Oracle Utilities Opower Load Shifting Cloud Service, Electric Vehicle

Load Shifting, Electric Vehicle Product Overview

Latest Release
G23065-04
January 2025

ORACLE

Oracle Utilities Opower Load Shifting Cloud Service, Electric Vehicle Load Shifting, Electric Vehicle Product Overview, Latest Release

G23065-04

Contents

3 EV Load Shifting Insights in Weekly Energy Update Emails

1

Getting Started

The Oracle Utilities Opower Load Shifting Cloud Service, Electric Vehicle is part of Opower's solution for managing daily grid load for utilities. This service provides features that deliver insights to customers that educate them about when to charge their vehicle and motivate them to change their charging patterns accordingly.

The transition to electrified vehicles (EVs) is rapidly increasing, and utilities must figure out how to manage the charging behavior of EV owners. Given the increase of extreme temperatures that strain the grid, intermittent supply-side capacity, and the proliferation of EVs, it's imperative that EVs are not adding to grid load at times when the grid is strained by other high-demand end uses, such as air conditioning, which are considered non-negotiable.

At the same time, EV customers want to maintain their independence and have the ability to charge their cars where and when they please. EV customers are wary of situations where they can't get somewhere important, such as work, the hospital, or starting a road trip, because their car wasn't charged. Additionally, EV customers might want to reduce the cost of charging their car, but only to the extent that it doesn't cause inconvenience, and only if they understand how their rate or charging program works.

Utilities must keep the electric grid reliable and affordable as this transition takes place, while also keeping their customers satisfied. The Load Shifting Cloud Service, Electric Vehicle features can help:

- Reduce grid peaks by reducing EV charging during certain peak times.
- Avoid creating secondary peaks caused by time-of-use (TOU) rate schedules by getting EV drivers to stagger their charging throughout off-peak hours.
- Increase customer satisfaction for EV customers.
- Provide coaching that helps both TOU and non-TOU customers understand their rates and charging programs.
- Customers save money through avoided procurement costs.

The following components are available in this service:

- EV Charging Coach Emails
- EV Load Shifting Insights in Weekly Energy Update Emails

2

EV Charging Coach Emails

The Electric Vehicle (EV) Charging Coach Email feature includes a series of emails sent to customers on Time of Use (TOU) rate plans who charge electric vehicles. The emails are intended to educate customers about how they can shift or stagger their EV charging to support the grid and save money on their electric bill.

In this chapter:

Requirements and Limitations for EV Charging Coach Emails

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

Utility Data Requirements

Utilities must meet the following criteria:

- **Rate Modeling or Rate Engine Plus:** In order for the platform to support utility-specific rates, an intensive rates modeling and configuration process is necessary.
- **Required Cloud Services:** Oracle Utilities Opower Load Shifting Cloud Service, Electric Vehicle and one of the following:
  - Oracle Utilities Opower Load Shifting Cloud Service, Rate Coach
  - Oracle Utilities Opower Proactive Alerts Cloud Service

Customer Data Requirements

Customers must meet the following criteria:

- **Billing Frequency:** Monthly or bi-monthly.
- **Electric Vehicle:** Customers much charge an electric vehicle at their residence.
- **Data Delivery Frequency:** Daily. Must be received within 48 hours from last data read.
- **Data Requirements:** Interval data (hourly or more granular). There are additional AMI data requirements to show advanced insights such as appliance-level disaggregation. Contact your Delivery Team for more information.
- **Data History:** AMI data going back to the beginning of the current billing cycle.
- **Data Coverage:** Estimated reads are not supported.

- **Fuel Type:** Electric-only or dual fuel. Note that these emails cover only the electric portion of the customer's bill and usage.
- **Meter Type:** The customer must have an AMI meter that measures whole-home usage, and not an EV-only meter.
- **Charger type:**
  - **L2 chargers:** All features are supported.
  - **L1 chargers:** Features that include disaggregation data are not supported.
- **Rate Plan:** Customers must be on a Time of Use (TOU) electric rate plan.
- **Email Address:** Customers must have a valid email address established with the utility.

Limitations

The following are known limitations:

- **Meters:** EV-only meters are not supported.
- **Solar:** Solar customers are not supported.
- **Zero Usage:** In the case when a customer hasn't used any electricity during the week, several checks are completed to determine whether to hide modules, or to fail the entire email communication. The checks are as follows:
  - **Introduction Email:** If the Hourly Usage module has 0 usage, exclude that module but send the communication.
  - **Weekly Email:** If the Hourly Usage module has 0 usage, exclude that module but send the communication.

Customer Experience for EV Charging Coach Emails

EV Charging Coach emails are designed to encourage customers who own electric vehicles to shift their EV charging to times when the grid is less strained. These emails include rate plan details, personalized energy use insights, and actionable load shifting tips to help customers save money on their energy bills.

Customers receive one of the following emails each week:

- **Introduction emails:** During the first three weeks, EV customers receive a weekly email that introduces them to the main concepts associated with EV charging.
- **Weekly Coach emails:** After the introduction emails have been sent, customers receive a standard weekly email during most weeks, except for the week when they receive their Post Bill Report email. These emails help customers understand how their EV charging impacts their bill, and provides them with insights about how they can shift or stagger their charging to save money and support the grid.
- **Post Bill Report emails:** Customers receive this email shortly after they receive their monthly bill. This email provides insights about how a customer's EV charging impacted their monthly spending, and provides insights about how they can save additional money and support the grid by shifting or staggering EV charging.

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

Introduction Emails

The EV Charging Coach experience starts with a series of three emails that are designed to welcome customers with electric vehicles to the EV charging experience, provide energy use insights, and offer tips on how to shift or stagger EV charging to reduce electricity costs.

The first week customers receive an introduction email that includes these modules, in order:

1. EV Charging Coach Subject Lines and Preview Text
2. EV Charging Coach Email Header
3. EV Hero Module
4. TOU Welcome Message Module
5. TOU 101 Module
6. TOU Hourly Usage Module
7. EV Thanks Module
8. EV Habits Module
9. EV Confirmation Module
10. EV Charging Coach Email Footer

During the second week of the EV Charging Coach program, customers receive an email that is similar to the weekly email, but also includes additional information. This is the default list of modules, in order:

1. EV Charging Coach Subject Lines and Preview Text
2. EV Charging Coach Email Header
3. EV Hero Module
4. EV Weekly Main Insight Module
5. EV Why Off-Peak Module
6. EV Confirmation Module
7. TOU 101 Module
8. TOU Hourly Usage Module
9. TOU Weekly Peak Period Disaggregation Module
10. TOU Tips Module
11. EV Charging Coach Email Footer

During the third week of the EV Charging Coach program, customers receive an email that is similar to the weekly email, but also includes the EV Best Time Off-Peak Module. This is the default list of modules, in order:

1. EV Charging Coach Subject Lines and Preview Text

2. EV Charging Coach Email Header
3. EV Hero Module
4. EV Weekly Main Insight Module
5. EV Best Time Off-Peak Module
6. EV Confirmation Module
7. TOU 101 Module
8. TOU Hourly Usage Module
9. TOU Weekly Peak Period Disaggregation Module
10. TOU Tips Module
11. EV Charging Coach Email Footer

Weekly Emails

The weekly email is delivered to customers each week as part of the EV Charging Coach email program. It provides EV charging and energy use insights, as well as tips to help the customer save money. Customers begin receiving the weekly email after they receive their three introduction emails, and they do not receive the weekly email in weeks when they receive the post bill report email.

The weekly email includes these modules, in order:

1. EV Charging Coach Subject Lines and Preview Text
2. EV Charging Coach Email Header
3. EV Hero Module
4. EV Weekly Main Insight Module
5. TOU 101 Module
6. TOU Hourly Usage Module
7. TOU Weekly Peak Period Disaggregation Module
8. TOU Tips Module
9. EV Charging Coach Email Footer

Post-Bill Report Emails

The Post Bill Report email is delivered to customers at the end of each billing period, replacing the weekly email. It includes details about how the customer's electricity costs this month compared to costs from the previous month. It also provides insights on your EV charging for the month and identifies opportunities to save more during the upcoming billing period.

The Post Bill Report email includes these modules, in order:

1. EV Charging Coach Subject Lines and Preview Text
2. EV Charging Coach Email Header
3. EV Hero Module
4. TOU Post-Bill Bill Period Comparison Module
5. EV Post-Bill Report Main Insight Module
6. TOU Post-Bill Peak Period Disaggregation Module

7. TOU Tips Module
8. Load Shifting Collective Benefit Module
9. EV Charging Coach Email Footer

Enrollment in EV Charging Coach Emails

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

Delivery of EV Charging Coach Emails

EV Charging Coach emails are regularly scheduled communications. The rules that govern delivery of these emails include:

- **Waking Hours:** Messages must be delivered during waking hours (between 9 a.m. and 6 p.m.) in a utility-specific delivery window. You cannot choose the specific time to send.
- **Weekdays:** Messages must be delivered only on business days (Monday-Friday). They cannot be delivered on weekends.
- **Weekly Cycle:** Weekly cycles begin on Monday at 12:00:00 AM (midnight) and end on Sunday at 11:59:59 PM. This is consistent with how people typically think about weekly events, and allows customers to better analyze their weekday usage compared to their weekend usage. The email is sent as close to the end of the weekly cycle as possible, depending upon when the AMI data becomes available. Weekly cycles and billing cycles are independent of one another. A weekly cycle may contain the end of one billing cycle and the beginning of another.
- **Delivery Frequency:** Ideally, customers will receive their weekly email shortly after the end of a weekly cycle. This is typically 2-4 days after the data is received by the utility. During the first week, customers receive the Introduction email. Every fourth week, the Peak Usage Summary or Post Bill Report email is delivered to TOU customers, and the Monthly Demand Report email is delivered to demand rate customers. During all other weeks, customers receive the weekly email. Note that customers cannot opt out of one type of Rate Coach email without also opting out of all Rate Coach emails.
- **Blackout Periods:** Blackout periods are a span of time (usually a certain week or day) during which clients do not want us to send email communications to their customers. Blackout periods are not supported for these emails.
- **Emails and Attachments:** Email content is delivered directly in the email message with no attachments. This makes it more convenient for customers to quickly view the information, and it makes the emails less likely to be blocked by spam filters.

EV Charging Coach Email Modules

EV Charging Coach emails are made of up individual modules. This section describes each of the modules used in the emails, which include:

- EV Charging Coach Subject Lines and Preview Text
- EV Best Time Off-Peak Module
- EV Charging Coach Email Footer
- EV Charging Coach Email Header

- EV Confirmation Module
- EV Habits Module
- EV Hero Module
- EV Weekly Main Insight Module
- EV Post-Bill Report Main Insight Module
- TOU Post-Bill Bill Period Comparison Module
- EV Thanks Module
- EV Why Off-Peak Module
- Load Shifting Collective Benefit Module
- TOU 101 Module
- TOU Hourly Usage Module
- TOU Post-Bill Bill Period Comparison Module
- TOU Post-Bill Peak Period Disaggregation Module
- TOU Tips Module
- TOU Weekly Peak Period Disaggregation Module
- TOU Welcome Message Module

EV Charging Coach Subject Lines and Preview Text

The subject lines and preview text that are used in the EV Charging Coach are the same as those used in the Load Shifting, Rate Coach Emails.

