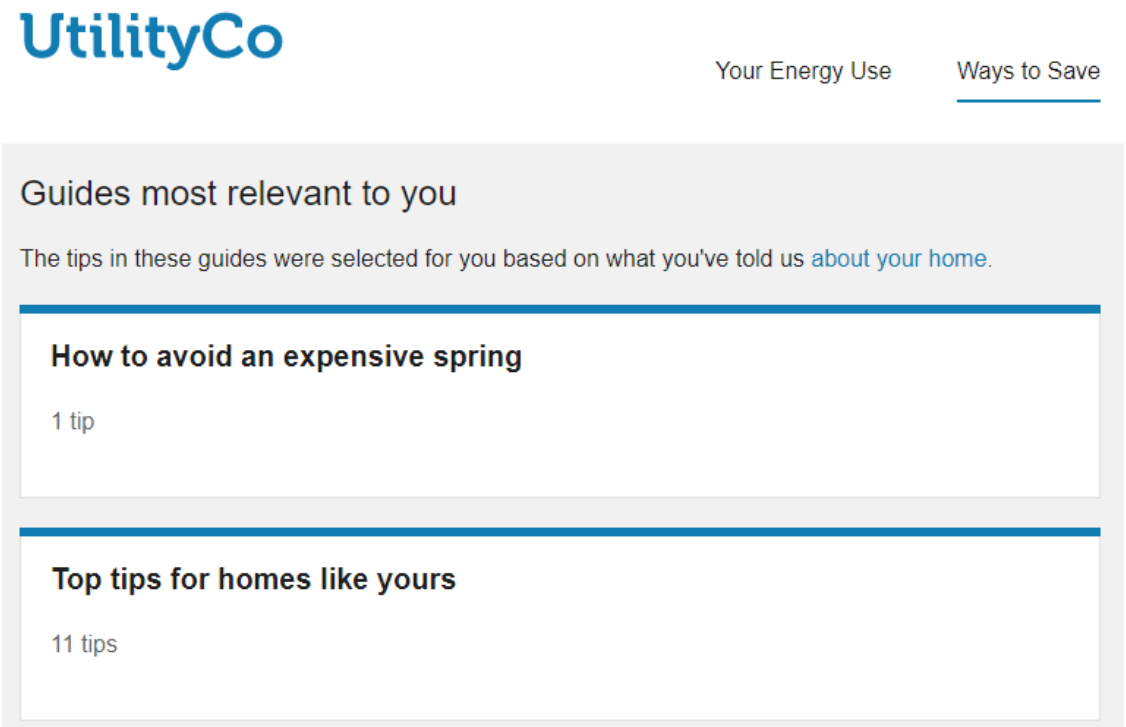
For example, the suggested actions could include taking the Home Energy Analysis survey, using the Rate Comparison, signing up for alerts, and so on.

> **Note**
>
> The Next Best Action banner requires some setup and configuration before it can be displayed. Contact your Delivery Team to coordinate.

User Experience Variations

Home Energy Analysis Completed

A message is displayed just above the tip guides to customers who have completed the Home Energy Analysis survey. This message explains that the tip guides were selected based on the customer's responses to the survey, and provides a link to their Home Energy Analysis energy use breakdown.



Locale

If the customer lives in a non-US locale, the Ways to Save feature will display locale-appropriate language and units of measure. In addition, the tip library will likely vary based on the heating and cooling types available, the common appliances used in the locale, and so on.

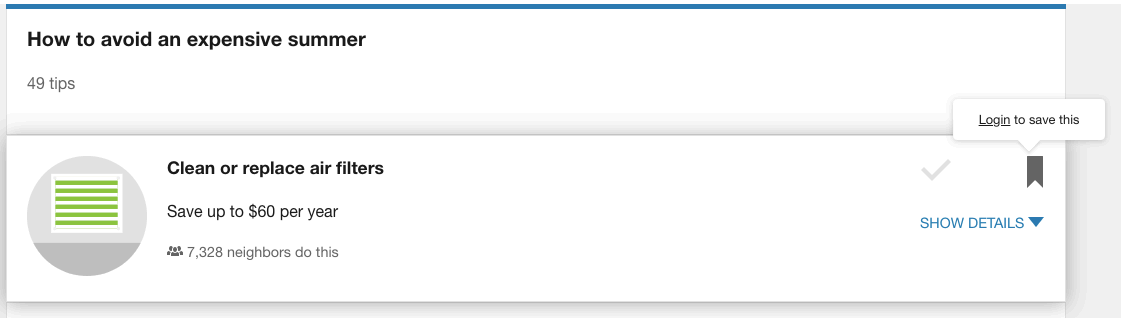
Multiple Accounts and Service Points

If a customer has multiple accounts, then the customer can view tips for a different account by clicking an account selector hosted on the utility website. All embedded widgets are then reloaded with data for the specified account.

If a customer has one service point for electricity and one for gas associated with their account, then the Ways to Save widget behaves as expected. The tips are prioritized based on the customer's account or premise rather than individual service points. The user interface does not display a menu for switching between service points.

Unauthenticated Experience

Customers can access Ways to Save without logging in to their account. Tip Filtering is not applied in this case, which means that all tip guides available for a utility are displayed to the customer. Customers viewing this experience are prompted to log in if they attempt to save a tip or mark it as completed.



Calculations

Intelligent Tip Targeting

The tips in Ways to Save are selected, ordered, and displayed for customers based on a programmatic process called Intelligent Tip Targeting. This process uses a series of logic and rules to filter, prioritize, and select the tips for display. See Intelligent Tip Targeting for more information.

Tip Heating and Cooling Disaggregation

The tips a customer receives are sometimes influenced by a proprietary heating and cooling disaggregation algorithm that Oracle Utilities Opower uses to estimate a breakdown of how much energy a customer consumes related to heating and cooling, based on local weather and AMI data. This breakdown, in turn, affects the weight that each tip has, which in turn affects how highly prioritized each tip is relative to other tips.

