Opower Platform

Opower Data Extract Documentation

F14409-13
April 2026

Opower Platform Opower Data Extract Documentation,

F14409-13

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Oracle Utilities Opower Data Extract Documentation

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Getting Started with Data Extracts

Data extracts are data files delivered by Oracle Utilities Opower to a utility or third-party for analysis and reporting. The extracts contain detailed information about utility customers and Oracle Utilities Opower program features, such as customer engagement and outbound communications, or data necessary for third-party evaluation and verification of energy savings. The extracts are intended for utility program managers who want to track the health of their Oracle Utilities Opower program.

Data extract files are transferred to a Secure File Transfer Protocol site where they can be downloaded and consumed. See Data Extract File Transfer for more information.

Data Extract File Transfer

Oracle Utilities Opower delivers data extract files to utilities using a Secure File Transfer Protocol (SFTP) site. The SFTP site is established when you Contact Your Delivery Team at the beginning of your program.

File Format: The file format and file naming conventions of each data extract vary. See the following topics for details.

- EM&V Data Extract File Transfer
- Standard Data Extracts File Transfer
- Web Audit Customer Data Extract File Transfer

File Encryption: For enhanced security, a utility may provide Oracle Utilities Opower with a Pretty Good Privacy (PGP) public key to be used to encrypt data extract files prior to transfer.

Keys should use the RSA algorithm with a minimum size of 2048 bits, although 4096-bit keys are preferred. A two-year expiration for the keys is recommended. If an expiration date is set, be sure to communicate the date when you Contact Your Delivery Team, and to have a process in place to provide a new key three months before the expiration date.

File Retention: Files stored on the Oracle Utilities SFTP site adhere to a standard file retention policy. See File Retention Policy for more information.

File Retention Policy

According to the retention policy described in the Oracle Cloud Hosting and Delivery Policies document (which can be found online at Oracle Cloud Services), all incoming and outgoing files added to the Oracle Utilities Opower SFTP server will be retained for a maximum of 60 days. After this time period, they will be automatically deleted. Copies of files added to the SFTP server are stored in a file archive until the termination of the contract.

For utilities in the European Union, files are retained for a maximum of 30 days in both the SFTP server and the file archive. After this period the files are deleted.

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Assessment Responses Extract (Incremental)

The Assessment Responses extract includes data provided by Energy Efficiency Web Portal - Classic users who update the What Uses Most feature within a specified date range. It is available as a standard recurring extract if you Contact Your Delivery Team.

> **Note**
>
> The What Uses Most feature is a legacy feature that has been superseded by the Home Energy Analysis. Contact Your Delivery Team if you have questions about whether this data extract is applicable to your situation.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.
home_thermostat_when_cold	Thermostat setting used when home and cold. Integer value. **Field Size**: 3. **Can Be Empty?**: Yes.
away_thermostat_when_cold	Thermostat setting used when away and cold. Integer value. **Field Size**: 3. **Can Be Empty?**: Yes.
asleep_thermostat_when_cold	Thermostat setting used when asleep and cold. Integer value. **Field Size**: 3. **Can Be Empty?**: Yes.
drafty_windows	Indicates whether the home has drafty windows. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
window_condensation	Indicates whether the home has window condensation. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.

Column	Description
static_electricity	Indicates whether the home has static electricity. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
home_thermostat_when_hot	Thermostat setting used when home and hot. Integer value. **Field Size**: 3. **Can Be Empty?**: Yes.
away_thermostat_when_hot	Thermostat setting used when away and hot. Integer value. **Field Size**: 3. **Can Be Empty?**: Yes.
asleep_thermostat_when_hot	Thermostat setting used when asleep and hot. Integer value. **Field Size**: 3. **Can Be Empty?**: Yes.
rooms_with_sun	Indicates whether the home has rooms with signification amounts of sun. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
scalding_water	Indicates whether water from the tap gets hot enough to scald. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
washing_machine	Indicates whether the home has a clothes washing machine. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
dryer	Indicates whether the home has a clothes dryer. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
second_fridge	Indicates whether the home has a second fridge. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.

Column	Description
mini_fridge	Indicates whether the home has a mini fridge. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
standalone_freezer	Indicates whether the home has a standalone freezer. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
efficient_lighting	Indicates whether the home has efficient lighting. **Allowed Values**: • A_LOT • LITTLE_OR_NONE • SOME **Field Size**: 14. **Can Be Empty?**: Yes.
outdoor_lighting	Indicates whether the home has outdoor lighting. **Allowed Values**: • A_LOT • LITTLE_OR_NONE • SOME **Field Size**: 14. **Can Be Empty?**: Yes.
pool_covered	Indicates whether the home has a cover for the pool (if applicable). **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
desktop_computer	Indicates whether the home has a desktop computer. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
television	Indicates whether the home has a television. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.

Column	Description
dvd_player	Indicates whether the home has a DVD player. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
game_console	Indicates whether the home has a game console. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: Yes.
updated_date	Date of the last update to the customer's assessment responses. **Field Size**: 10. **Can Be Empty?**: No.

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Basic Customer Extract

The Basic Customer Extract contains a full list of all utility customers in one or more energy efficiency program waves or the entire utility population for Web For All customers. It is a subset of the Full Customer Extract and is available in Inside Opower or as a standard recurring extract which can be retrieved if you Contact Your Delivery Team.