For additional details about this module, including requirements and variations, see Email Header and Subject Lines in the Opower Load Shifting, Rate Coach Product Overview.

EV Best Time Off-Peak Module

The Best Time Off-Peak module explains to the reader when the best times are to charge their electric vehicle (EV) during off-peak hours. The module explains how this behavior can ease the strain on the grid. This module is used only in the third introduction email.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

User Experience

The EV Best Time Off Peak module includes:

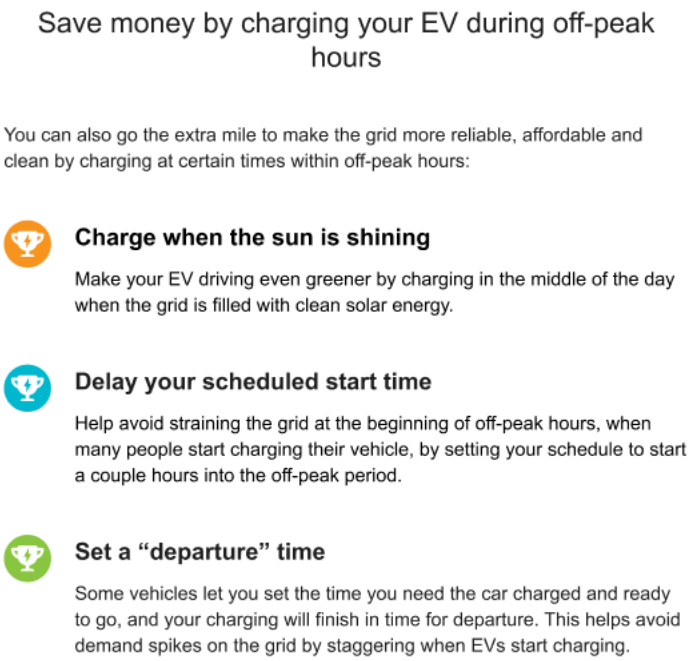
Header: The header of the module tells the reader that they can save money by charging their EV during off-peak hours. For example, "Save money by charging your EV during off-peak hours"

Extra Mile Statement: This statement tells the reader that they can help make the grid more reliable and affordable. The statement reads, "You can also go the extra mile to make the grid more reliable, affordable and clean by charging at certain times within off-peak hours:"

Tip 1: The first tip is identified by a trophy graphic, the header "Charge when the sun is shining", and is followed by the statement "Make your EV driving even greener by charging in the middle of the day when the grid is filled with clean solar energy."

Tip 2: The second tip is identified by a trophy graphic, the header "Delay your scheduled start time", and is followed by the statement "Help avoid straining the grid at the beginning of off-peak hours, when many people start charging their vehicle, by setting your schedule to start a couple hours into the off-peak period."

Tip 3: The third tip is identified by a trophy graphic, the header "Set a "departure" time", and is followed by the statement "Some vehicles let you set the time you need the car charged and ready to go, and your charging will finish in time for departure. This helps avoid demand spikes on the grid by staggering when EVs start charging."



EV Charging Coach Email Footer

The Footer module is included at the bottom of all EV Charging Coach emails, and provides context about the email and includes legal and regulatory information that is required to be included in all email communications.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

User Experience

This module includes:

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

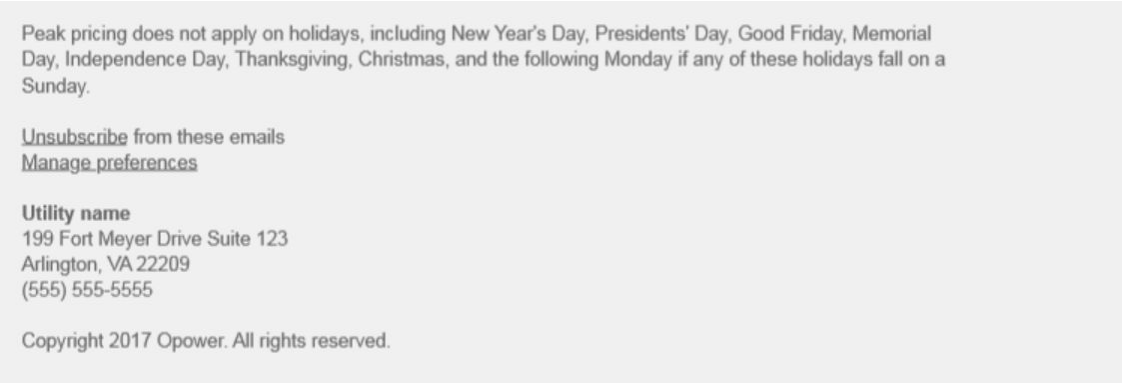
"Peak pricing does not apply on holidays, including New Year's Day, Presidents' Day, Good Friday, Memorial Day, Independence Day, Thanksgiving, Christmas, and the following Monday if any of these holidays fall on a Sunday." This statement can be configured to include the holidays that are specific to the utility.

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

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

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

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



EV Charging Coach Email Header

The header module used in all of the EV Charging Coach emails deliver high-level information to the customer.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

User Experience

The header includes:

Logo: A logo provided by the utility. The default dimensions for the logo are 180 x 60 pixels. If the utility has a logo with a different size, the dimensions can be changed in the Content UI tool.

Customer Name: The name of the primary account holder.

Account Number: The customer's utility account number, which is controlled by the outbound.delivery.accountNumber.unmaskedChars property. This property is used for all outbound communications. By default, 4 characters in the account number are shown (unmasked), and the rest of the numbers are replaced with asterisks (**). This property can be configured to display a different number of characters, but any changes will impact all outbound Opower communications, not just this deliverable.

EV Confirmation Module

The EV Confirmation module asks the reader to confirm whether they have an electric vehicle. If the users confirms they have an EV, they will continue to receive EV Charging Coach emails. If the user does not have an EV, they will no longer receive the emails.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

User Experience

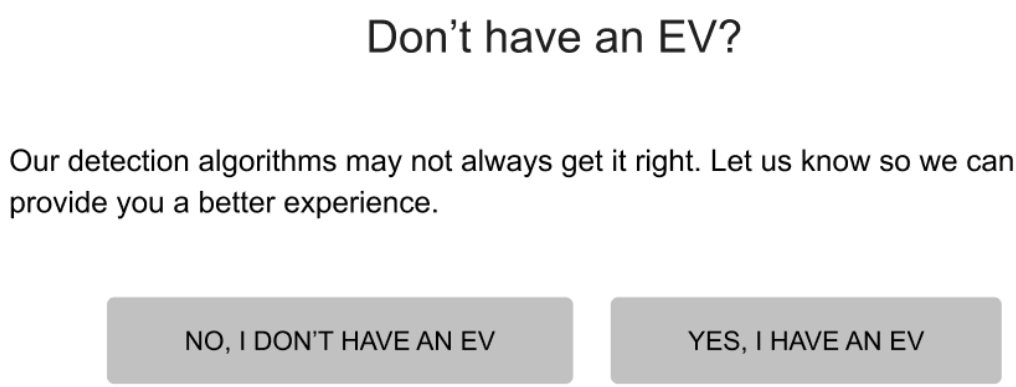
This module includes:

Header: The header of the module asks the reader if they have an EV. For example, "Don't have an EV?"

Detection Message: The message below the header explains to the reader that the detection process used to identify EV drivers is not always accurate, and asks them to confirm whether they drive an EV so that the utility can provide them with a better experience. For example, "Our detection algorithms may not always get it right. Let us know so we can provide you a better experience."

Confirmation Buttons: Below the detection message, the module includes 2 buttons that let the user confirm whether or not they have an EV:

- NO, I DON'T HAVE AN EV
- YES, I HAVE AN EV



EV Habits Module

The EV Habits module helps to coach readers about how they can create good charging habits for their EV. The module provides two standard charging tips that can save them money and

time, and then asks if they can adopt a third tip that will help to alleviate stress on the electric grid.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

User Experience

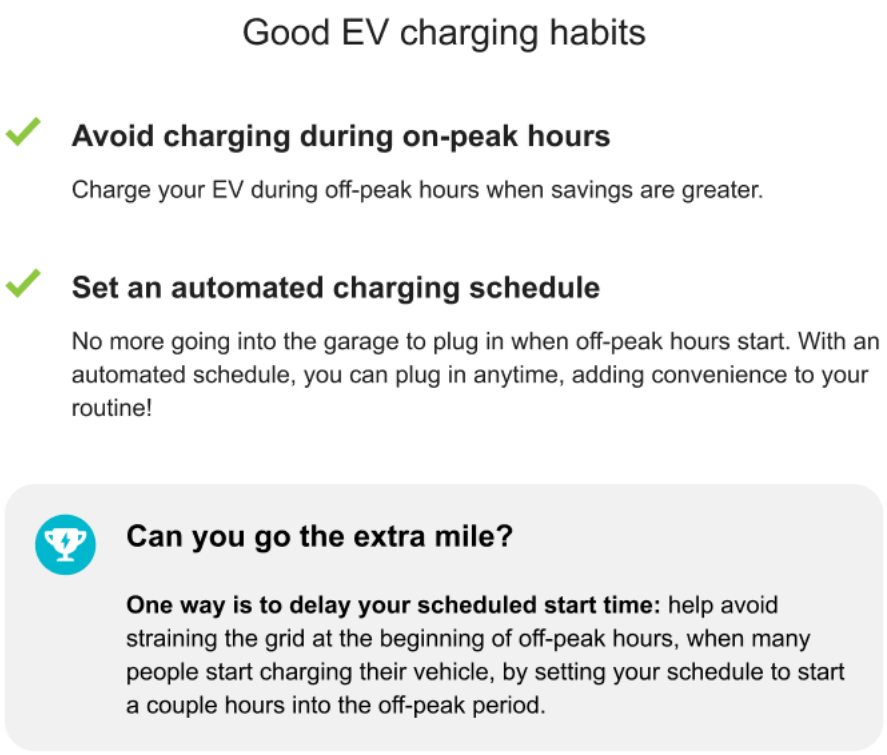
This module includes:

Header: The header identifies that this module provides the reader with information about good EV charging habits. For example, "Good EV charging habits".

Habit 1 Statement: The first statement tells the user to avoid charging their EV during on-peak hours. For example, "Avoid charging during on-peak hours". This statement is followed by an additional statement telling the user to charge their EV during off-peak hours, when they can save more. For example, "Charge your EV during off-peak hours when savings are greater."

Habit 2 Statement: The first statement tells the user to set a schedule to charge their EV. For example, "Set an automated charging schedule". This statement is followed by a statement that tells the user that an automated schedule is more convenient. For example, "No more going into the garage to plug in when off-peak hours start. With an automated schedule, you can plug in anytime, adding convenience to your routine!"

Extra Mile Statement: Below the two charging habits, the extra mile statement asks the user if they can delay their charging to help avoid strain on the grid. For example, "Can you go the extra mile? One way is to delay your scheduled start time: help avoid straining the grid at the beginning of off-peak hours, when many people start charging their vehicle, by setting your schedule to start a couple hours into the off-peak period."