For example, customers who live in warm climates are more likely to lean heavily on air conditioning to cool their homes. They are therefore more likely to see tips related to air conditioning. As another example, if it looks like customers are spending a high amount of gas in the summer, then greater weight and priority will likely be assigned to gas-related tips.

Ultimately, the heating and cooling disaggregation informs the tip targeting process and generally results in tips that are better suited to the customer's context. It is especially useful for customers those who live in vastly different climate zones.

> **Note**
>
> The heating and cooling disaggregation is only available for utilities that meet the relevant customer data requirements, such as having weather data and AMI-level data.

Tip Savings Estimates

Many tips contain an estimate of how much money a customer could save by completing the tip. To calculate these estimates, Oracle Utilities Opower conducts extensive research across

many government, academic, and non-profit sources of energy information, and then derives a set of proprietary tip-saving formulas. If necessary, utilities can work with their Delivery Team to discuss whether the tip savings estimates can be replaced with estimates of their own.

Green Button

The Green Button allows customers to export their billing data into CSV or XML format. It is typically located beneath the Data Browser. When a customer clicks the Green Button link, a **Download my data** section displays and allows the customer to choose between downloading their data in CSV or XML format. Customers can use this capability to review their data in a spreadsheet program, or send their data to third parties for use in some type of analysis software.

Requirements

Utility Requirements

Same as listed in the Requirements and Limitations.

Customer Requirements

Category	Description
Billing Frequency	Monthly, bi-monthly, and quarterly.
Data Delivery Frequency	Daily, monthly, bi-monthly, and quarterly.
Data Requirements	**Billing Data**: Billed usage data from the utility is the minimum data requirement. **AMI Data**: AMI data is required for additional download options to appear. AMI data requires the Digital Self-Service Energy Management AMI cloud service. See Getting Started for details. **Rates Data**: The Rates Engagement cloud service must be purchased and customers' rates must be modeled for cost values to display for interval AMI data reads in the exported file. **Enhanced Solar Data**: Utilities must be on the latest data transfer specifications in order for Solar Data and Multi-Register Meters IMPORT and EXPORT columns to display in the exported file. Your Delivery Team will work with you to identify which data transfer specifications you need.
Data History	At a minimum, one historical bill is required for customers who do not have AMI data. For customers who have AMI data, a minimum of one read (that is, one day of data) is required.
Data Coverage	Not applicable. Missing or null reads are marked as such in the downloaded file.
Supported Fuels	Gas, electricity, and dual fuel. Customers can only export the data relevant to their service types. Water and wastewater are also supported when integrated as part of Digital Self Service - Transactions.

Limitations

- **Supported Resolutions**: The Green Button feature cannot support 5-minute data reads in its downloadable files.
- **Multilingual Limitations**: The CSV data download is available for US English, non-US English, and non-English languages. The XML data download is available for US English clients only.
- **Comparison to Green Button Connect**: The Oracle Utilities Opower Green Button feature is not the same as Green Button Connect. Green Button is a solution for downloading data in XML format, whereas Green Button Connect is a solution that allows customers to make their energy data available to a third party through an API.
- **ESPI Format**: Green Button allows customers to download their data in the Energy Services Provider Interface (ESPI) format. However, the feature is not Green Button Download certified.

User Experience

This section describes the user experience for dual fuel customers who have billing data and who do not have rates modeled.

Green Button

Customers can select the **Green Button** link to download their billing or AMI data to CSV or XML formats. The link is most commonly available at the bottom of the Data Browser.

The Green Button link is based on an initiative called the "Green Button initiative," an industry-led effort to provide electricity customers with easy access to their energy usage data. The goal is for customers to be able to go to their utility website and securely download their energy usage information in a platform-neutral format (specifically, XML). Customers can then send this data to third-party web apps or developers to create visualizations or perform additional analysis.

See The Green Button for Residential Use for more information on how this data is intended to be used.

Customer Switches to AMI Data

If a customer is converted from a non-AMI meter to an AMI meter, there are variations from the standard user experience during the transition.

For each customer, there is an in-progress bill, or virtual bill, that is taken into account. This virtual bill is calculated by adding a defined number of days to the end date of the customer's most recent bill. Customers can download the virtual bill using the **Export usage for a bill** period drop-down list and selecting the **Since your last bill** option.

For example, a non-AMI customer may become an AMI customer on 05/10. The last bill the customer received was on 05/03. In this scenario, a virtual bill period is created from 05/03 to 06/02. Because this customer has become an AMI customer, both the additional AMI options are available after 5/10.

In a similar scenario, the customer becomes an AMI customer on 05/10, but this customer received their last bill on 04/03. This scenario creates a virtual bill period from 04/03 to 05/03. Due to this delay in bills, another virtual bill is not created. If the customer downloads their data on 05/12 and a new bill still is not available, the standard download options for AMI customers are not available to the customer.

Download My Data

When a customer clicks the Green Button link, a **Download my data** section displays and allows the customer to choose between downloading their data in CSV or XML format. The customer can then click **Export** to download the file. Depending on which web browser they are using, they may be prompted to save the file to their desktop rather than seeing an automatic download to their Downloads folder.

Download My Data - AMI Experience

Customers with AMI data have additional data download options. One option is that customers can download data for a specific bill period from a drop-down list.