> **Note**
>
> Either the Basic or Full Customer Extract is applicable to each utility. Your Delivery Team will work with you to identify which one is applicable to you.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.
recipient_status	A flag to indicate whether the customer is a recipient or part of a control group. **Allowed Values**: • CONTROL • RECIPIENT **Field Size**: 9. **Can Be Empty?**: Yes.
wave	Program wave name. **Example**: 201305_E **Field Size**: 40. **Can Be Empty?**: Yes.
opt_out_date	Date the customer opted out of the Oracle Utilities Opower Home Energy Report program, if applicable. **Field Size**: 10. **Can Be Empty?**: Yes.
elec_acct_inactive_date	Inactive date if a customer has deactivated an electric account. **Field Size**: 10. **Can Be Empty?**: Yes.
gas_acct_inactive_date	Inactive date if a customer has deactivated a gas account. **Field Size**: 10. **Can Be Empty?**: Yes.

Column	Description
has_web_account	Indicates whether the customer has logged into the Oracle Utilities Opower Energy Efficiency Web Portal - Classic. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: No.
has_print	Indicates whether a customer has an active print Home Energy Report subscription. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: No.
has_email	Indicates whether a customer has an active email subscription. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: No.

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EM&V Data Extract

The Oracle Utilities Opower evaluation, measurement, and verification (EM&V) data extract is used to capture data about randomized controlled trials (RCTs) in the Opower program. The data extract contains the customer and usage data necessary for third-party evaluation and verification of energy savings. Oracle Utilities provides EM&V data extracts for RCTs upon utility client request. Use this documentation to learn about the format and contents of the data extract, the data preparation procedures, and how Oracle Utilities uses the prepared data to estimate energy savings.

In this section:

EM&V Data Extract Specification

The provided EM&V data file contains raw customer and billing data without any data preparation steps taken. Data columns are defined in the table below.

Column Name	Description
opower_customer_id	Oracle Utilities unique customer identifier.
measurement_name	The name of the savings measurement.
study_name	A single measurement may consist of multiple randomized controlled trials (RCT) or groups of customers. Savings for each RCT or group of customers must be calculated independently and then aggregated into a final, single result.
utility_code	Oracle Utilities client abbreviation.
treatment	Artificial variable indicating the treatment status of a customer: • 0 = Control • 1 = Treatment
rct_start_date	Date marking the start of the RCT program. This is defined as the beginning of the month in which reports are first generated for a cohort. For rolling enrollment waves, a cohort consists of all customers randomized into the wave at the same time.
customer_rct_end_date	Date that the customer was removed from the RCT program (for example, due to being inactive). This value will be NULL if the customer is still in the RCT program.
acct_active_date	Customer account active date.
acct_inactive_date	Customer account inactive date. This value will be NULL if the account is still active.
bill_date	Date meter was read.

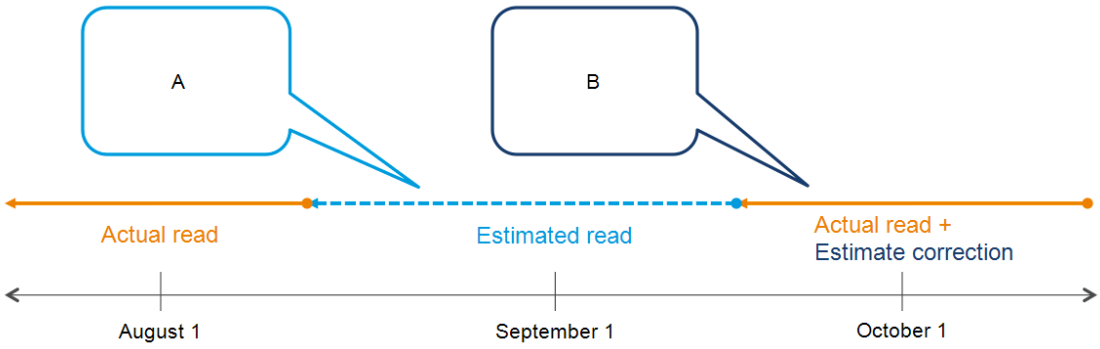
Column Name	Description
usage_units	Meter usage units: • “kwh” • “therm”
usage_value	Amount of energy used over bill duration.
bill_duration_days	Bill duration in days.
is_estimate	Variable indicating whether the meter read is an estimate or not. • 0 = Actual read • 1 = Estimated read **Note** Actual reads following estimated reads contain usage for the bill period and additional usage for truing-up any error in the estimate. See Estimated Read True-Up for more information.

Data Preparation Procedures

This section describes the data preparation procedures used by Oracle Utilities to transform the provided raw dataset into a panel dataset which can be entered into a regression model.

Estimated Read True-Up

Some utilities estimate usage for a billing period to save on operational costs. A subsequent read provides the actual usage for the billing period. To increase measurement accuracy, Oracle Utilities trues-up original usage estimates by first finding the estimate correction, which is the difference between the actual read and estimated read. Then, the estimate correction is added to the original estimate to get actual usage for the billing period. See the image below for more information.



1. The bill for August 15 through September 15 is based on estimated usage.
2. The actual read on October 15 consists of actual usage over the period of September 15 through October 15 plus an estimate correction.

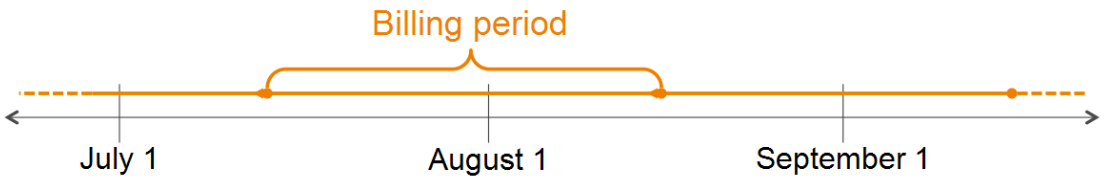
In the image above, truing-up is the function of adding the usage over periods A and B to obtain actual usage from August 15 through October 15.