EV Hero Module

The EV Hero module welcomes the customer to their EV Charging Coach email. The module welcomes the customer by name, provides the date range associated with the message, and includes an image that depicts an EV charging in the garage, and a kitchen with various appliances. Together, this information helps the user understand that this message provides energy insights related to EV charging as well as the rest of the home.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

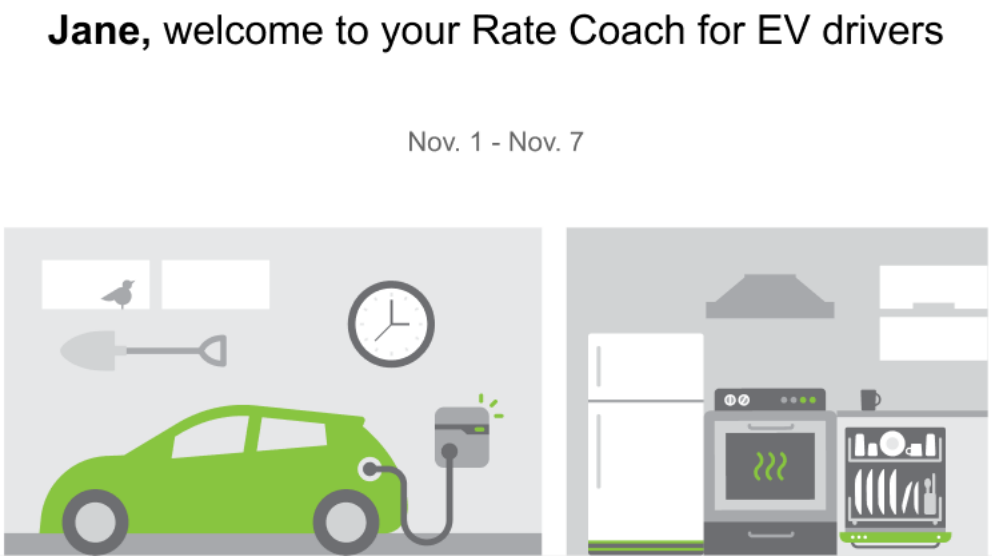
User Experience

This module includes:

Welcome Message: The welcome message introduces the reader to the email. By default, the message reads "<First Name>, welcome to your Rate Coach for EV drivers".

Date Range: Below the welcome message, the date range associated with the message is displayed. For example, "Nov. 1 - Nov. 7".

Image: Below the date range, an image is displayed that depicts an EV charging in the garage and a kitchen with various appliances.



User Experience Variations

This topic discusses how the module can vary.

Post-Bill Report Email Variation

When this module is included in the Post-Bill Report email, the welcome message changes to "<First Name>, here's your Rate Coach summary for this bill period".

EV Weekly Main Insight Module

The EV Weekly Main Insight module is used to give the reader an overview of their EV charging for the week, provides a comparison to how they charged during on-peak hours the previous week, gives them a tip about how they can improve their charging habits, and explains how the utility identifies their EV charging habits.

Requirements

This module has the following requirements and limitations:

- AMI (hourly or more granular) data and use of the hourly disaggregation service are required.
- EV charging must be detected by the hourly disaggregation service.
- Only L2 chargers are supported.
- Estimated reads are not supported.

User Experience

This module includes:

Header: The header statement of the module identifies whether the reader's weekly EV charging costs were above or below the designated high threshold. For example, if the

threshold is set at 30%, and EV charging accounted for approximately 35%, the statement would read "Over 30% of your EV charging costs came from on-peak".

Charging Chart: The Image depicts an EV that is plugged in, and is surrounded by a chart that depicts the portions of charging that were done during on-peak and off-peak hours.

Legend: Below the charging image, a legend identifies the colors that are depicted in the charging image chart.

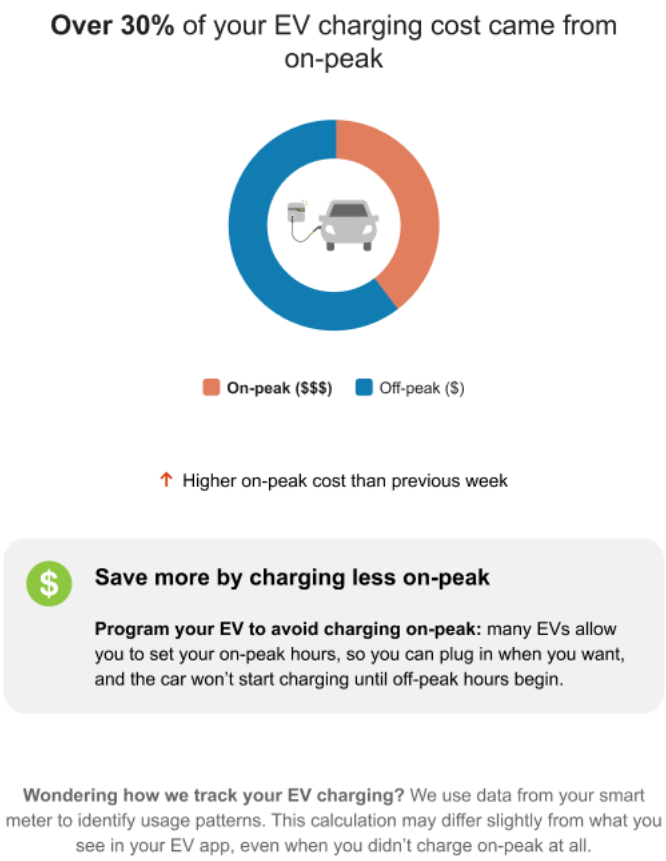
Comparative Statement: Below the legend, a statement tells the reader how their charging this week compares to the previous week. The statement begins with an icon, and can be one of the following:

- A green arrow pointing up with a statement that reads, "Higher on-peak cost than previous week"
- A green arrow pointing down with a statement that reads, "Lower on-peak cost than previous week"
- A gray arrow pointing from side to side with a statement that reads, "Same on-peak cost as previous week"

Savings Statement: The savings statement tells the reader how they might be able to save more money. The statement begins with a header and is followed by a more detailed statement that provides additional information about the tip. There are three savings statements that are used in this module, and they are selected randomly. All of the statements use the same header, "Save more by charging off-peak" and are followed by one of the following tips:

- **Program your EV to avoid charging on-peak:** many EVs allow you to set your on-peak hours, so you can plug in when you want, and the car won't start charging until off-peak hours begin.
- **Schedule your start time:** Add convenience to your routine and schedule your start time during off-peak hours so you can plug in whenever you want.
- **Do you have a smart charger?** If so, you can schedule charging from your charger instead of your EV or EV app.

Explainer Statement: Below the savings statement, the explainer statement tells the reader how the utility determines their EV charging information. For example, "Wondering how we track your EV charging? We use data from your smart meter to identify usage patterns. This calculation may differ slightly from what you see in your EV app, even when you didn't charge on-peak at all."



User Experience Variations

This topic discusses how the EV Main Insight module can vary.

High On-Peak Charging, Two Periods

When the user's rate plan has only two periods (ie, on-peak and off-peak), and they charge their EV during on-peak hours more than the high threshold percentage (30%, by default), the module varies as follows:

- **Header:** The header reads, "Over 30% of your EV charging costs came from on-peak". The percentage shown in the message is the high threshold value that can be configured by the utility.

Medium On-Peak Charging, Two Periods

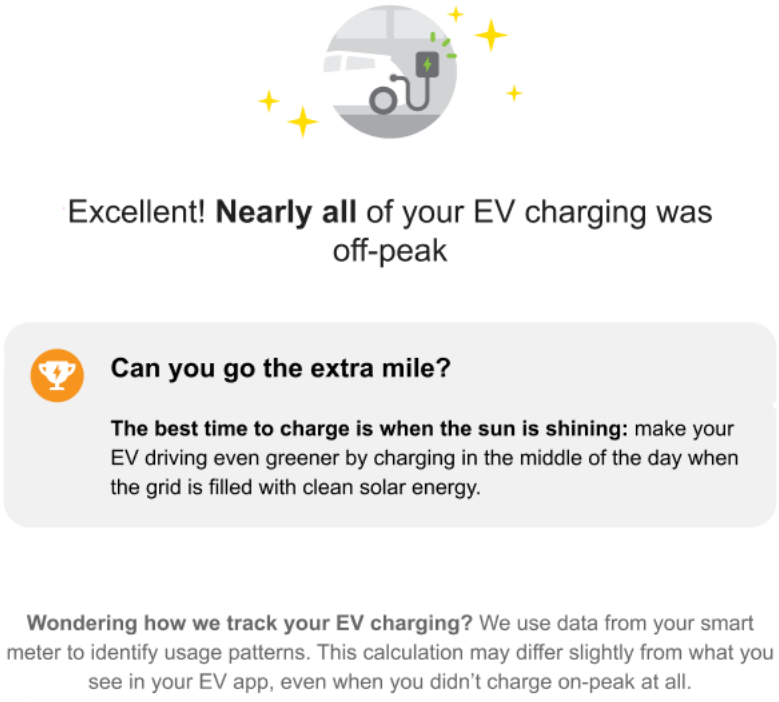
When the user's rate plan has only two periods (ie, on-peak and off-peak), and they charge their EV during on-peak hours less than the high threshold percentage (30%, by default), but more than the low threshold (10%, by default) the module varies as follows:

- **Header:** The header reads, "Over 10% of your EV charging costs came from on-peak". The percentage shown in the message is the low threshold value that can be configured by the utility.

Low On-Peak Charging, Two Periods

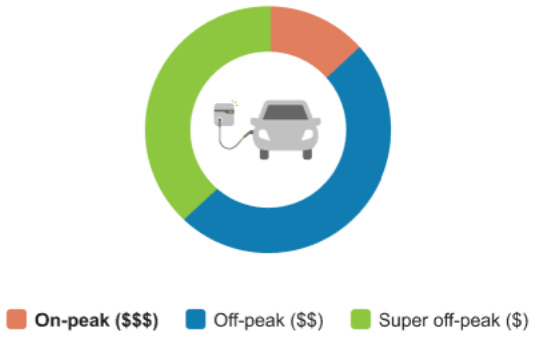
When the user's rate plan has only two periods (ie, on-peak and off-peak), and they charge their EV during on-peak hours less than the low threshold percentage (10%, by default), the module varies as follows:

- **Image:** A new image with an EV charging and several stars appears at the top of the module in place of the standard header.
- **Chart, Legend, and Standard Comparative Statement:** These items are omitted from the module.
- **Header:** The header appears below the image, and reads "Excellent! Nearly all of your EV charging was off-peak".
- **Low Charging Comparative Statement:** Depending on how many weeks the user has been considered a "low" on-peak charger, they will see one of the following:
  - Week 1 of being a "low" on-peak charger: No statement is displayed.
  - Weeks 2-8: The statement begins with a green image of a medal and reads, "<X> weeks in a row of almost no on-peak charging!"
  - More than 8 weeks: For all additional consecutive weeks of low charging, the statement begins with a green image of a medal and reads, "More than 8 weeks in a row of almost no on-peak charging!"
- **Savings Statement:** This item is omitted from the module and is replaced by the Extra Mile Statement.
- **Extra Mile Statement:** One of three Extra Mile Statements is displayed in place of the Savings Statement. All three begin with the header "Can you go the extra mile?", have a trophy graphic, and are followed by one of these statements, which are selected randomly:
  - **One way is to delay your scheduled start time:** help avoid straining the grid at the beginning of off-peak hours, when many people start charging their vehicle, by setting your schedule to start a couple hours into the off-peak period.
  - **The best time to charge is when the sun is shining:** make your EV driving even greener by charging in the middle of the day when the grid is filled with clean solar energy.
  - **One way is to set a “departure” time:** some vehicles let you set the time you need the car charged and ready to go, and your charging will finish in time for departure. This helps avoid demand spikes on the grid by staggering when EVs start charging.