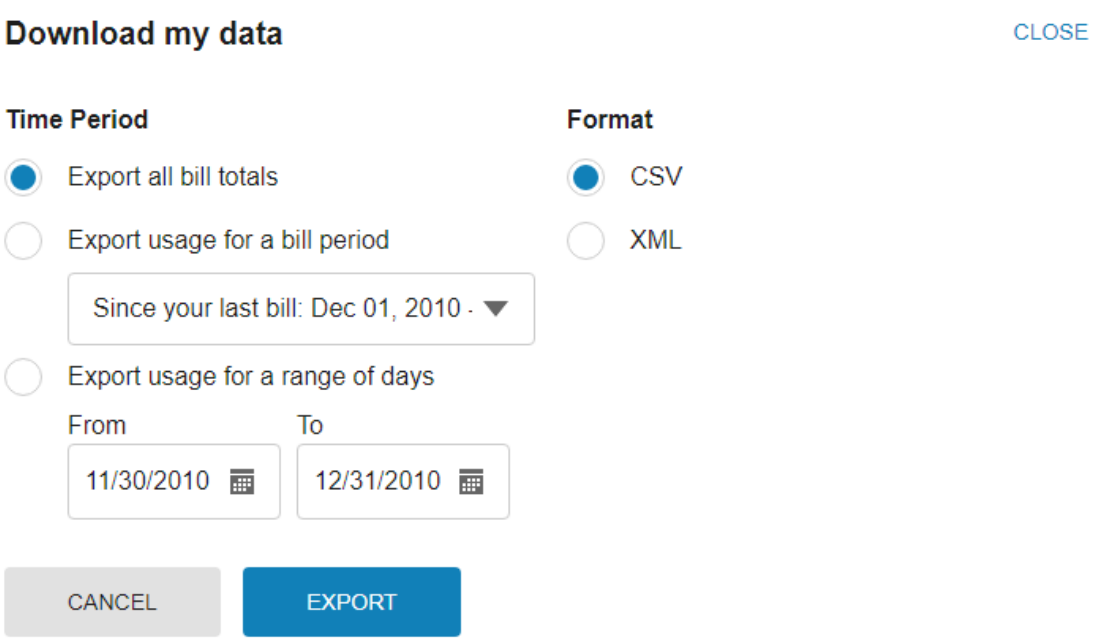
For example, if a customer has historical bills going back three months, then the customer might see a list of bill periods like the following:

- Dec 21, 2024 - Jan 22, 2025
- Nov 20, 2024 - Dec 21, 2024
- Oct 22, 2024 - Nov 20, 2024

The customer can then choose from the list to export data for the selected date range.

If a customer has multiple service agreements, each with slightly different start and end dates, then the date range for a given period displayed in the drop-down list will encompass the dates for all available service agreements. For example, imagine a customer who has two service agreements, one for gas and one for electricity. The gas bill period is Oct 21 - Nov 20 while the electricity bill period is Oct 22 - Nov 22. In this case, the date range shown in the Export usage for a bill period menu might be Oct 21 - Nov 22 to cover the date ranges of both service agreements. When the file is downloaded, however, the customer will see a .zip file that contains a separate CSV or XML file for each fuel type, and the data in the file will have slightly different start and end dates.

Customers can also select **Since your last bill** to view energy usage and costs that have not yet been included on a bill. By default, up to 30 days of in-progress billing data can be downloaded, which can be configured to align with the length of a customer's billing cycle. Alternatively, a start and end date can be selected to define the range of days.



Downloaded Files

The contents and structure of the downloaded file depend on whether the customer has billing or AMI data, and on which download options the customer has selected in the Download My Data screen.

> **Note**
>
> Green Button supports the download of data in units of measure that are applicable for the customer's resource types. For information on the units of measure supported by Oracle Utilities, see the Oracle Utilities Opower *Premise Data Transfer specification* .

CSV File Structure

If the customer chooses to export their data in CSV format, then the .zip file contains one or more applicable CSV files—one for each resource type that is applicable for the customer (gas, electricity, water, or wastewater). The screenshot below is an example of a downloaded CSV file showing monthly electric billing data.

	A	B	C	D	E	F	G	H	I	J
1	Name	First_Name Last_Name								
2	Address	760 MARKET ST 61f4, SAN FRANCISCO CA 94103								
3	Account Number	123456789								
4	Service	Service 1								
5										
6	TYPE	START DATE	END DATE	USAGE	UNITS	COST	NOTES			
7	Electric billing	2/28/2020	3/29/2020	1027.9	kWh	$1,027.90				
8	Electric billing	3/29/2020	4/28/2020	771.41	kWh	$771.41				
9										
10										
11										

The columns in the CSV file are defined as follows:

- **Name**: The customer's first and last name.
- **Address**: The address of the premise or property associated with the customer.

- **Account Number**: The customer's utility account number.
- **Service**: The ID of the customer's service agreement with the utility. Alternatively, this field may display a nickname for the service agreement. There is some logic in the widget to determine which value to show. A nickname will be shown if one is available. If a nickname does not exist, then the widget looks for the service agreement ID.

> **Note**
>
> The downloaded file currently cannot show service point IDs. It can only show the service agreement ID or nickname—even if a customer opens the Bill or Day view of the Data Browser, selects an individual service point, and downloads a file.

- **TYPE**: The type of billing data, such as electricity, gas, or water billing.
- **START DATE**: The bill start date.
- **END DATE**: The bill end date.
- **USAGE**: The energy use value. In some cases, this may show blank values. For example, if a customer has AMI data, but selects a date range that does not have any data, then blank values will appear in the USAGE column. If a customer has sub-daily data for one fuel but only daily data for another fuel, the start and end time columns are left blank for the daily data.
- **UNITS**: The applicable unit of measure for the resource type, such as therms or kWh.
- **COST**: The cost of the bill. This is the total bill cost, not a value from the Rate Engine.
- **NOTES**: This column displays the statement, "* This <bill or read> was estimated" when applicable. Otherwise it is left blank. An estimated read is an approximate energy or resource use amount calculated based on what a customer has consumed in the past, rather than what the customer has consumed in the present billing period.

The downloaded spreadsheet may have additional columns for customers with multi-register meters and solar technology. See Solar Data and Multi-Register Meters below for details.

XML File Structure

If the customer chooses to export their data in XML format, then the .zip file contains one or more XML files, one for each resource type that is applicable for the customer (gas, electricity, water, or wastewater). The XML file includes the customer's address and usage information. Contact your Delivery Team if you need assistance understanding the structure of the XML file.