Because Oracle Utilities does not know if a customer's first non-estimated read in the raw billing dataset includes an estimate correction to true-up prior estimates, the first non-estimated bill for each customer and all estimated reads prior to that bill are not included in the prepared dataset.

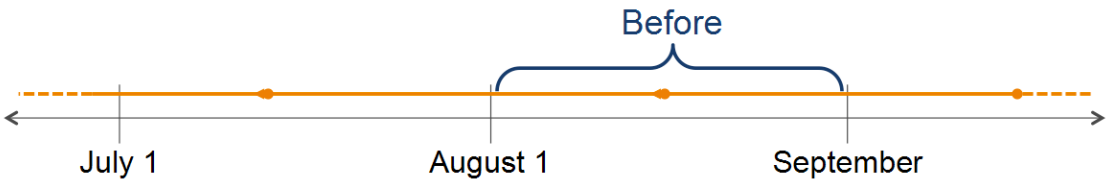
Billing Calendarization

Calendarization is the process of pro-rating billing data into calendar months. Calendarization can smooth out billing data with read durations longer than one month or billing data with a significant percentage of estimated reads.

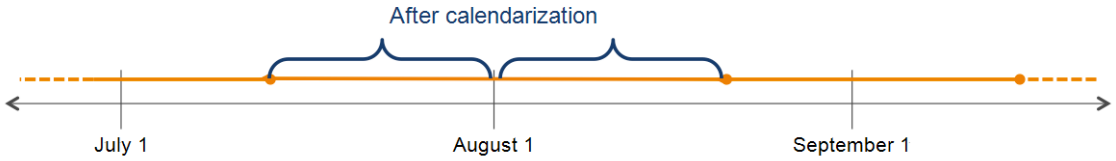
For example, a 30-day bill dated August 15 includes usage that occurred in the second half of July, but does not include usage from the second half of August. The image below demonstrates the span of this billing period.



Previously, all usage in this period would be attributed to August for savings calculations, as shown in the image below.



Calendarization spreads usage into the calendar month in which it took place. Using calendarization, 15 out of the 30 days of usage are attributed to July and the remaining 15 days of usage are attributed to August. The image below shows how the process of calendarization affects the calendar month to which usage data is attributed.



Trim Billing

After calendarization, Oracle Utilities trims usage data to exclude outliers and remove inapplicable data. The following criteria is used to identify outliers:

- Usage occurring after the customer move out date.
- Billing data with duration less than 1 day or more than 31 days (to trim months with overlapping meter reads).
- Usage less than -300 kWh per day, greater than 300 kWh per day, less than -50 therms per day, or greater than 50 therms per day.

- The most recent partial month. For example, if analysis is run in December, only usage through November is included in analysis.
- Usage occurring more than 12 months prior to the program start date.

Average Pre-Treatment Usage Variables

The regression model uses billing data in the pre-treatment period to create three regression coefficients.

- **Average usage per day**: The average usage for a customer in the pre-treatment period (any meter reads that end prior to the `treatment_start_date`).
- **Average usage per day in summer**: The average usage for a customer in the pre-treatment period over the summer months, defined as June through September.
- **Average usage per day in winter**: The average usage for a customer in the pre-treatment period over the winter months, defined as December through March.

Estimate Savings

This section describes how to estimate savings from the panel dataset created from the provided raw data. It includes the model specification used by Oracle Utilities for regression analysis to calculate savings per day. It also includes instructions for estimating the total savings across the post-treatment period and the savings for each month. This information is intended for analysts, data scientists, or other utility program management staff responsible for evaluating the impact of the Oracle Utilities Opower program.

Model Specification

The model specification is used in conjunction with data from the prepared dataset for regression analysis. Regression analysis yields β, the savings per day per household coefficient. In the model specification below, *i* denotes the *i*th household and *t* denotes the *t* th month of the post-treatment period.

$$daily\_usage_{it} = \alpha + \beta treatment_i + \gamma Y_{oi} + mm_t + (\gamma_t Y_{oi} * mm_t) + \varepsilon_{it}$$

This equation is made of the following components:

Equation Component	Description
$daily\_usage_{it}$	The average daily usage for meter read *t* for household *i* in the post-treatment period.
$treatment_i$	An indicator that household i is assigned to the treatment group.
Y_{oi}	A vector of three baseline usage control variables shown in the next three rows.
average preusage	The average daily usage across household *i*'s available pre-treatment meter reads. If missing, this value is imputed with the average pre-usage of all customers in the population.
average preusage winter	The average daily usage over the months of December through March across household *i*'s available pre-treatment meter reads. If missing, this value is imputed with household i's value for
average preusage summer	The average daily usage over the months of June through September across household *i*'s available pre-treatment meter reads. If missing, this value is imputed with household i's value for

Equation Component	Description
mm_t	A set of indicators for each month-year in the post-treatment period.
γt	Coefficients represent the relationship of the average preusage control variables to post-treatment usage. *γt* coefficients can vary by month-year.
ε_{it}	An error term.

The regression is weighted by *bill_duration_days* in order to reflect that billing records have been averaged over a varying number of days to calculate *daily_usage*.

Implementing the Model Specification

The following sample code can be used to implement the model specification in the R programming language. Ensure your dataset is structured according to the model specification before running it.