High or Medium On-Peak Chargers, Three Periods

When the user's rate plan has three periods (ie, on-peak, off-peak, and super off-peak), and they charge their EV at high or medium levels, the variations described in the High and Medium variations above occur. Additionally, the chart and legend both include three periods instead of two. This image shows an example of the chart and legend for rate plans with three peak periods:



Low On-Peak with Above Threshold Mid-Peak Charging, Three Periods (Low Charger)

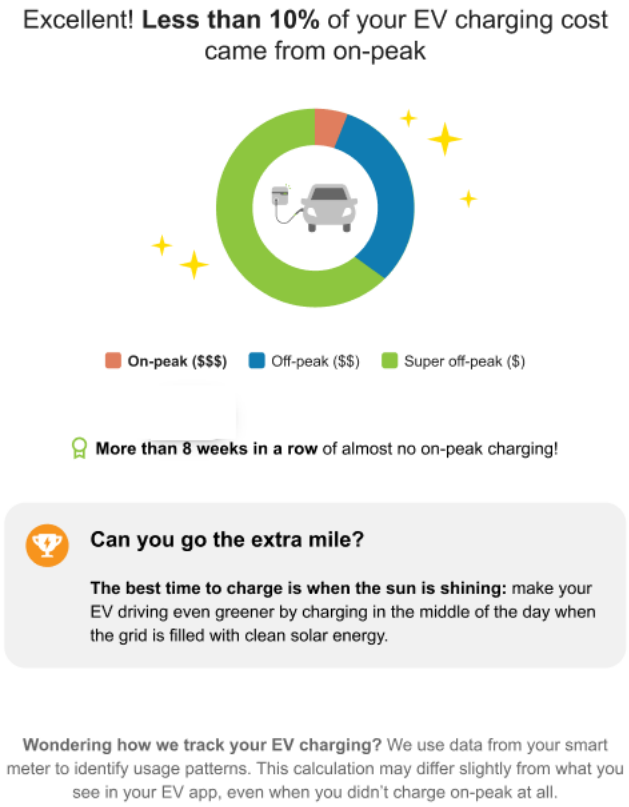
When the user's rate plan has three periods (for example, highest-cost period, mid-cost period, and lowest-cost period), and they charge their EV less than the low threshold percentage (10% by default) during the highest-cost period, but above the low threshold on the mid-cost periods, the user is considered a low on-peak charger, but there is still room for their charging habits to improve. For example, if a user charged their vehicles as follows, the module would fall into this scenario:

- **5%** of charging during the highest-cost peak period (**below** the 10% threshold)

- **15%** of charging during the mid-cost peak period (**above** the 10% threshold)
- **80%** of charging during the lowest-cost peak period

In this scenario, the module varies as follows:

- **Header:** The header appears at the top of the module, and reads "Excellent! **Less than 10%** of your EV charging cost came from on-peak".
- **Graphic:** Several star graphics appear around the chart.
- **Low Charging Comparative Statement:** Depending on how many weeks the user has been considered a "low" on-peak charger, they will see one of the following:
  - Week 1 of being a "low" on-peak charger: No statement is displayed.
  - Weeks 2-8: The statement begins with a green image of a medal and reads, "**<X> weeks in a row** of almost no on-peak charging!"
  - More than 8 weeks: For all additional consecutive weeks of low charging, the statement begins with a green image of a medal and reads, "**More than 8 weeks in a row** of almost no on-peak charging!"
- **Savings Statement:** This item is omitted from the module and is replaced by the Extra Mile Statement.
- **Extra Mile Statement:** One of three Extra Mile Statements is displayed in place of the Savings Statement. All three begin with the header "Can you go the extra mile?", have a trophy graphic, and are followed by one of these statements, which are selected randomly:
  - **One way is to delay your scheduled start time:** help avoid straining the grid at the beginning of off-peak hours, when many people start charging their vehicle, by setting your schedule to start a couple hours into the off-peak period.
  - **The best time to charge is when the sun is shining:** make your EV driving even greener by charging in the middle of the day when the grid is filled with clean solar energy.
  - **One way is to set a “departure” time:** some vehicles let you set the time you need the car charged and ready to go, and your charging will finish in time for departure. This helps avoid demand spikes on the grid by staggering when EVs start charging.



Low On-Peak and Mid-Peak Charging, Three Periods (Super Low Charger)

When the user's rate plan has three periods (ie, highest-cost period, mid-cost period, and lowest-cost period), and they charge their EV less than the low threshold (10% by default) during both the lowest-priced and the mid-priced period, they are considered a super low charger. For example, if a user charged their vehicles as follows, the module would fall into this scenario:

- **5%** of charging during the highest-cost peak period (**below** the 10% threshold)
- **5%** of charging during the mid-cost peak period (**below** the 10% threshold)
- **90%** of charging during the lowest-cost peak period

In this scenario, the module varies as follows:

- **Image:** A new image with an EV charging and several stars appears at the top of the module in place of the standard header.
- **Chart, Legend, and Standard Comparative Statement:** These items are omitted from the module.
- **Header:** The header appears below the image, and reads "Excellent! **Nearly all** of your EV charging was super off-peak".
- **Additional Statements:** The Savings Statement and the Extra Mile Statement are omitted from the module.

Amazing! **Nearly all** of your EV charging was super off-peak

Wondering how we track your EV charging? We use data from your smart meter to identify usage patterns. This calculation may differ slightly from what you see in your EV app, even when you didn't charge on-peak at all.

Usage Variation

In cases where cost can not be determined, or usage has been specifically selected by a utility, a usage variation is used instead of the cost variations. In this variation, all percentages refer to the percent of usage, not the percent of cost. The only change to any of the above variations when usage is used instead of costs occurs in the module header and in the Comparative Statement that appears below the chart and legend, as follows:

- **Header:** The header changes as follows, based on the percentage of EV charging that was done on-peak:
  - High usage: **Over x%** of your EV charging was on-peak
    Note that the default percentage for the usage variation is 20%.
  - Low usage: **Less than x%** of your EV charging was on-peak
    Note that the default percentage for the usage variation is 5%.
  - Super low usage: Excellent! **Nearly all** of your EV charging was off-peak
- **Comparative Statement:** Below the legend, a statement tells the reader how their charging this week compares to the previous week. The statement begins with an icon, and can be one of the following:
  - A green arrow pointing up with a statement that reads, "Higher on-peak charging than previous week"
  - A green arrow pointing down with a statement that reads, "Lower on-peak charging than previous week"
  - A gray arrow pointing from side to side with a statement that reads, "Same on-peak charging as previous week"

EV Post-Bill Report Main Insight Module

The EV Post Bill Report Main Insight module provides the reader with an overview of their electric vehicle (EV) charging during the most recent billing period. The module rates their charging habits as fair, good, or great, compares their on-peak and off-peak charging, identifies how much they spent charging their vehicle, provides tips to improve their charging habits, and explains how the utility tracks EV charging data.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

User Experience

This module includes the following components. This example is showing the user experience for a customer with two periods in their rate plan that has "fair" charging habits.

Image: The EV charging image appears at the top of the module.

Normative Comparison Statement: This statement tells the user how their EV charging behavior was during the bill period. For example, "Your on-peak EV charging was **fair**". After the statement, a rating graphic is displayed. The graphic includes 3 leaves, and the color coding of the leaves depends on the rating, as follows:

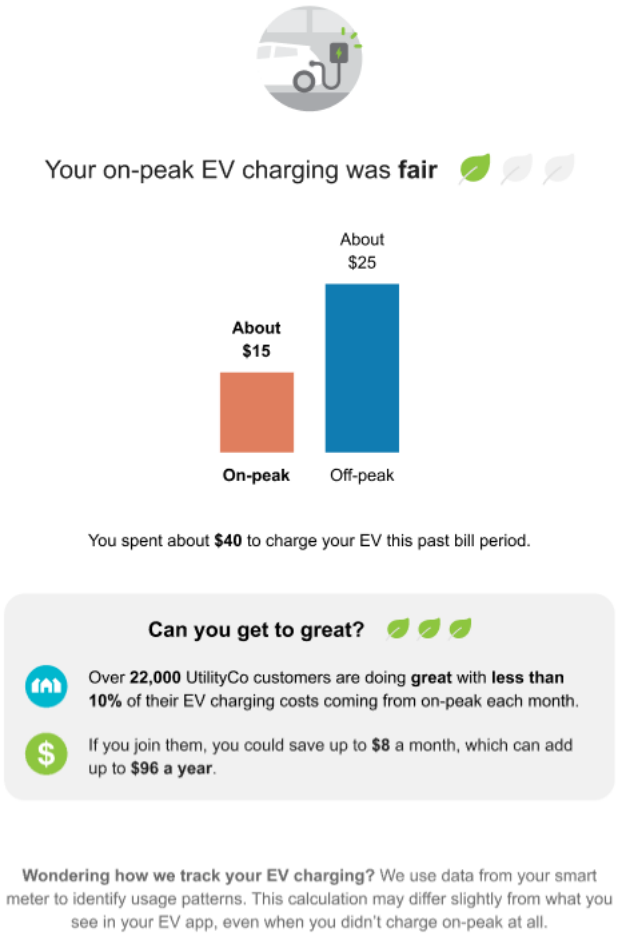
- Fair: One green leaf and two gray leaves.
- Good: Two green leaves and one gray leaf.
- Great: Three green leaves.

Charging Graph: Below the rating statement, a graph depicts how much the reader spent on on-peak and off-peak charging during the billing period.

Spending Statement: Below the chart, a statement provides the total cost of charging the EV during the billing period. For example, "You spent above $40 to charge your EV this past bill period."

Incentive Statement: Below the spending statement, the module includes a section that asks the reader if they can improve their charging habits so they receive a great rating. For example, the header states "Can you get to great?" and includes three green leaves. The module then provides information about the average charging habits of other customers at the utility. This statement begins with a graphic depicting several houses, and reads "Over **22,000** UtilityCo customers are doing **great**, with **less than 10%** of their EV charging costs coming from on-peak each month." The last section of the statement begins with a dollar sign graphic, and tells the reader how much they can save, based on their charging this month, if they also receive a great rating. For example, "If you join them, you could save up to **$8** a month, which can add up to **$96 a year.**"

Explainer Statement: Below the incentive statement, the explainer statement tells the reader how the utility determines their EV charging information. For example, "Wondering how we track your EV charging? We use data from your smart meter to identify usage patterns. This calculation may differ slightly from what you see in your EV app, even when you didn't charge on-peak at all."



User Experience Variations

This topic discusses how the module can vary.

Two vs. Three Peak Periods (All Charging States)

The module varies as follows, depending on whether the customer has 2 or 3 periods in their rate plan:

- When the customer's rate plan includes two periods, the chart displays two bars.
- When the customer's rate plan includes three different periods, the chart displays three bars.