User Experience Variations

Demand or Reactive Power

If a customer has demand or reactive power data related to their electricity use, that data is available for download.

Multiple Billing Accounts and Service Points

If a customer has multiple billing accounts, the customer can download a file for each account. However, the feature does not display a menu for switching between accounts. Customers must switch by clicking an account selector hosted on their utility's website.

The contents of the file will vary depending on what is selected in the Data Browser. Examples include:

- In the **Year** view of the Data Browser, customers can see data for a specific fuel at the service agreement level. This means that if they click Green Button to download their usage, the downloaded file contains data at the service agreement level for whichever fuel they selected.
- In the **Bill** and **Day** views of the Data Browser, customers can see data at the service point level if they have multiple service points associated with the same service agreement. This means that if they click Green Button to download their usage, the downloaded file contains data at the service point level. However, note that the service agreement ID (and not the service point ID) is what will be listed in the downloaded file.
- If a customer has two fuels, they can download data separately for their gas and electricity usage. If a customer has two or more service points of the same fuel type (for example, a customer with one for regular electric usage and one for an electric vehicle) and clicks to download data, then a zip file is generated containing a CSV or XML file for each service point.
- If a dual fuel customer is in the combined view in the Data Browser and clicks to download data, then a zip file containing two CSV or XML files is generated: one file for electricity and one file for gas.

Resources, AMI Data, and Cost Data

The table below provides the user experience variations depending on the number of fuels or resources, the availability of AMI data, and whether or not the customer has modeled rates. For example, customers with daily AMI data and rates modeled will see daily cost values. Customers with subdaily AMI data and rates modeled will see cost values broken down into the appropriate intervals, such as per hour, half hour, or quarter of an hour. Customers with these same levels of AMI data but without rates modeled cannot see the cost values, but instead can view the energy use values at the same data intervals. The table below lists these and other possible user experience variations.

Customer Scenario	User Experience
Fuels: Single. **Available Data**: Billing data. **Rates Modeled?**: No.	• Customer can choose to export their data in CSV or XML format. • Single CSV or XML file downloads. • Downloaded file contains billing data.
Fuels: Single. **Available Data**: Billing and AMI data. **Rates Modeled?**: No.	Customer can choose to export their data in CSV or XML format. **CSV** • Customer can choose to export billing data. • Customer can choose to export AMI data for a range of days. • Customer can choose to export AMI data for specific billing periods. • Single CSV file downloads and contains either billing or AMI data. **XML** • Customer can choose to export billing data. • Customer can use a more flexible date picker to export AMI data for specific days. • Single XML file downloads and contains either billing or AMI data.

Customer Scenario	User Experience
Fuels: Single. **Available Data**: Billing and AMI data. **Rates Modeled?**: Yes.	Customer can choose to export their data in CSV or XML format. **CSV** • Customer can choose to export billing data. • Customer can choose to export AMI data for a range of days. • Customer can choose to export AMI data for specific billing periods. • Single CSV file downloads and contains either billing or AMI data. • CSV file with AMI reads contains cost information for each read. **XML** • Customer can choose to export billing data. • Customer can use a more flexible date picker to export AMI data for specific days. • Single XML file downloads and contains either billing or AMI data. • XML file with AMI reads contains cost information.
Fuels: Multiple. **Available Data**: Billing data. **Rates Modeled?**: No.	Customer can choose to export their data in CSV or XML format. **CSV** • Customer can choose to export billing data. • Single .zip file downloads and contains separate CSV files for electricity, gas, water, and wastewater as applicable. • Downloaded files contain billing data. **XML** • Customer can choose to export billing data. • Single .zip file downloads and contains separate XML file for electricity, gas, water, and wastewater as applicable. • Downloaded files contain billing data.
Fuels: Multiple. **Available Data**: Billing and AMI data. **Rates Modeled?**: No.	Customer can choose to export their data in CSV or XML format. **CSV** • Customer can choose to export billing data. • Customer can choose to export AMI data for a range of days. • Customer can choose to export AMI data for specific billing periods. • Single .zip file downloads and contains separate CSV file for electricity, gas, water, and wastewater as applicable. **XML** • Customer can choose to export billing data. • Customer can use a more flexible date picker to export AMI data for specific days. • Single .zip file downloads and contains separate XML file for electricity, gas, water, and wastewater as applicable.

Customer Scenario	User Experience
Fuels: Multiple. **Available Data**: Billing and AMI data. **Rates Modeled?**: Yes.	Customer can choose to export their data in CSV or XML format. **CSV** • Customer can choose to export billing data. • Customer can choose to export AMI data only for a range of days. • Customer can choose to export AMI data for specific billing periods. • Single .zip file downloads and contains separate CSV file for electricity, gas, water, and wastewater as applicable. • CSV file with AMI reads contains cost information for each read. **XML** • Customer can choose to export billing data. • Customer can use a more flexible date picker to export AMI data for specific days. • Single .zip file downloads and contains separate XML file for electricity, gas, water, and wastewater as applicable. • XML file with AMI reads contains cost information.

Solar Data and Multi-Register Meters

The downloaded spreadsheet may have additional columns for customers with multi-register meters and solar technology. This is because multi-register meters can provide more details about energy use within an interval of time, such as the amount of energy consumed from the grid, as well as the amount sent back to the grid due to solar power.

When support for multi-register meter customers is enabled, the downloaded spreadsheet displays columns for IMPORT (energy consumed from the grid) and EXPORT (energy sent back to the grid). The spreadsheet also displays columns for the start and end time of each interval if the customer has subdaily AMI data.

The image below shows an example output for the **Export All Bill Totals** option in the download menu.