Cumulative model:

```
daily_usage ~ treatment + mm*(avg_preusage + avg_preusage_summer +
avg_preusage_winter)
```

Monthly model:

```
daily_usage ~ treatment:mm + mm*(avg_preusage + avg_preusage_summer +
avg_preusage_winter)
```

The following can be used to implement the model specification as a Stata command. Ensure your dataset is structured according to the model specification before running these commands.

Cumulative model:

```
reg daily_usage treatment i.mm##c.avg_preusage ///
             i.mm##c.avg_preusage_summer ///
             i.mm##c.avg_preusage_winter ///
             [pw = bill_duration_days] ///
             if post == 1 & trimmed == 0 ///
             , vce(cluster opower_customer_id)
```

Monthly model:

```
reg daily_usage c.treatment#i.mm i.mm##c.avg_preusage ///
             i.mm##c.avg_preusage_summer ///
             i.mm##c.avg_preusage_winter ///
             [pw = bill_duration_days] ///
             if post == 1 & trimmed == 0 ///
             , vce(cluster opower_customer_id)
```

Calculating Cumulative and Monthly Savings

The following procedure describes how to use the prepared panel data and model specification to calculate cumulative and monthly savings in regression analysis.

To calculate cumulative and monthly savings:

1. Include in the regression all rows after the treatment start (billing data prior to treatment start should be used only to create regression coefficients).
2. Estimate the savings per day coefficient (β) for each month using the model specification.
3. Calculate the number of active customer days for each month by using the customer account active and inactive dates and the customer RCT start and end dates.
4. Estimate monthly savings by multiplying savings per day (β) for each month by the number of active days in each month. Estimate cumulative savings over the whole post-treatment period by multiplying savings per day (β) across all active days in the post-treatment period.

EM&V Data Extract File Transfer

Oracle Utilities Opower uses a specific file format, naming convention, and file transfer method to send EM&V data extracts to utilities.

File Format: Each EM&V data extract is provided to third-party evaluators as a tab-delimited text file. The file contains only raw customer and billing data, leaving all data preparation decisions to the third-party evaluator.

File Name Convention: Files transferred from Oracle Utilities follow a standard file name convention.

<measurement name>_raw.tsv

File Transfer: Files are delivered to the Oracle Utilities Opower Secure File Transfer Protocol (SFTP) upon client request. Files may also be encrypted for enhanced security. See Data Extract File Transfer for more information.

File Retention: Files stored on the Oracle Utilities SFTP site adhere to a standard file retention policy. See File Retention Policy for more information.

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Engagement Metrics Extract (Incremental)

The Engagement Metrics extract contains details about customer engagement events (such as clicks and bounces) that occur for Oracle Utilities Opower outbound communications, such as Email Home Energy Reports with an event date within a specified date range. It is available as a standard recurring extract if you Contact Your Delivery Team.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.
communication_id	Unique ID for the communication. Can be used to join with the Outbound Communications extract. **Field Size**: 21. **Can Be Empty?**: No.
event_type	The engagement event type. **Allowed Values**: • CLICK • HARD_BOUNCE • NOT_SENT • OPEN • OTHER • OTHER_BOUNCE • SENT • SOFT_BOUNCE **Field Size**: 12. **Can Be Empty?**: No.
event_date	Date and time of event. **Field Size**: 19. **Can Be Empty?**: No.
url	Click Uniform Resource Locator (URL). This field is only populated for click events. **Field Size**: 255. **Can Be Empty?**: Yes.
reason	Bounce reason. Only populated for bounce events. **Field Size**: 255. **Can Be Empty?**: Yes.

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Full Customer Extract

The Full Customer Extract contains a complete listing of all utility customers in one or more program waves, or the entire utility population for Web For All customers. It is a more detailed version of the Basic Customer Extract and is available as a standard recurring extract if you Contact Your Delivery Team.

> **Note**
>
> Either the Basic or Full Customer Extract is applicable to each utility. Your Delivery Team will work with you to identify which one is applicable to you.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.
recipient_status	A flag to indicate whether the customer is a recipient or part of a control group. **Allowed Values**: • CONTROL • RECIPIENT **Field Size**: 9. **Can Be Empty?**: Yes.
elec_acct_inactive_date	Inactive date if a customer has deactivated an electric account. **Field Size**: 10. **Can Be Empty?**: Yes.
gas_acct_inactive_date	Inactive date if a customer has deactivated a gas account. **Field Size**: 10. **Can Be Empty?**: Yes.

Column	Description
has_web_account	Indicates whether the customer has logged into the Energy Efficiency web portal. **Note** This column may not be applicable to your situation. Contact Your Delivery Team if you have any questions. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: No.
has_print	Indicates whether a customer has an active print Home Energy Report subscription. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: No.
has_email	Indicates whether a customer has an active email subscription. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: No.
first_print_report_date	Generation date for first print Home Energy Report. **Field Size**: 10. **Can Be Empty?**: Yes.
print_report_count	Total number of print Home Energy Reports generated. **Field Size**: 5. **Can Be Empty?**: Yes.
first_email_report_date	Generation date for first Email Home Energy Report. **Field Size**: 10. **Can Be Empty?**: Yes.
email_report_count	Total number of Email Home Energy Reports generated. **Field Size**: 5. **Can Be Empty?**: Yes.
opt_out_date	Date the customer opted out of the Home Energy Report program, if applicable. **Field Size**: 10. **Can Be Empty?**: Yes.