Fair and Good Chargers (Two and Three Periods)

When the customer’s on-peak cost is greater than the low threshold (default 10%), the module varies as follows:

- **Rating Statement:** The statement reads, ”Your on-peak EV charging was fair” or ”Your on-peak EV charging was good”
- **Incentive Statement:** The grey box contains two statements, both of which are compared to 0% on-peak with all on-peak usage shifted to the lowest price period. For example, the header states "Can you shift more of your charging to super off-peak?" and includes no leaves. The module then provides information about how many other customers at the

utility are charging mostly during super off-peak hours. This statement begins with a graphic depicting several houses, and reads "Over 6,000 UtilityCo customers charge their EV almost entirely during super off-peak each month." The last section of the statement begins with a dollar sign graphic, and tells the reader how much they can save if they also receive a great rating. For example, "If you join them, you could save up to $7 a month, which can add up to $84 a year."

Great Chargers (Two Periods)

When the customer's on-peak charging cost is less than the low threshold (default 10%), the module varies as follows:

- **Rating Statement:** The statement reads, "Excellent! Your on-peak EV charging was **great**" and is followed by three green leaves.
- **Incentive Statement**: Not displayed

Great Chargers (Three Periods)

When the customer's on-peak cost is less than the low threshold (default 10%), but not all charging occurred in the lowest price period, the module varies as follows:

- **Rating Statement:** The statement reads, "Excellent! Your on-peak EV charging was **great**" and is followed by three green leaves.
- **Incentive Statement:** The grey box contains two statements, both of which are compared to 0% on-peak with all on-peak usage shifted to the lowest price period. For example, the header states "Can you shift more of your charging to super off-peak?" and includes no leaves. The module then provides information about how many other customers at the utility are charging mostly during super off-peak hours. This statement begins with a graphic depicting several houses, and reads "Over **6,000** UtilityCo customers charge their EV almost entirely during super off-peak each month." The last section of the statement begins with a dollar sign graphic, and tells the reader how much they can save if they also receive a great rating. For example, "If you join them, you could save up to **$7** a month, which can add up to **$84 a year**."

Super Great Chargers (Three Periods)

When the customer's charging during the highest-cost and middle-cost periods are both less than the low threshold (default 10%), the module varies as follows:

- **Rating Statement:** The statement reads, "Excellent! Your on-peak EV charging was **great**" and is followed by three green leaves.
- **Incentive Statement**: Not displayed

The super-great charging variation is not available for customers with only two periods.

Icon Variations

Utilities can decide whether they want to include icons in the module. If they include icons, they can use:

- Leaves
- Smiley faces
- Medals

If the utility chooses to use the icons, they are present in both the Rating Statement and the Incentive Statement.

Usage Variation

In cases where cost can not be determined, a usage variation is used instead of the cost variations. The only changes to any of the above variations when usage is used instead of costs are:

- **Charging Graph:** The numbers on the graph depict usage in percentages instead of costs.
- **Spending Statement:** The statement that typically appears below the chart is not included in the module.

EV Thanks Module

The EV Thanks module is used to tell the reader that driving an EV is impacting their community in a positive way. The module thanks the reader for driving an EV, and tells them that their community thanks them for helping to create a healthier environment, while also saving on fuel and maintenance costs.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

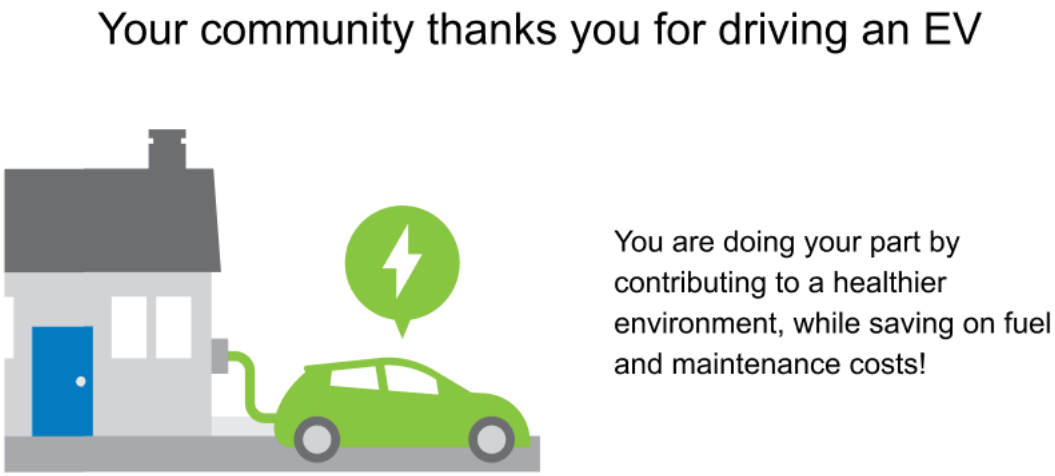
User Experience

This module includes:

Header: The header of the module thanks the reader for driving an electric vehicle. For example, "Your community thanks you for driving an EV".

Image: An image of an electric vehicle plugged into a house is displayed.

Insight Statement: The insight statement describes how driving en EV is beneficial to them and to their community. For example, "You are doing your part by contributing to a healthier environment, while saving on fuel and maintenance costs!"



EV Why Off-Peak Module

The EV Why Off-Peak module explains to the reader why it is important and beneficial to charge their EV during off-peak hours. The module explains how this behavior can save them money, make charging more convenient, and ease the strain on the grid. The module also asks them if they can go the extra mile to use clean energy to charge their EV.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

User Experience

This module includes:

Header: The header of the module tells the reader that the information below will explain why it is beneficial to charge their EV during off-peak hours. For example, "Why charge your EV during off-peak hours?"

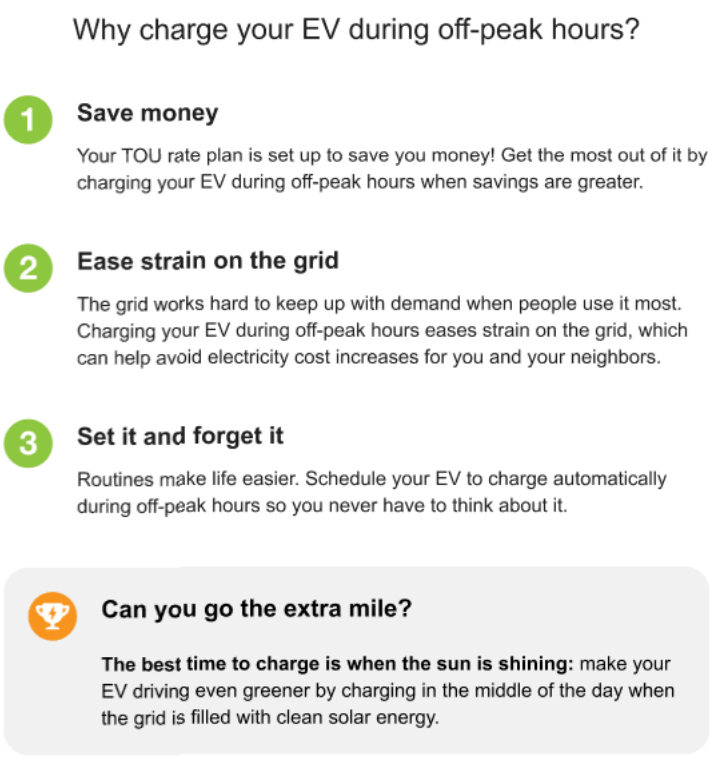
Reason 1: The first reason is identified by a green #1 graphic, includes the heading "Save money" and explains to the reader how charging off-peak can save them money. For example, "Your TOU rate plan is set up to save you money! Get the most out of it by charging your EV during off-peak hours when savings are greater."

Reason 2: The second reason is identified by a green #2 graphic, includes the heading "Ease strain on the grid" and explains to the reader how charging off-peak can help relieve strain on the electric grid. For example, "The grid works hard to keep up with demand when people use it most. Charging your EV during off-peak hours eases strain on the grid, which can help avoid electricity cost increases for your and your neighbors."

Reason 3: The third reason is identified by a green #3 graphic, includes the heading "Set it and forget it" and explains to the reader how they can use schedules to make charging off-

peak more convenient. For example, "Routines make like easier. Schedule yoru EV to charge automatically during off-peak hours so you never have to think about it."

Extra Mile Statement: This statement is identified by a trophy graphic below the three reason statements, and asks the reader if they can do more. The heading reads, "Can you go the extra mile?" and is followed by an explanation of how the reader can utilize clean energy. For example, "The best time to charge your EV is when the sun is shining: make your EV driving even greener by charging in the middle of the day when the grid is filled with clean or solar energy."



Load Shifting Collective Benefit Module

The Load Shifting Collective Benefits module is part of the Opower Load Shifting Cloud Service, Rate Coach.

When included in EV Charging Coach emails, the only variation is the background color, which is light gray.

For additional details about this module, including requirements and user experience variations, see Load Shifting Collective Benefit Module in the Opower Load Shifting, Rate Coach Product Overview.

TOU 101 Module

The TOU 101 module is part of the Opower Load Shifting Cloud Service, Rate Coach. There are no specific variations for the EV Charging Coach.

For additional details about this module, including requirements and variations, see TOU 101 Module in the Opower Load Shifting, Rate Coach Product Overview.

TOU Hourly Usage Module

The TOU Hourly Usage module is part of the Opower Load Shifting Cloud Service, Rate Coach. There is no EV-specific variation.

For additional details about this module, including requirements and other variations, see TOU Hourly Usage Module in the Opower Load Shifting, Rate Coach Product Overview.

TOU Post-Bill Bill Period Comparison Module

The TOU Post-Bill Bill Period Comparison module is part of the Opower Load Shifting Cloud Service, Rate Coach. The standard variation is used in the EV Charging Coach emails. For additional details about this module, including requirements and user experience variations, see TOU Post-Bill Bill Period Comparison Module in the Opower Load Shifting, Rate Coach Product Overview.

TOU Post-Bill Peak Period Disaggregation Module

The TOU Post-Bill Peak Period Disaggregation module is part of the Opower Load Shifting Cloud Service, Rate Coach.

For the most part, the standard variation is used in the EV Charging Coach emails, with one exception:

- In the Quantified End Uses section of the module, the EV Charging end use is not included.

For additional details about this module, including requirements and user experience variations, see TOU Post-Bill Peak Period Disaggregation Module in the Opower Load Shifting, Rate Coach Product Overview.

TOU Tips Module

The TOU Tips module is part of the Opower Load Shifting Cloud Service, Rate Coach. The standard variation is used in the EV Charging Coach emails. For additional details about this module, including requirements and user experience variations, see TOU Tips Module in the Opower Load Shifting, Rate Coach Product Overview.

TOU Weekly Peak Period Disaggregation Module

The TOU Weekly Peak Period Disaggregation module is part of the Opower Load Shifting Cloud Service, Rate Coach. An electric vehicle variation is used in the EV Charging Coach emails, and is documented in the User Experience section below.