TYPE	START DATE	END DATE	IMPORT	EXPORT	UNITS	COST	NOTES
Electric billing	8/27/19	9/25/19	656	884	kWh	$9.52	
Electric billing	9/25/19	10/27/19	674	902	kWh	$9.56	
Electric billing	10/27/19	11/25/19	1414	414	kWh	$131.47	
Electric billing	11/25/19	12/25/19	2062	186	kWh	$243.17	
Electric billing	12/25/19	1/25/20	2094	218	kWh	$247.72	
Electric billing	1/25/20	2/24/20	1785	448	kWh	$196.87	
Electric billing	2/24/20	3/25/20	1117	868	kWh	$85.08	
Electric billing	3/25/20	4/26/20	937	938	kWh	$60.92	
Electric billing	4/26/20	5/26/20	521	1320	kWh	$9.95	
Electric billing	5/26/20	6/24/20	388	1264	kWh	$9.96	
Electric billing	6/24/20	7/26/20	596	0	kWh	$9.97	
Electric billing	7/26/20	8/25/20	545	0	kWh	$9.96	
Electric billing	8/25/20	9/26/20	504	0	kWh	$15.24	

Requirements

- Customers must have multi-register meters.
- The Account, Billing, and Premise data feeds must be established.
- Some additional configuration is required to enable the IMPORT and EXPORT columns. Contact your Delivery Team for details.

Five-Minute Data Reads

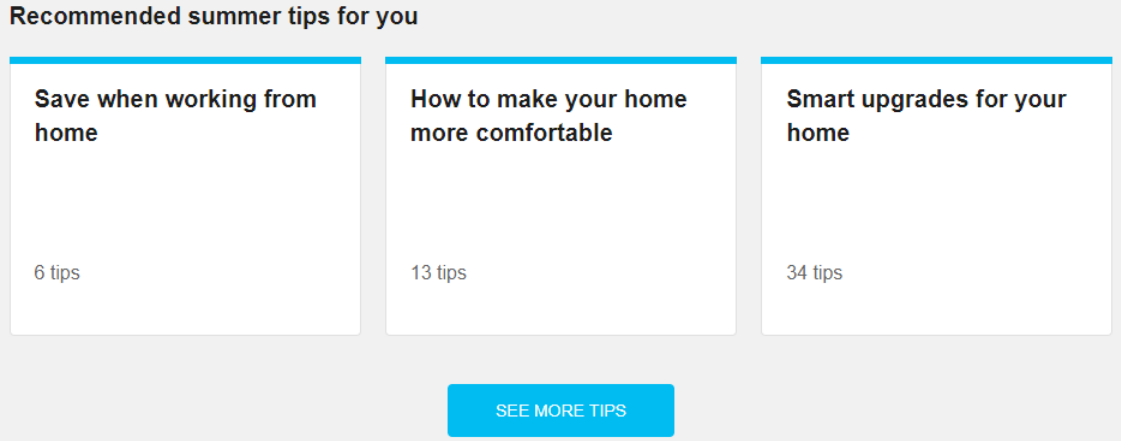
For customers with five-minute AMI data resolution, the downloaded file may show rows for each five-minute usage read. This allows for a more granular view of a customer's subdaily usage.

Five-minute AMI data is required for this experience, and some additional configuration is needed. Contact your Delivery Team for more information.

Tips Light

Tips Light displays the top three tip guides for the customer's household. These tip guides promote customer interest in tips and lead them to more detailed tip information. The Tips Light widget usually appears on the Smart Dashboard.

Selecting a tip guide sends customers to the Guide Details widget. A **See More Tips** button appears below the tip guides. Selecting this button sends customers to the Ways to Save landing page.



Resources

The following resources are available for customers to access and review as needed. Links to these resources can be included in a footer that is displayed on all pages.

Help and Contact Information

Oracle Utilities develops Frequently Asked Questions (FAQs) drawn directly from customer feedback. The list is kept small so that customers can quickly find the information that they need.

Customers who cannot find the answer to their questions in the provided FAQs can use the contact information to contact the utility. The contact information is specified by the utility.

Terms of Use

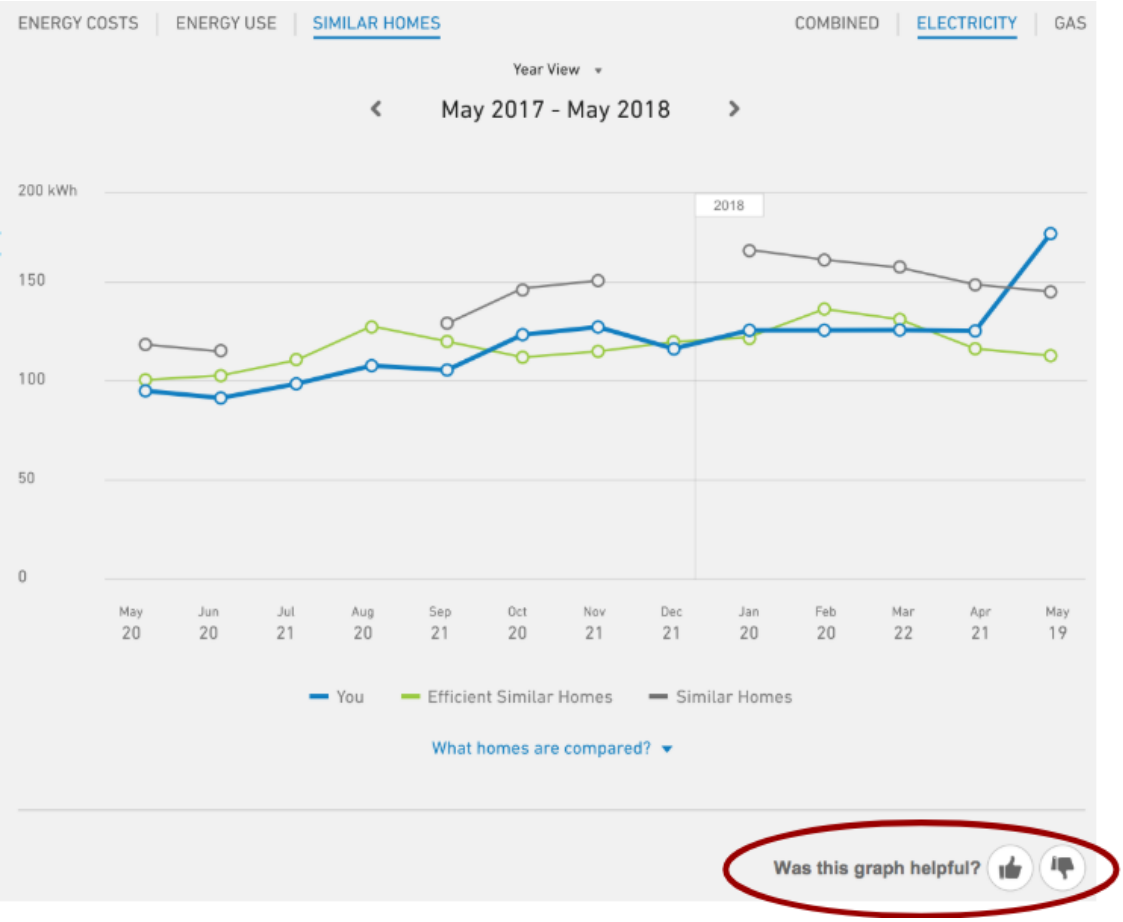
The customer must agree to the Oracle Utilities Terms of Use before creating an account.