Column	Description
opt_out_reason	Reason for customer's opt-out of the Home Energy Report program, if applicable. **Allowed Values**: • DESIRES_NO_COMPARISONS • DESIRES_NO_JUDGING • INACCURATE_COMPARISONS • MARKETING • OTHER • PRIVACY • REDUCE_MAIL • UNFAIR_COMPARISONS • UNKNOWN **Field Size**: 40. **Can Be Empty?**: Yes.
include_in_test_analysis	A flag used to denote VIPs who receive reports but who arenot included in measurement and analysis. **Note** This column is only used in select programs. Contact Your Delivery Team if you have any questions. **Allowed Values**: • N • Y **Field Size**: 1. **Can Be Empty?**: No.
wave	Program wave name. **Example**: 201305_E **Field Size**: 40. **Can Be Empty?**: Yes.
groups	Comma-separated list of additional customer groups (customized per utility if applicable). **Field Size**: 512. **Can Be Empty?**: Yes.

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Outbound Communications Extract (Incremental)

The Outbound Communications extract contains a record for all outbound print and electronic communications such as Home Energy Reports, Weekly Energy Updates, and High Bill Alerts AMI (formerly known as Unusual Usage Alerts) delivered within a specified date range. It is available in Inside Opower or as a standard recurring extract if you Contact Your Delivery Team.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.
opower_communication_id	Unique ID for this communication. Can be used to join to the Engagement Metrics extract. **Field Size**: 21. **Can Be Empty?**: No.
delivery_date	For digital communications, this refers to the date on which the communication was dispatched for delivery. For paper communications, this refers to the date of generation. **Field Size**: 19. **Can Be Empty?**: No.
event_type	Communication type. **Example Values**: • COMBINED_BILL_FORECAST_ALERT • HOME_ENERGY • WEEKLY_AMI **Note** The values provided will vary by program. Contact Your Delivery Team if you have any questions about the values and what they mean. **Field Size**: No restriction. **Can Be Empty?**: No.

Column	Description
notification_channel	Channel used to deliver the communication. **Allowed Values**: • EMAIL • IVR • PRINT • PUSH • SMS **Field Size**: 5. **Can Be Empty?**: No.

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Personally Identifiable Information

By default, the Oracle Utilities Opower data extracts do not include Personally Identifiable Information (PII). PII can be appended to the basic or full customer extracts if you Contact Your Delivery Team.

Column	Description
first_name	First name of the customer. **Field Size**: 408. **Can Be Empty?**: Yes.
last_name	Last name of the customer. **Field Size**: 408. **Can Be Empty?**: Yes.
phone_voice	Primary voice phone number. **Field Size**: 128. **Can Be Empty?**: Yes.
phone_sms	SMS phone number for the customer. **Field Size**: 128. **Can Be Empty?**: Yes.
email	E-mail address for the customer. **Field Size**: 344. **Can Be Empty?**: Yes.
service_address	Service point address for the customer. **Field Size**: 512. **Can Be Empty?**: Yes.

10

Profile Updates Extract (Incremental)

The Profile Updates extract contains demographic and parcel information that has been updated by utility customers through the Oracle Utilities Energy Efficiency Web Portal - Classic or Customer Service Interface. It does not include initial data that Oracle Utilities has licensed through third-party providers. Each row includes customer-updated data within a specified date range. It is available if you Contact Your Delivery Team.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.
home_type	Indicates the type of home. **Allowed Values**: • MULT • NON_RESIDENTIAL • SING **Field Size**: 15. **Can Be Empty?**: Yes.
owner	Indicates whether the customer is an owner or renter. **Allowed Values**: • O • R **Field Size**: 1. **Can Be Empty?**: Yes.
heating_type	Indicates the heating method used. **Allowed Values**: • DISTRICT_HEATING • ELEC • GAS • GEOTHERMAL • LPG • NONE • OIL • OTHER • WOOD **Field Size**: 16. **Can Be Empty?**: Yes.

Column	Description
ac	Indicates the cooling method used. **Allowed Values**: • CENTRAL • CENTRAL_EVAPORATIVE • CENTRAL_HEAT_PUMP • CENTRAL_UNKNOWN • FAN • INFERRED_NONE • NONE • OTHER • ROOM • ROOM_HEAT_PUMP • ROOM_PORTABLE • UNKNOWN_TYPE **Field Size**: 20. **Can Be Empty?**: Yes.
pool	Indicates whether the customer has a pool or not. **Allowed Values**: • NONE • POOL **Field Size**: 4. **Can Be Empty?**: Yes.
spa	Indicates whether the customer has a spa or sauna. **Allowed Values**: • NONE • SAUNA • SPA **Field Size**: 5. **Can Be Empty?**: Yes.
fireplace	Number of fireplaces. Integer value. **Field Size**: 2. **Can Be Empty?**: Yes.
photovoltaic	Indicates whether the customer uses solar panels. **Allowed Values**: • N • Y **Field Size**: 3. **Can Be Empty?**: Yes.
num_adults	Number of adults in the household. Integer value. **Field Size**: 2. **Can Be Empty?**: Yes.
num_children	Number of children in the household. Integer value. **Field Size**: 2. **Can Be Empty?**: Yes.
living_sqft	Living square footage. Integer value. **Field Size**: 6. **Can Be Empty?**: Yes.