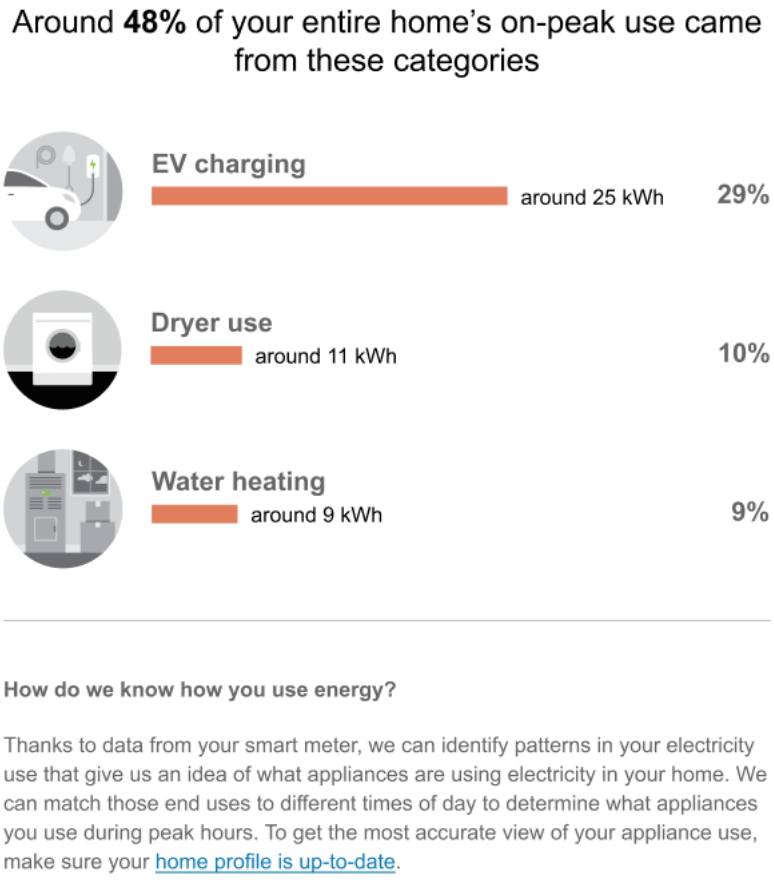
For additional details about this module, including requirements and additional variations, see TOU Weekly Peak Period Disaggregation Module in the Opower Load Shifting, Rate Coach Product Overview.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

User Experience

The EV Charging Coach uses the standard variations of the TOU Weekly Peak Period Disaggregation module. The image below shows an example of the module as it might appear in the EV Charging Coach email for an EV driver.



TOU Welcome Message Module

The TOU Welcome Message module is part of the Opower Load Shifting Cloud Service, Rate Coach. An electric vehicle variation is used in the EV Charging Coach emails, and is documented in the User Experience section below.

For additional information about this module, including requirements and additional variations, see TOU Welcome Message Module in the Opower Load Shifting, Rate Coach Product Overview.

Requirements

There are no module-specific requirements. For product requirements, see Requirements and Limitations for EV Charging Coach Emails.

User Experience

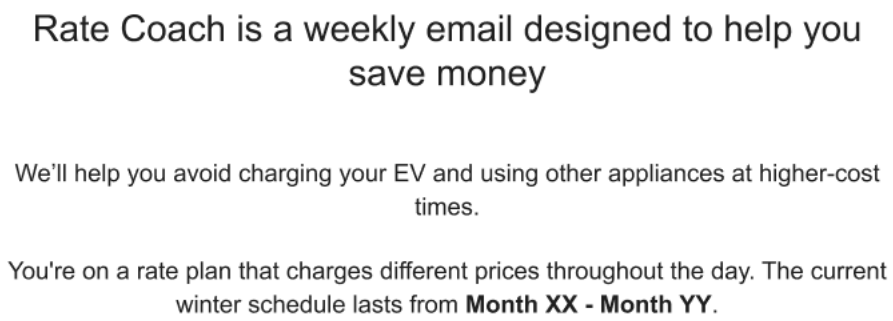
This section discusses the standard user experience for this module when it is used in the EV Charging Coach emails. The module includes:

Image: The welcome image is omitted from the module.

Welcome Message: The welcome message introduces customers to the EV Charging Coach email program. The message is designed to encourage customers to keep reading to learn how to save money. For example, "Rate Coach is a weekly email designed to help you save money".

EV Insight Statement: This statement is added to the EV Charging Coach variation. The statement tells readers that the purpose of this email program is to help them avoid charging their EV or using large appliances during higher-cost times. For example, "We'll help you avoid charging your EV an during other appliances at higher-cost times."

Rate Insight Statements: The insight statements describes the customer's time of use rate plan and identifies the date range associated with the current schedule. For example, "You're on a rate plan that charges different prices throughout the day. The current winter schedule lasts from October 1 - March 15."



3

EV Load Shifting Insights in Weekly Energy Update Emails

The Load Shifting Cloud Service, Electric Vehicle (EV) provides insights that can be included in Weekly Energy Update (WEU) V3 emails and the Weekly Energy Update Post Bill Report V3 emails to create an EV-specific WEU experience for utility customers that own EVs.

While this experience can be sent to EV owners on any rate plan, it was designed specifically for customers who are not on a time-of-use (TOU) rate plan. Typically, customers on a TOU rate plan would receive the EV Charging Coach Emails instead of the EV-specific Weekly Energy Update. However, this experience can also be sent to TOU customers who do not have modeled rates.

Load shifting EV insights are provided within Load Shifting EV modules that are purpose-built to be included in the WEU V3 emails. These insights are designed to educate customers about their charging habits and encourage them to shift their charging to hours the utility prefers, such as when there is low demand on the grid or high availability of renewable energy.

These are the Load Shifting EV modules you can add to a Weekly Energy Update email:

- **EV Habits Checklist in Weekly Energy Update Emails Module:** This module is included in the first EV-specific Weekly Energy Update email the customer receives, and then again every six months.
- **EV Best Time Off-Peak in Weekly Energy Update Emails Module:** This module is included in the second EV-specific Weekly Energy Update email the customer receives, and then again every six months.
- **EV Load Shifting Main Insight in Weekly Energy Update Emails Module:** This module is included in the Weekly Energy Update Post Bill Report email each month after the customer begins receiving the EV-specific emails.

Requirements and Limitations for Load Shifting EV Insights in WEU V3 Emails

The following data requirements and limitations apply to all utilities and customers using Load Shifting EV insights in their Weekly Energy Update (WEU) V3 email program.

These requirements, along with the requirements for the requirements for the Weekly Energy Update program, must be met for a utility and a customer to participate in the program.

Utility Data Requirements

Utilities must meet the following criteria:

- **Required Cloud Services:** Oracle Utilities Opower Load Shifting Cloud Service, Electric Vehicle and one of the following:
  - Oracle Utilities Opower Load Shifting Cloud Service, Rate Coach
  - Oracle Utilities Opower Proactive Alerts Cloud Service

- **WEU Version:** Utilities must be running the Weekly Energy Update V3 version of Weekly Energy Update emails to include EV Load Shifting modules in the emails.
- **Rates and Data Files:** Rates data and rate modeling are not required for this feature.

Customer Data Requirements

Customers must meet the following criteria:

- **Billing Frequency:** Monthly or bi-monthly.
- **Electric Vehicle:** Customers much charge an electric vehicle at their residence.
- **Data Delivery Frequency:** Daily. Must be received within 48 hours from last data read.
- **Data Requirements:** Interval data (hourly or more granular). There are additional AMI data requirements to show advanced insights such as appliance-level disaggregation. Contact your Delivery Team for more information.
- **Data Coverage:** Utilities can define a threshold for hourly disaggregation data coverage, which is 80% coverage by default. .
- **Fuel Type:** Electric-only or dual fuel.
- **Meter Type:** The customer must have an AMI meter that measures whole-home usage, and not an EV-only meter.
- **Charger type:**
  - **L2 chargers:** All features are supported.
  - **L1 chargers:** Features that include disaggregation data are not supported.
- **Email Address:** Customers must have a valid email address established with the utility.

Limitations

The following are known limitations:

- **Meters:** EV-only meters are not supported.
- **Solar:** Solar customers are not supported.

Customer Experience for EV Insights in WEU

The Load Shifting Cloud Service, Electric Vehicle (EV) provides insights that can be included in Weekly Energy Update (WEU) V3 emails and the WEU Post Bill Report V3 emails to create an EV-specific WEU experience for utility customers that charge EVs at their homes.

Load shifting EV insights are provided within Load Shifting EV modules that are purpose-built to be included in the WEU emails. These insights are designed to educate customers about their charging habits and encourage them to shift their charging to hours the utility prefers, such as when there is low demand on the grid or high availability of renewable energy.

Customers receive the following EV-specific emails as part of the WEU V3 program:

- **First EV-Specific Weekly Energy Update Email:** This email provides an introduction to the EV-specific WEU email program by including the EV Habits Checklist in WEU module. This module is then included in the email again once every six months.
- **Second EV-Specific Weekly Energy Update Email:** This email provides additional EV-specific information to the customer by including the EV Best Time Off Peak in WEU module. This module is then included in the email again once every six months.

- **All Other Weeks:** After the above emails are received, customers will receive one of the following emails each week:
  - The standard WEU email, which does not include any EV-specific modules. The exception to this is when one of the above modules is included in the standard WEU email every six months.
  - The WEU Post Bill Report email, which includes the EV Main Insight in WEU module, which provides EV-specific insights. Customers will receive this email each month after the close of their bill period.

Weekly Emails

As part of the EV Load Shifting in Weekly Energy Update (WEU) emails program, customers can receive three different variations of the WEU, as explained below. For detailed customer experience information for the Weekly Energy Update Emails, see Customer Experience for Weekly Energy Update Emails V3 in the *Oracle Utilities Opower Proactive Alerts Product Overview*.

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

First EV-Specific Weekly Energy Update Email

This email includes the EV Habits Checklist in WEU module. This module is then included in the email again once every six months.

When customers receive this email, the EV Habits Checklist in WEU module is placed below the Day-by-Day and Hourly Breakdown module, and above the Personalized Tips module.

Second EV-Specific Weekly Energy Update Email

This email includes the EV Best Time Off Peak in WEU module. This module is then included in the email again once every six months.

When customers receive this email, the Best Time Off Peak in WEU module is placed below the Day-by-Day and Hourly Breakdown module, and above the Personalized Tips module.

All Other Weekly Energy Update Emails

In all other weeks in which the customer receives the standard WEU email, no EV-specific insights are included.

Post Bill Report Emails

After a customer receives their first two standard Weekly Energy Update emails, they will then receive one of two emails going forward:

- A standard WEU weekly email with no EV-specific insights
- The WEU Post Bill Report email, which includes the EV Main Insight in WEU module

Each month, shortly after the bill period is completed, customers receive the Post Bill Report email, which provides deeper understanding of how much energy each of their major end uses,

including their EV, consumed during the month. For detailed customer experience information for the WEU Post Bill Report Emails, see Customer Experience for Weekly Energy Update Emails V3 in the *Oracle Utilities Opower Proactive Alerts Product Overview*.

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

WEU Post Bill Report Email

This email includes the includes the EV Main Insight in WEU module, which provides EV-specific insights. Customers will receive this email each month shortly after the close of their bill period.

When customers receive this email, the EV Main Insight in WEU module should be included in the email after the WEU Introduction module and before the WEU Post Bill Comparison module.