Privacy Policy

The Privacy Policy is available to all customers.

Customer Feedback

The Customer Feedback module can be added to certain widgets to gather input from users and support product improvements. Typically this module is displayed at the bottom of a widget.



Supported Widgets: The module can be displayed on supported widgets. Supported widgets include the Data Browser, Bill Comparison, Bill or Usage Forecast, and Home Energy Analysis. Depending on each utility's setup and configuration, some of these widgets may or may not be available. Contact your Oracle Utilities Opower Delivery Team if you need more information.

The Customer Feedback module is displayed by default on each supported widget except for the Data Browser. In order to enable the module on the Data Browser, utilities must coordinate with their Delivery Team.

Icons and Statement: The module displays icons and a statement such as, "Was this information helpful?" The exact wording will vary based on the content of the widget and each utility's configuration. For example, the module may include statements like the ones below:

- Did this graph have what you're looking for?
- Did you understand this graph?
- Did this graph have accurate information?
- Did this graph help you understand your energy use?
- Did this graph help you understand your energy costs?
- Was this graph useful?
- Did you get any helpful insight from this graph?
- Was this information helpful?

Customers can select one of the available icons to respond to the statement. The customer's choice is logged, and the module displays a message thanking the customer for their

feedback. This message is displayed for a short period of time before being hidden from view. The feedback module is then hidden for that widget, and for the customer who provided their feedback.

Module Display: The local storage of a customer's browser is used to determine if the feedback module is displayed in a given widget. If a cookie exists for a customer's feedback for a widget, then the feedback module is hidden from view for the customer for that widget. However, the module is displayed if a cookie is not present in the customer's browser, which can occur in situations such as:

- The browser storage has been cleared and the applicable cookie is removed.
- The customer uses a different browser on the same device which does not yet have a feedback module cookie.
- The customer uses a different device which does not yet have feedback module cookies for its browsers.

These scenarios allow customers to provide feedback for a widget multiple times. Clearing browser storage could be used by a customer to provide new feedback on a widget after an updated version of a widget is provided, which may change a customer's experience and satisfaction with a widget.

Providing Customer Support

Customer Service Representatives (CSRs) with the proper permissions have the ability to access customer web accounts in the Oracle Utilities Opower web portal from a link in the Oracle Utilities Opower Customer Service Interface. CSRs are prompted to confirm that they have permission from the customer to view the account.

After logging in, the web portal appears to the CSR much like it does to the customer. If a customer has a question about the web portal or their usage, this allows the CSR to reference what the customer can see. The only differences are that a CSR cannot modify the customer's email address or password.

CSRs can access the web portalfor every utility in the Oracle Utilities Opower program, regardless of whether the customer has created a web account. If a CSR and customer are making modifications at the same time, the changes are preserved for the last person that commits their changes.

See the Oracle Utilities Opower Customer Service Interface - Program Management Product Overview for more information.

5

Video Home Energy Reports

Video Home Energy Reports are short, personalized videos sent through the email channel to inform utility customers about their home energy use or a utility energy efficiency program. The emails include a video thumbnail and link to the video. The video can include personalized information and insights, such as details about the customer's energy use and how they can save energy in the future. The video experience is highly customized and varies widely depending on the utility's goals, setup, and implementation.

Requirements and Limitations

The following data requirements and limitations apply to all utilities and customers in the Oracle Utilities Opower Video Home Energy Report program. These requirements must be met for a utility and a customer to participate in the program.

Utility Data Requirements and Limitations

- **Scale**: Scale restrictions may apply. The actual number of communications sent may be affected by attrition, opt-outs, customer eligibility, and data availability.
- **Localization**: Not all languages and locales are supported at this time. Contact your Oracle Utilities Sales Representative to confirm that Oracle Utilities Opower Video Home Energy Report are available in your market.
- **Data Integration**: Data must be sent to Oracle Utilities in the correct schema and at the appropriate frequency. See the Oracle Utilities Opower Legacy Billing Data Transfer Standards for details.
- **Billing Frequency**: The utility must bill their customers on a monthly, bi-monthly, or quarterly basis.