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Tip Actions Extract (Incremental)

The Tip Actions extract contains responses to tips on the Energy Efficiency web portal that have an action date within a specified date range. It is available in Inside Opower or as a standard recurring extract if you Contact Your Delivery Team.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.
tip_name	Oracle Utilities Opower tip name. **Example**: tip001_buy_energy_star. **Field Size**: 64. **Can Be Empty?**: No.
action_date	Date of action. **Field Size**: 10. **Can Be Empty?**: No.
action_type	Type of action. **Allowed Values**: • DONE • NO_THANKS • WILL_DO **Field Size**: 9. **Can Be Empty?**: No.

12

Unsubscribes Extract (Incremental)

The Unsubscribes extract contains details about the digital channels from which customers have unsubscribed. It is available on request if you Contact Your Delivery Team.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.
channel	Communication channel where the unsubscribe occurred. **Allowed Values**: • EMAIL • IVR • SMS **Field Size**: 5. **Can Be Empty?**: No.
address	Email address or phone number that was unsubscribed. **Examples**: • example@utilco.com • (123) 123-1234 **Field Size**: 255. **Can Be Empty?**: No.
date_unsubscribed	The date when the unsubscribe record was created. This is the date when Oracle Utilities received the unsubscribe event. This conforms with the ISO 8601 date and time standard in the UTC time zone. **Example**: 2015-07-05T22:16:18+00:00 **Field Size**: 32. **Can Be Empty?**: No.

13

Web Audit Customer Answers and Questions Extract

The Web Audit Customer Answers and Questions data extract contains data provided by utility customers who have completed relevant questions in the Home Energy Analysis survey in Oracle Utilities Opower web products. It is available in Inside Opower and includes data about customers' property, demographics, and lifestyle.

> **Note**
>
> The extract does not include vendor-provided data except for what has been explicitly confirmed by the customer.

> **Note**
>
> Contact Your Delivery Team if you do not have the Home Energy Analysis feature but you are still looking for an extract containing a customer's home profile information.

Web Audit Customer Data Extract Specification

The Web Audit Customer Answers and Questions data extract contains data provided by utility customers who have completed the Home Energy Analysis survey. The table below defines the columns in the extract. The extract is available in Inside Opower.

For a list of the default Home Energy Analysis survey questions and their possible responses, see Valid Questions and Answers.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.

Column	Description
premise_id	An identifier for a site occupied by an individual customer. **Note** This premise ID should be the same premise ID that is sent in the billed usage data files, as described in the Customer Fields of the Oracle Utilities Opower Legacy Billing Data Transfer Standards. **Field Size**: 40. **Can Be Empty?**: No.
question_go_live_date	Date and time that this version of the question was deployed in YYYY-MM-DD HH:mm:ss.SSS format. **Example**: 2016-01-01 12:00:00.000 **Field Size**: 23. **Can Be Empty?**: No.
questionnaire_version	Version number of the survey that the customer responded to. **Field Size**: 4. **Can Be Empty?**: No.
question_name	Short representation of the survey question (for example, `homeType`). **Field Size**: 200. **Can Be Empty?**: No.
user_input_answer	Free-form customer response to the survey question. For questions that allow multiple responses, there would be multiple rows for the same `utility_customer_id`, `question_name`, and `timestamp` combination. **Field Size**: 65535. **Can Be Empty?**: Yes.
selected_answer_option	Selected customer (i.e., from a dropdown or list of checkboxes) response to the survey question. For questions that allow multiple responses, there would be multiple rows for the same `utility_customer_id`, `question_name`, and `timestamp` combination. **Field Size**: 65535. **Can Be Empty?**: Yes.

Column	Description
entered_at	Date and time that the customer responded to the question in YYYY-MM-DD HH:mm:ss.SSS format. **Note** These timestamps are in US Eastern Time, and the weekly reports will include data from Friday 21:00:00PM PST (Saturday 00:00:00AM EST) until Friday 20:59:59:PM PST (Friday 23:59:59PM EST). **Example**: 2016-01-01 12:00:00.000 **Field Size**: 23. **Can Be Empty?**: No.

Handling Updates

Consumers of the Web Audit Customer Answers and Questions extract should consider the unique key for each row to be a combination of `utility_customer_id`, `premise_id`, and `question_name`. This means that any row with a previously unseen combination of the above should be entered in the target system as a new record. Any row which matches an existing combination of the above should overwrite the existing values in `user_input_answer` or the `selected_answer_option` for the given `utility_customer_id`/ `premise_id`/`question_name` combination.

Multi-Value Answers

Some questions allow for multiple responses. These responses will be provided in the `selected_answer_option` column in the form of a comma-delimited list. For example, the `selected_answer_option` value for the `ownedElectronics` question might be:

CLOTHES_WASHER,CLOTHES_DRYER,DISHWASHER

Such multi-answer lists should be parsed out appropriately by the consumer.

Valid Questions and Answers

The table below provides a list of default Home Energy Analysis survey questions and their possible responses. The default values are subject to change, and utilities should plan to consume this data as arbitrary key-value pairs.

> **Note**
>
> If a customer skipped a given question, a value of #SKIPPED will be included in the data extract. If Oracle Utilities implemented custom questions in the Home Energy Analysis survey for you, or if certain questions or answers were modified at your request, then those new or modified questions will not appear in the standard data extract output. Your Oracle Utilities Delivery Team will work with you in such cases to ensure that you understand the meaning of the extract.