Enrollment, Delivery, and Customer Support

Information related to the enrollment in Weekly Energy Update emails, how they are delivered, and how utilities can provide customer support for the emails is included in the Opower Proactive Alerts Product Overview in the following topics:

- Weekly Energy Update Enrollment
- Weekly Energy Update Delivery
- Providing Customer Support for Weekly Energy Updates

EV Insights in WEU Email Modules

Weekly Energy Update emails are made of up individual modules. EV-specific versions of those emails include one or more of the following Load Shifting EV modules:

- EV Best Time Off-Peak in WEU module
- EV Habits Checklist in WEU module
- EV Main Insight in WEU module

EV Habits Checklist in Weekly Energy Update Email Module

The EV Habits Checklist in Weekly Energy Update (WEU) Email module can be included in Weekly Energy Update emails. This module helps to coach readers about how they can create good charging habits for their electric vehicle (EV).

The module provides two standard charging tips that can save them money and time, and then asks if they can adopt a third tip that will help to alleviate stress on the electric grid.

This module should be included in the first EV-specific Weekly Energy Update email the customer receives, and then again once every six months to remind the customer about good charging habits. The utility can configure how often the module appears in the email.

Requirements

There are no module-specific requirements. For product requirements, see:

- Requirements and Limitations for Load Shifting EV Insights in WEU V3 Emails
- Requirements and Limitations for Weekly Energy Updates V3

User Experience

This module includes:

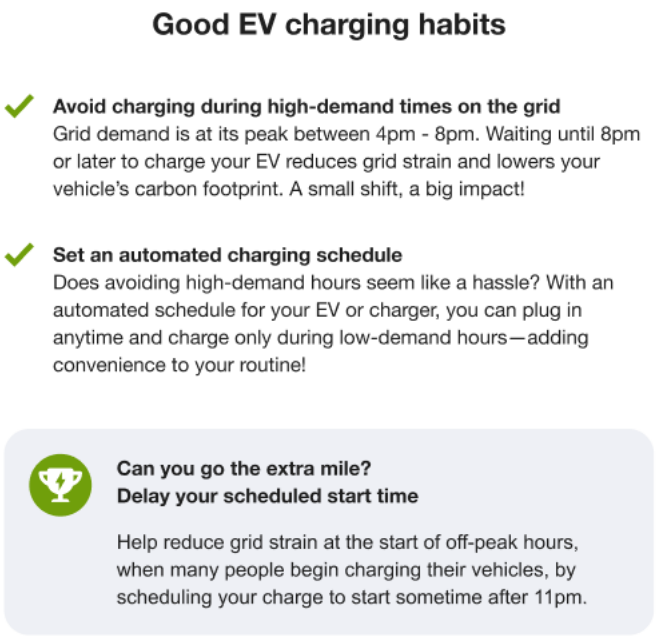
Header: The header identifies that this module provides the reader with information about good EV charging habits. For example, "Good EV charging habits".

Habit 1 Statement: The first statement tells the user to avoid charging their EV during on-peak hours. For example, "Avoid charging during high-demand times on the grid". This statement is followed by an additional statement telling the user to charge their EV during off-peak hours, when demand on the grid is lower. For example, "Grid demand is at its peak between 4pm - 8pm. Waiting until 8pm or later to charge your EV reduces grid stain and lowers your vehicle's carbon footprint. A small shift, a big impact!"

Habit 2 Statement: The first statement tells the user to set a schedule to charge their EV. For example, "Set an automated charging schedule". This statement is followed by a statement that tells the user that an automated schedule is more convenient. For example, "Does avoiding high-demand hours seem like a hassle? With an automated schedule for your EV or charger, you can plug in anytime and charge only during low-demand hours - adding convenience to your routine!"

Extra Mile Statement: Below the two charging habits, the extra mile statement asks the user if they can delay their charging to help avoid strain on the grid. For example, "Can you go the extra mile? Delay your scheduled start time". This statement is followed by additional explanatory text. For example, "Help reduce grid strain at the start of off-peak hours, when many people begin charging their vehicles, by scheduling your charge to start sometime after 11pm."

Figure 3-1 EV Habits Checklist in Weekly Energy Update Email Module



User Experience Variations

This section discusses how the module can vary.

Time-Of-Use Customers

There is not a specific variation of this module for TOU customers. However, when sending this module to TOU customers, we recommend configuring the text to match the text in the default version of the EV Charging Coach EV Habits Module.

EV Best Time Off-Peak in Weekly Energy Update Email Module

The EV Best Time Off-Peak in Weekly Energy Update (WEU) Email module can be included in Weekly Energy Update emails. This module explains to the reader when the best times are to charge their electric vehicle (EV) during off-peak hours. The module explains how this behavior can ease the strain on the grid.

This module should be included in the second EV-specific Weekly Energy Update email the customer receives, and then again once every six months to remind the customer about the best times to charge their EV.

Requirements

There are no module-specific requirements. For product requirements, see:

- Requirements and Limitations for Load Shifting EV Insights in WEU V3 Emails
- Requirements and Limitations for Weekly Energy Updates V3

User Experience

This module includes:

Header: The header of the module tells the reader that the way they charge their EV matters. For example, "Your EV charging patterns matter"

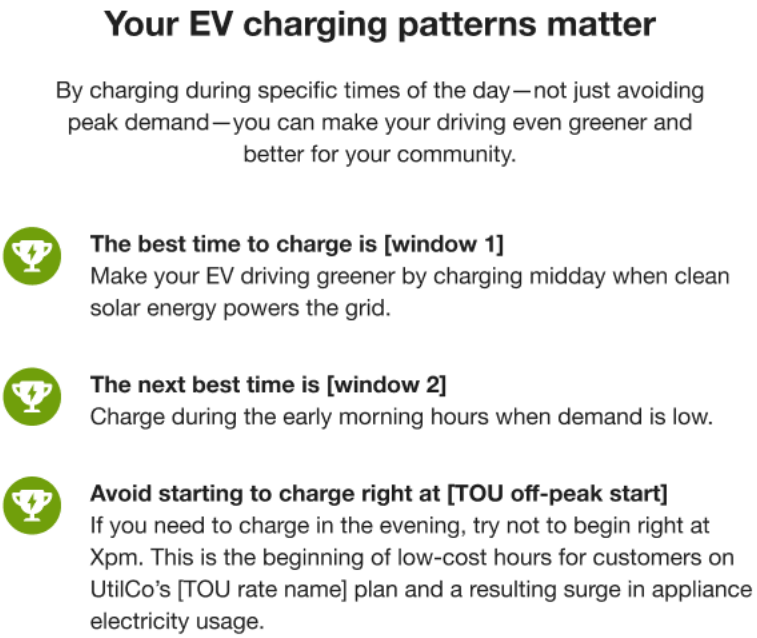
Explanatory Statement: This statement tells the reader that changing their charging habits can help their community. The statement reads, "By charging during specific times of the day - not just avoiding peak demand - you can make your driving even greener and better for your community."

Tip 1: The first tip identifies the best time to charge. The header reads, "The best time to charge is <window 1>", and is followed by the statement "Make your EV driving even greener by charging midday when clean solar energy powers the grid."

Tip 2: The second tip identifies the next best time to charge. The header reads, "The next best time is <window 2>", and is followed by the statement "Charge during early morning hours when demand is low."

Tip 3: The third tip identifies times to avoid charging. The header reads, "Avoid starting to charge right at <TOU off-peak start>", and is followed by the statement "If you need to charge in the evening, try not to begin right at <Xpm>. This is the beginning of the low-cost hours for customers on UtilCo's <TOU Rate Plan Name> plan and a resulting surge in appliance electricity usage."

Figure 3-2 EV Best Times Off-Peak in WEU Module



User Experience Variations

This section discusses how the module can vary.

Time-Of-Use Customers

There is not a specific variation of this module for time-of-use (TOU) customers. However, when sending this module to TOU customers, we recommend configuring the text to match the text in the default version of the EV Charging Coach Best Time Off-Peak Module.

EV Main Insight Module in Weekly Energy Update Emails

The EV Main Insight in Weekly Energy Update (WEU) module can be included in the WEU Post Bill Report emails. The module is designed to give customers that charge electric vehicles (EVs) at their homes an overview of their monthly charging habits and encourage them to shift their charging to times the utility prefers, such as when there is low demand on the grid or when there is high availability of renewable energy.

The module includes several sections, and can vary depending on how much the customer is charging their vehicle during high-demand times. The module includes:

- Graphical information about when the EV is charging
- Insights about the best times to charge an EV
- Motivational information related to the benefits of shifting charging to low-demand times
- Marketing content (optional)

Requirements

This module is currently available only for homes with L2 chargers, and requires that the utility has hourly disaggregation enabled.

For all other requirements, see:

- Requirements and Limitations for Load Shifting EV Insights in WEU V3 Emails
- Requirements and Limitations for Weekly Energy Updates V3

User Experience

This module includes:

Header Statement: The header introduces the reader to the EV section of the email and tells them that their charging schedule can make a difference. For example, "Taking a minute to set your EV charging schedule can make a difference".

Charging Time Statement: This statement appears after the header, and identifies the percentage of EV charging that was done during high-demand periods.

Charging Graph: The chart shows the reader in graphical format when they charge their EV, and identifies the best times, times that are okay, and times to avoid.

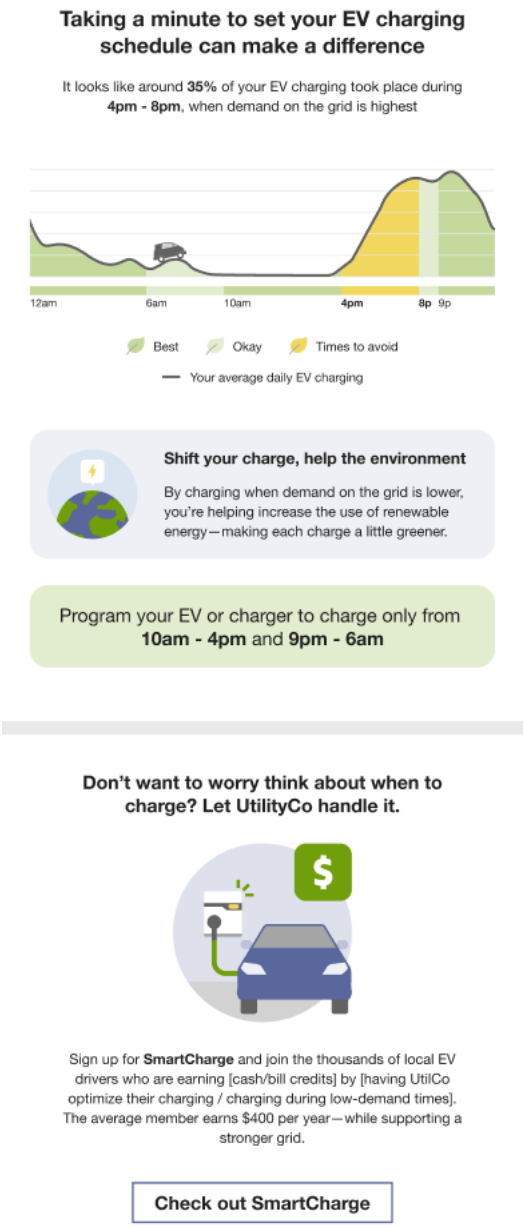
Motivational Statement: These statements are used to incentivize the reader to shift their EV charging to times when demand on the grid is lower. There are six interchangeable motivational statements that can appear in the email, and each includes an image.

Time to Charge Statement: This statement identifies the best times for the reader to charge their EV. This statement can vary depending on how many time blocks the utility has, and what times the utility wants to focus on.