Customer Data Requirements and Limitations

- **Customer Type**: The customer must be residential.
- **Data History**: The required data history Varies depending on the content, configuration, and design of the video. For example, at least one bill period of billing data history is required if the video compares customer's energy use to that of their neighbors.
- **Billing History**: The required billing history varies depending on the content, configuration, and design of the Oracle Utilities Opower Video Home Energy Report. For example, billing data is required if the video compares customer's energy use to that of their neighbors. However, there are no data requirements if the video does not contain data-driven insights.
- **Contact Information**: The customer's current email address must be available.
- **Supported Devices**: Oracle Utilities supports email clients that may be native to a specific device, such as the installed email client on the iPhone 6, as well as email client applications that may be accessed from any device or computer. Oracle Utilities supports and optimizes for the following email clients to view the Oracle Utilities Opower Video Home Energy Reportemail:
  - iPhone internal email client (iOS 10.0 and greater)

- iPad internal email client (iOS 10.0 and greater)
- Apple Mail (Mac OS X 10.10 and greater)
- Android internal email client
- Microsoft Outlook (2010 and greater)
- Outlook.com
- Yahoo! Mail
- Gmail.com
- Samsung Mail

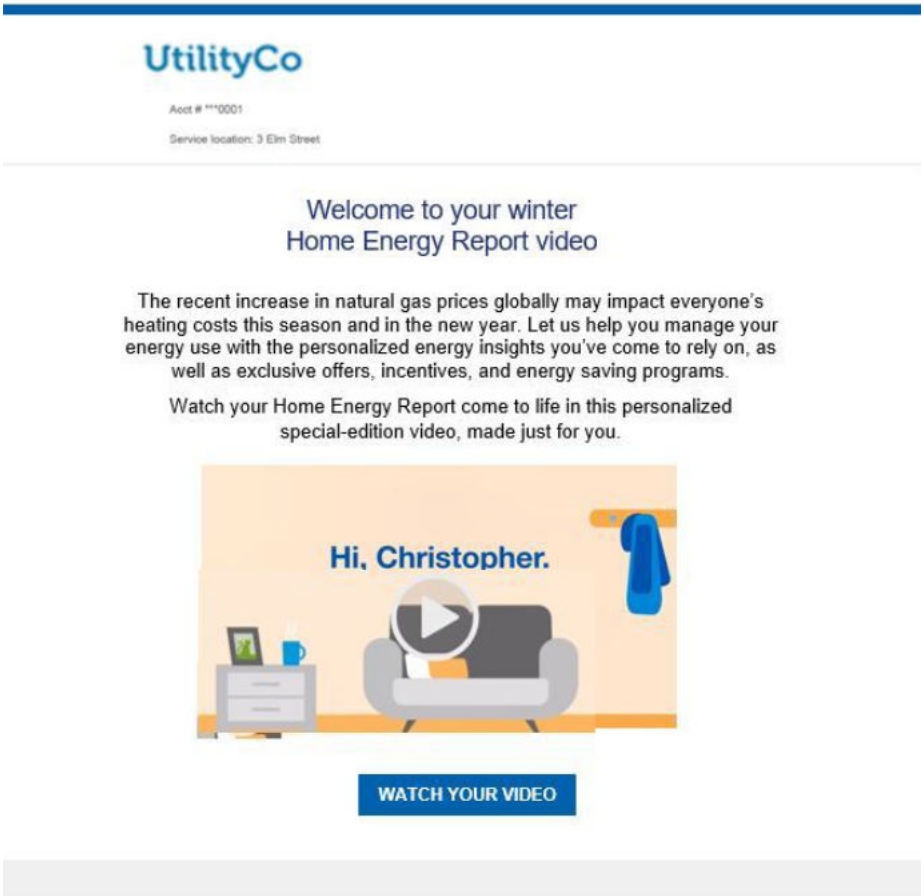
For email clients that support multiple versions operating at the same time (for example, Apple iOS10 on iPhone5 or Microsoft Outlook 2010, 2012, and 2013), Oracle Utilities generally supports the most current major release as well as a number of previous major releases. For email clients that only provide a single version (for example, Gmail.com), Oracle Utilities supports the currently available version. Other email clients are not officially supported or tested by Oracle Utilities. Customers viewing Email Home Energy Reports on unsupported devices or applications may see user experience variations in their reports.

Customer Experience Overview

The Video Home Energy Reports include an email inviting customers to view their video, a landing page that hosts the video, and a short, personalized video that the customer can watch to learn about an aspect of their program.

Email

The first part of the Video Home Energy Report user experience that the customer interacts with is an email inviting them to view their video report. The email tells the customer what they can expect to see in the video and invites them to go to the video landing page where they can view the video and learn more. The email is highly customized and varies widely depending on the utility's goals. The following example is a video email communication for a report focused on adopting a new technology.



Header: The report headers appear at the top of each communication. It includes the following:

- **Logo**: A logo provided by the utility.
- **Utility Account Number**: The customer's utility account number is displayed. For security purposes, only four characters of the account number are shown, and the rest of the numbers are replaced with asterisks (**).
- **Service Location**: The service location to which the video report applies. This information is especially helpful to customers who own multiple properties.

Body: The email body identifies the purpose of the email and prepares the customer for what they will see in their video report. The body includes the following:

- **Title**: The title identifies the focus of the video report.
- **Body Text**: The body text informs the customer that they can access their personalized energy insights access offers and programs designed to help them save energy and money.
- **Video thumbnail**: An image of the video provides a colorful introduction to the video report experience.
- **Call to Action**: The call to action button redirects the customer to a page where they can view the full video. For security purposes, this link expires after 180 days.