Question	Description
numPeople	**Question Text**: How many people live in your home? **Data Type**: INT **Input Type**: DROPDOWN **Acceptable Answers**: 1_PERSON, 2_PEOPLE, 3_PEOPLE, 4_PEOPLE, 5_PEOPLE, 6_PEOPLE, 7_PEOPLE, 8_PEOPLE, 9_PEOPLE, 10_PLUS
homeType	**Question Text**: What type of home do you live in? **Data Type**: STRING **Input Type**: RADIO_IMAGE **Acceptable Answers**: SINGLE_FAMILY, APARTMENT_CONDO
ownerRenter	**Question Text**: Do you own your home? **Data Type**: STRING **Input Type**: BINARY **Acceptable Answers**: YES, NO
homeSize	**Question Text**: What's the size of your home (square feet)? **Data Type**: INT **Input Type**: NUMERIC **Acceptable Answers**: Minimum Value: 50 Maximum Value: 5000
winterHeating	**Question Text**: Do you heat your home in the winter? Only select yes if you are billed for heating. **Data Type**: STRING **Input Type**: BINARY **Acceptable Answers**: YES, NO
centralHeating	**Question Text**: What's the primary way you heat your home? **Data Type**: STRING **Input Type**: RADIO_IMAGE **Acceptable Answers**: FURNACE_WITH_AIR_VENTS, BOILER_WITH_RADIATORS, CENTRAL_HEAT_PUMP_WITH_AIR_VENTS, ELECTRIC_BASEBOARD_HEATERS, ELECTRIC_SPACE_HEATERS, SOMETHING_ELSE, NOT_SURE
boilerType	**Question Text**: What type of boiler? **Data Type**: STRING **Input Type**: RADIO_IMAGE **Acceptable Answers**: GAS, OIL, ELECTRIC, OTHER

Question	Description
furnaceType	**Question Text**: What type of furnace? **Data Type**: STRING **Input Type**: RADIO_IMAGE **Acceptable Answers**: GAS, ELEC, LPG, OIL, OTHER
heatType	**Question Text**: What type of fuel does your heating system use? **Data Type**: STRING **Input Type**: RADIO_IMAGE **Acceptable Answers**: ELEC, GAS, OIL, LPG, OTHER
fireplace	**Question Text**: Do you use a wood fireplace? **Data Type**: INT **Input Type**: BINARY **Acceptable Answers**: YES, NO
thermostatWhenCold	**Question Text**: In the winter, where do you set your thermostat when you're home? **Data Type**: INT **Input Type**: DROPDOWN **Acceptable Answers**: RANGE_63_LOWER, RANGE_64_66, RANGE_67_68, RANGE_69_70, RANGE_71_73, RANGE_74_HIGHER, NO_THERMOSTAT
turnDownHeat	**Question Text**: How often do you turn down the heat when you're away from home or asleep? **Data Type**: STRING **Input Type**: DROPDOWN **Acceptable Answers**: ALWAYS, SOMETIMES, NEVER
whichHaveAirLeaks	**Question Text**: Which of the following have air leaks in your home? For example, if you feel air coming through cracks in the wall, your home may not be properly sealed. **Data Type**: STRING **Input Type**: CHECKBOX_IMAGE **Acceptable Answers**: LEAKY_WINDOWS, LEAKY_DOORS, LEAKY_WALL
summerAC	**Question Text**: Do you use air conditioning in the summer? **Data Type**: STRING **Input Type**: BINARY **Acceptable Answers**: YES, NO
useFans	**Question Text**: Do you use fans to cool your home? **Data Type**: STRING **Input Type**: BINARY **Acceptable Answers**: YES, No
coolingMechanism	**Question Text**: What's the primary way you cool your home? **Data Type**: STRING **Input Type**: RADIO_IMAGE **Acceptable Answers**: CENTRAL_AIR_CONDITIONING, CENTRAL_HEAT_PUMP, ROOM_AIR_CONDITIONING, ROOM_HEAT_PUMP, OTHER

Question	Description
frequencyAirConditioningUsedDuringSummer	**Question Text**: How often do you use air conditioning in the summer? **Data Type**: STRING **Input Type**: DROPDOWN **Acceptable Answers**: EVERY_DAY, A_FEW_TIMES_A_WEEK, A_FEW_TIMES_A_MONTH, A_FEW_TIMES_ALL_SUMMER
thermostatWhenHot	**Question Text**: When you're home in the summer, where do you set your thermostat? **Data Type**: INT **Input Type**: DROPDOWN **Acceptable Answers**: RANGE_69_LOWER, RANGE_71_73, RANGE_74_76, RANGE_77_79, RANGE_80_HIGHER, NO_TEMP_SETTINGS
thermostatOffWhenAway	**Question Text**: How often do you turn down your air conditioner when you're away from home or asleep? **Data Type**: STRING **Input Type**: DROPDOWN **Acceptable Answers**: ALWAYS, SOMETIMES, NEVER
typeWaterHeater	**Question Text**: What type of water heater do you have? **Data Type**: STRING **Input Type**: RADIO_IMAGE **Acceptable Answers**: STORAGE_WATER_HEATER, TANKLESS_WATER_HEATER, HEAT_PUMP_WATER_HEATER, OTHER, NONE
fuelWaterHeater	**Question Text**: What type of fuel does your water heater use? **Data Type**: STRING **Input Type**: RADIO_IMAGE **Acceptable Answers**: GAS, ELEC, SOLAR, OTHER
cfls	**Question Text**: What portion of your indoor light bulbs are energy efficient (like CFLs or LEDs)? **Data Type**: STRING **Input Type**: RADIO **Acceptable Answers**: ALL, MOST, SOME, NONE
indoorLightingAmount	**Question Text**: Do you turn off lights when nobody is in the room? **Data Type**: STRING **Input Type**: RADIO **Acceptable Answers**: ALWAYS, SOMETIMES, NEVER
outdoorLightingAmount	**Question Text**: When do you use outdoor lights? **Data Type**: STRING **Input Type**: RADIO **Acceptable Answers**: ALL_DAY_ALL_NIGHT, ONLY_NIGHT, RARELY_TO_NEVER, ONLY_WHEN_MOTION, NO_OUTDOOR_LIGHTING
ownedElectronics	**Question Text**: Which of the following do you use in your home? **Data Type**: STRING **Input Type**: CHECKBOX_IMAGE **Acceptable Answers**: CLOTHES_WASHER, CLOTHES_DRYER, DISHWASHER, STANDALONE_FREEZER, STOVE_COOKTOP, OVEN, DEHUMIDIFIER, AIR_PURIFIER, SECOND_REFRIGERATOR, MINI_FRIDGE