Promotions: Utilities can configure up to three promotions at a time. By default, the first is a promotion for an opt-in managed charging program, the second is a promotion for a Time-of-

Use (TOU) rate plan, and the third is a fully customizable promotion. If the utility configures all three promotions, the first promotion is included in the first email, then the second is included in the next email, and the third in the email after that. The promotions continue in each subsequent email on a rotating basis (1, 2, 3, 1, 2, 3, etc.).

Figure 3-3 EV Main Insight in Weekly Energy Update Module



User Experience Variations

This section describes how the module can vary.

Success State

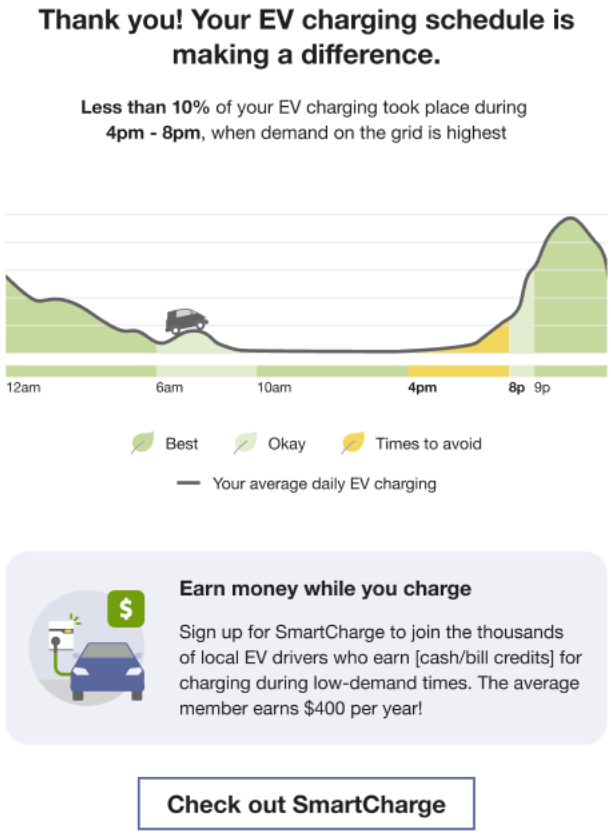
A success state occurs when the user charges their EV during the hours that the utility has specified as "times to avoid" less than the threshold that is set by the utility. By default, the

threshold is set to 10%. Therefore, if the user charged their EV 8% of the time during the times to avoid, they would fall into the Success state.

In this state, the email varies as follows:

- **Header Statement:** The header statement reads, "Thank you! Your EV charging schedule is making a difference."
- **Charging Time Statement:** The statement reads, "Less than 10% of your EV charging took place during <hours> when demand on the grid is highest".
- **Motivation Statements:** The motivation statement is removed from the module.
- **Promotion:** If a promotion is included in the module, it is displayed in a similar format to the motivation statements in other states.
- **Time to Charge Statement:** This statement is removed from the module.

Figure 3-4 Success State Variation



Needs Improvement State

This state occurs when the user charges their EV during high-demand times more than the threshold that is set by the utility, and they were not previously in the Success state. By default, the threshold is set to 10%. For example, if the user did 20% of their EV charging during high-demand periods this bill period, and they were not in a Success state last bill period, they would fall into this state.

In this state, the email varies as follows:

- **Header Statement:** The header statement reads, "Taking a minute to set your EV charging schedule can make a difference".
- **Charging Time Statement:** The statement reads, "It looks like around X% of your EV charging took place during <hours>, when demand on the grid is highest". The percentage is rounded to the nearest 5%.
- **Time to Charge Statement:** The statements in this section begin with one of the following:
  - "Best times to charge are from" and the statement is followed by the time blocks the utility has identified as the best charging periods.
  - "Better times to charge are from" and the statement is followed by the time blocks the utility has identified as the best and okay charging periods.

Transition State

This state occurs when the user charges their EV during high-demand times more than the threshold that is set by the utility during this bill period, but they were in a Success state during the previous bill period. For example, if they did 5% of their charging during high-demand times last bill period, but did 20% of their charging this period during high-demand times, they fall into the Transition state.

In this state, the email varies as follows:

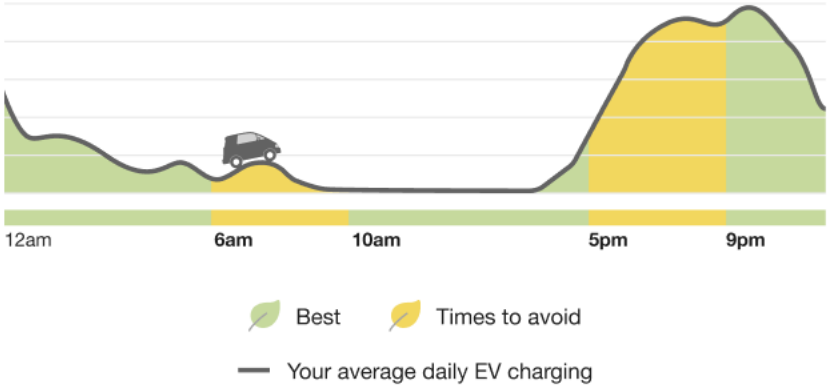
- **Header Statement:** The header statement reads, "Your EV charging patterns may have changed".
- **Charging Time Statement:** The statement reads, "It looks like around X% of your EV charging took place during <hours>, when demand on the grid is highest". The percentage is rounded to the nearest 5%.
- **Time to Charge Statement:** The statements in this section begin with one of the following:
  - "Best times to charge are from" and the statement is followed by the time blocks the utility has identified as the best charging periods.
  - "Better times to charge are from" and the statement is followed by the time blocks the utility has identified as the best and okay charging periods.

Charging Graph Variations

The charging graph can vary depending on whether utilities that have specified two or three time blocks in their schedule. Utilities with two time blocks will show Best and Times to Avoid in the chart, while utilities with three time blocks will show Best, Okay, and Times to Avoid in the chart.

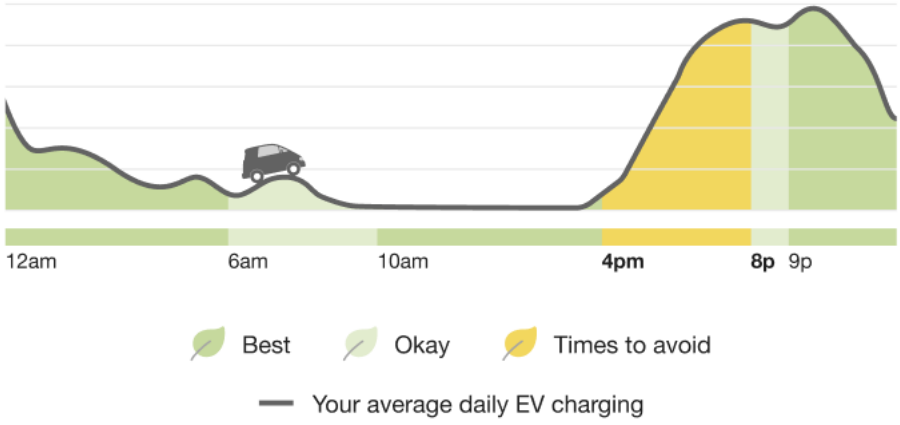
Utility specifies two time blocks:

Figure 3-5 Two Time Blocks



Utility specifies three time blocks:

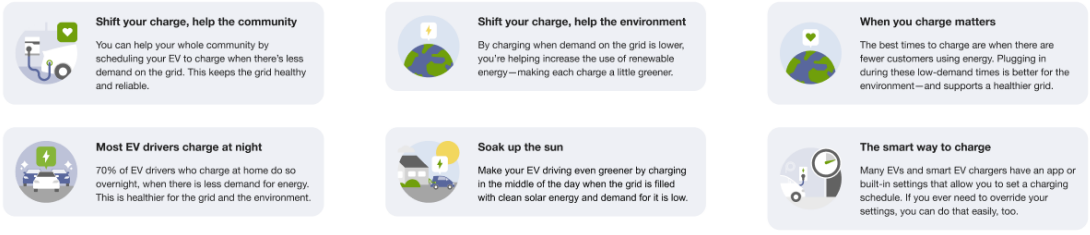
Figure 3-6 Three Time Blocks



Motivation Statements

Utilities can choose from six motivation statements that can be included in the email on a rotating basis. The following images show the available motivation statements. Note that in mobile formats, the images appear above the statements rather than beside the statements.

Figure 3-7 Motivation Statements



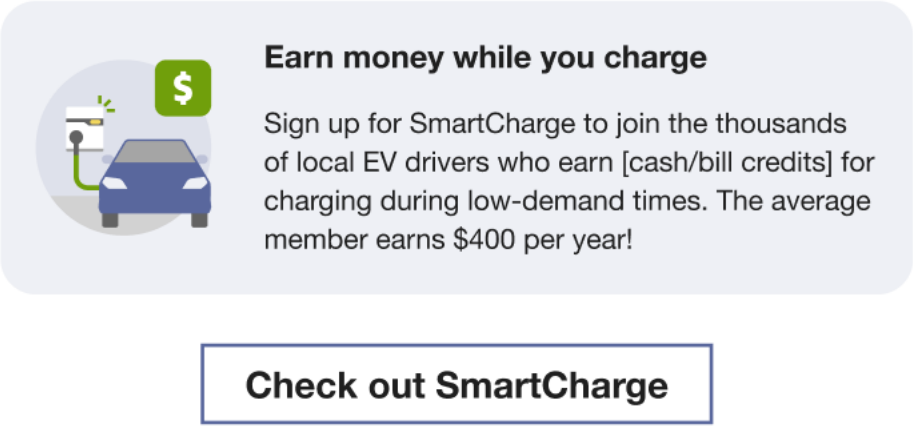
Promotions

Utilities can choose to include one of three promotions in the module:

- Smart Charger promotion (shown below)
- TOU Rate Plan promotion (shown below)
- Custom promotion

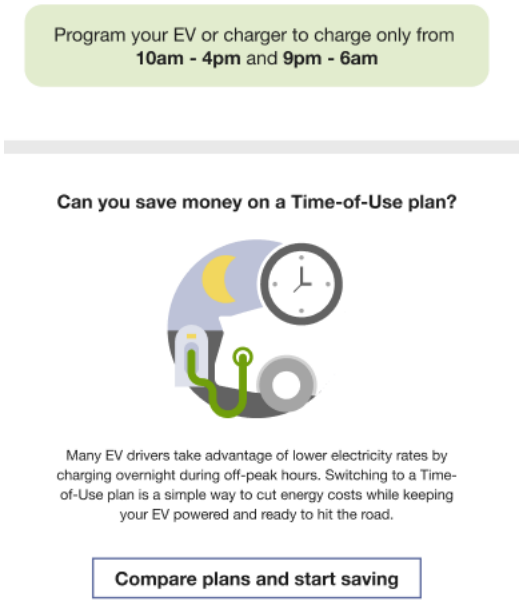
When included in a Success state email, promotions are displayed using a similar format to the motivation statements, as shown here:

Figure 3-8 Success State Promotion



When included in the Needs Improvement or Transition states, the promotion is displayed at the bottom of the module, and is separated by a bar, as shown here:

Figure 3-9 Promotion in Other States



4

Inside Opower

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

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

5

Contact Your Delivery Team

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

To contact your Delivery Team:

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

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

Glossary

Index