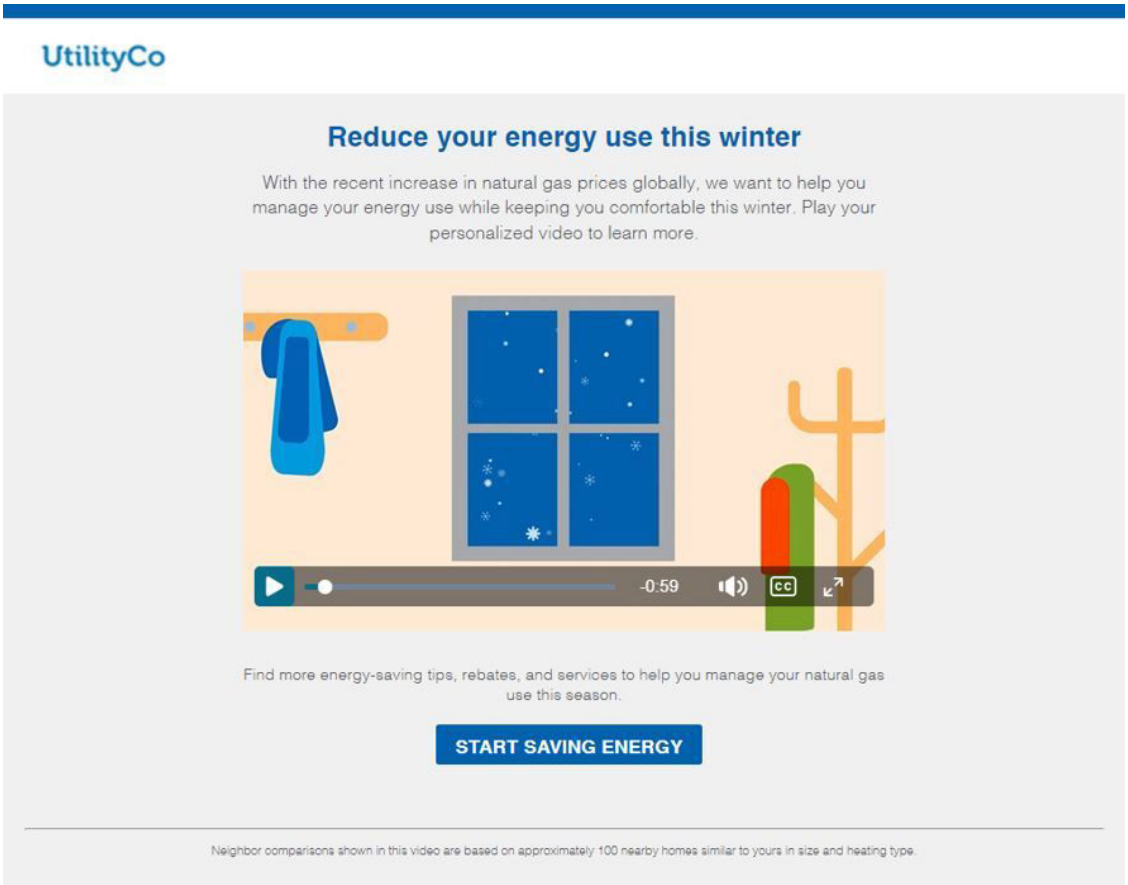
Footer: The footer is included at the bottom of every report and includes components that provide more context about the report. The footer includes the following:

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

- **Unsubscribe**: A link to a page where customers can unsubscribe. An unsubscribe link must appear due to CAN-SPAM regulations in the US and similar regulations abroad. The URL the unsubscribe link points to cannot be customized.
- **Legal Text**: This is the copyright and any other legal text required by the utility or Oracle Utilities Opower.

Landing Page

The landing page hosts the full video email report. It includes a link to the utility's web portal where customers can access additional information about the utility program featured in the report.



Header: The header appears at the top of the landing page and includes the utility logo and any relevant branding colors.

Heading: The landing page heading emphasizes the main benefit of the report to the customer. For example, "Conserve energy and save money this winter."

Video: See the Video section for more information.

Call to Action: The call to action echoes the theme of the video and redirects the customer to the utility web portal where they can access additional resources.

Footer: The footer is included at the bottom of the bottom of the landing page. The footer includes the following:

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

- **Explainer Text**: The explainer text describes what data goes into the personalized insights included in the video.

Video

The final piece of the report is a personalized video designed to engage utility customers about a utility program. For example, the video could promote energy efficiency programs, rebates, or new technology. The following example is for a video focused on customer's energy use.

The video is made up of several customizable scenes that vary depending on the featured utility program. For example, a video focused on energy efficiency could include the following video scenes:

Customer Welcome: A fully personalized welcome message greets the customer by their first name.

Utility Goals: This scene tells the customer why their utility is providing them with the video insights. For example, "[Utility] wants to help you be comfortable while saving energy and money, so that together we create a better, cleaner energy future."

Personalized insights: A series of personalized insights provide the customer with information about their energy use and how they fit into the video theme. For example, a video report with a winter seasonal focus might include data about the customer's heating use and how it compares to their neighbors.

Tips: This gives customer relevant tips designed to help them lower their energy use and save money. For example, in a video report with a winter seasonal focus, the first tip is dedicated to saving on heating. Personalized tips can be offered if sufficient data is available.

Call to Action: The video ends with a call to action message that encourages the customer to take advantage of their utility's energy efficiency programs. An arrow icon redirects the customer to the utility's website where they can learn more.

Delivery

Oracle Utilities Opower uses their email platform to send email reports. This platform provides Oracle Utilities with information on send, bounces, opens, opt-outs, unsubscribes, and click-throughs. Oracle Utilities does not track the web behavior of a customer after they have clicked on a link in the 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.

Delivery Cadence

Oracle Utilities supports the following delivery frequencies for email: monthly, quarterly, and seasonally. Because the reports are generated from data from the latest utility bill for each customer, the delivery cadence will depend on each customer's billing dates and the program design specified in your statement of work.

Delivery Options

Email reports are typically sent on Friday afternoons so that customers will have time to review the reports over the weekend. However, delivery may be configured for days other than Friday. Ask your Service Delivery Manager which delivery options are best suited to your program.

Enrollment

Customers can be enrolled to receive Oracle Utilities Opower Video Home Energy Report through an opt-in or opt-out program. In an opt-in program, customers are given the option to sign up, rather than being automatically enrolled. In such cases, customers can sign up for Email Home Energy Reports by using settings available in the Energy Efficiency Web Portal. In an opt-out program, customers are automatically enrolled if they meet the eligibility criteria.

6

Inside Opower

The Energy Efficiency Cloud Service 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.

7

Customer Service Interface - Program Management

The Energy Efficiency Cloud Service includes access to 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.