Question	Description
clothesWasherLoadsPerWeek	**Question Text**: How often do you use your clothes washer? **Data Type**: INT **Input Type**: RADIO **Acceptable Answers**: LESS_THAN_ONCE_PER_WEEK, 1_2_PER_WEEK, 3_4_PER_WEEK, 5_6_PER_WEEK, 7_PLUS_PER_WEEK
clothesDryerLoadsPerWeek	**Question Text**: How often do you use your clothes dryer? **Data Type**: INT **Input Type**: RADIO **Acceptable Answers**: LESS_THAN_ONCE_PER_WEEK, 1_2_PER_WEEK, 3_4_PER_WEEK, 5_6_PER_WEEK, 7_PLUS_PER_WEEK
dishwasherLoadsPerWeek	**Question Text**: How often do you use your dishwasher? **Data Type**: INT **Input Type**: RADIO **Acceptable Answers**: LESS_THAN_ONCE_PER_WEEK, 1_2_PER_WEEK, 3_4_PER_WEEK, 5_6_PER_WEEK, 7_PLUS_PER_WEEK
ovenFuelType	**Question Text**: What type of fuel does your oven use? **Data Type**: STRING **Input Type**: RADIO_IMAGE **Acceptable Answers**: ELEC, GAS, OTHER
devicesInHome	**Question Text**: Which of the following do you use in your home? **Data Type**: BOOLEAN **Input Type**: CHECKBOX_IMAGE **Acceptable Answers**: TV, CABLE_BOX, DVD_PLAYER, DVR_TIVO, GAME_CONSOLE, DESKTOP_COMPUTER, LAPTOP_COMPUTER
hoursTelevisionPerDay	**Question Text**: In a typical day, how often is your TV on? **Data Type**: INT **Input Type**: RADIO **Acceptable Answers**: 2_OR_LESS, 3_TO_5, 6_TO_8, 9_TO_11, MORE_THAN_12
hasPool	**Question Text**: Do you own a pool? **Data Type**: STRING **Input Type**: BINARY **Acceptable Answers**: YES, NO
poolHeating	**Question Text**: What type of fuel do you use to heat your pool? **Data Type**: STRING **Input Type**: RADIO)_IMAGE **Acceptable Answers**: GAS, ELEC, LPG, OTHER, NONE

Web Audit Customer Data Extract File Transfer

Oracle Utilities Opower uses a specific file format, naming convention, and file transfer method to send Home Profile data extracts to utilities.

File Format: Each extract is provided in a separate tab-delimited file with a single header record. Files are compressed using gzip.

File Name Convention: Files transferred from Oracle Utilities will use the following naming convention:

web_audit_customer_answers_and_questions[timestamp].tsv.zip

File Transfer: Files are delivered to the Oracle UtilitiesOpower Secure File Transfer Protocol (SFTP) site on a weekly cadence. Files may contain either a full or incremental dataset depending on the agreed-upon integration. Files may also be encrypted for enhanced security. See Data Extract File Transfer for more information.

File Retention: Files stored on the Oracle Utilities SFTP site adhere to a standard file retention policy. See File Retention Policy for more information.

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Web Logins Extract (Incremental)

The Web Logins extract contains a list of customer logins to the Energy Efficiency Web Portal - Classic within a specified date range. It is available as a standard recurring extract if you Contact Your Delivery Team.

Column	Description
utility_customer_id	The customer identifier that is used on customer communications. This is usually the same value as the `customer_id` column sent by the utility in other data files, but not always. Additional identifiers may need to be added to the extract. Discuss this modification with your Delivery Team, if necessary. **Example**: 1234-1234-1234-1234 **Field Size**: 40. **Can Be Empty?**: No.
login_time	Date and time of login. **Field Size**: 19. **Can Be Empty?**: No.

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Standard Data Extracts File Transfer

Oracle Utilities Opower uses a specific file format, naming convention, and file transfer method to send standard data extracts to utilities.

File Format: Each data extract file is provided in a separate tab-delimited file with a single header record. Files are compressed using gzip.

File Name Convention: Files transferred from Oracle Utilities contain the type of the extract, the utility code, and the date of creation using the following pattern:

opwr_[utility]_[extract]_[yyyymmdd].txt.gz

For example, a full customer extract created for "The Great Energy Company" on December 15, 2013, would be named:

opwr_gec_full_customer_20131215.txt.gz

File Transfer: Files are delivered to the Oracle Utilities Opower Secure File Transfer Protocol (SFTP) site on a weekly cadence. Files may contain either a full or incremental data set depending on the extract. Files may also be encrypted for enhanced security. See Data Extract File Transfer for more information.

File Retention: Files stored on the Oracle Utilities SFTP site adhere to a standard file retention policy. See File Retention Policy for more information.

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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.