Customer Profile Study Dashboard User Guide

This user guide demonstrates how to browse through the report and use its features most efficiently.

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DNV

How to access the dashboard?

NO LOG-IN VERSION

Access the dashboard home page directly using this link:
ACCESS THE DASHBOARD

Switch to full-screen mode

Access to log-in version of the dashboard

List of available dashboards

LOG-IN VERSION

In parallel to the no login-in version, the log-in version provides additional functionality that requires the system to verify the user. Additional features include e.g. creation, use and sharing of bookmarks.

OPTION A

Access the login-in dashboard home page directly using this link:
ACCESS THE DASHBOARD

OPTION B

Visit **https://www.veracity.com/** and click through as follows:

High-level content explanation

MA Customer Profile

Massachusetts Program Administrators and Energy Efficiency Advisory Council

DNV publishes annual statewide analyses of the Massachusetts Program Administrators' (PAs') commercial and industrial (C&I) and residential billing and tracking data, and third-party data, in the C&I and Residential Customer Profile Studies. These comprehensive studies characterize the state's energy efficiency customers according to metrics such as customer usage, savings, and program participation across all PAs. Findings are presented at different analysis grains including the account level, project level, and location level. This dashboard allows users to view these findings at a high level and to drill down into any finding using selected filters. All savings values in this report are gross annual savings. For accounts with only a partial year of consumption information, total annual usage is extrapolated by multiplying the mean daily weather-normalized consumption by the number of days for which actual usage is not available, then adding this product to the actual reported usage for the remainder of the year. As a result of this extrapolation, usage totals may differ from other reported sources.

Feedback & Questions

DNV - Energy Systems

Get in touch with us: MADataManagement@dnv.com. For further information please visit our website.

EXECUTIVE SUMMARY

- STAKEHOLDER SUMMARY
- 9- YEAR PARTICIPATION TRENDS
- ACCOUNTS & CONSUMPTION
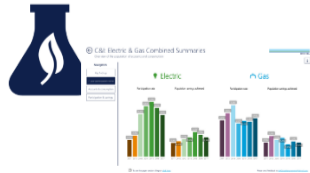- PARTICIPATION & SAVINGS

DETAILED SECTIONS

PARALLEL ELECTRIC AND GAS SECTIONS FEATURING:

- PARTICIPATION & SAVINGS
- END USES
- INDUSTRY SEGMENTS (C&I ONLY)
- BUILDING TYPE (RESID. ONLY)
- BY PA SUMMARY
- PROJECT BREAKDOWNS (C&I ONLY)
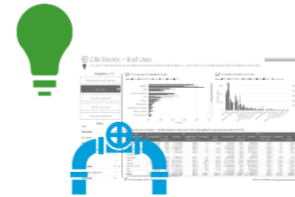- SOCIOECONOMIC ANALYSIS

ON-DEMAND

- ON-DEMAND VISUALS (C&I ONLY)

EXECUTIVE SUMMARY

Most categories also have sub-categories. Access these sub-categories by clicking on the arrow to the right of each category bar. Hide the pop-up menu by clicking the left arrow once it's opened.

See USER GUIDE -> NAVIGATION for more info.

END USES

This section displays the data in the context of end uses, allowing the user to track energy savings by end use and to evaluate end use incentives. This section is further divided into specific end use types, allowing even deeper analysis. End uses are also categorized as upstream or non-upstream purchases.
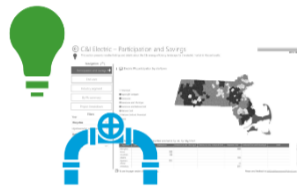
PARTICIPATION AND SAVINGS

This section provides detailed savings information, including number of participants and energy saved. This is the only section of the report that presents the data geographically and allows the user to see savings achieved by city/town in Massachusetts. Savings are also presented in the context of consumption bins, which makes it possible to see relationships between consumption and savings.

INDUSTRY SEGMENT

This section displays data in the context of industry segment. It allows the user to compare information for participant and non-participant accounts, presenting the consumption and savings achieved in the different industry segments, as defined by accounts' various NAICS codes.

High-level content explanation
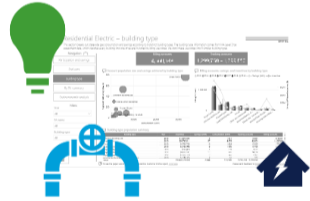
BUILDING TYPE

This section presents data in the context of building type. It allows the user to compare consumption, savings, and incentives by building type for participant and non-participant accounts.
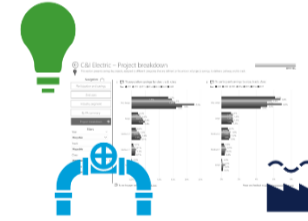
PROJECT BREAKDOWN

This section presents details about project specifics, including project size, track, and class. This section can yield insight into which project types contribute most heavily to overall savings. Data can be filtered to show a specific year, PA, etc.
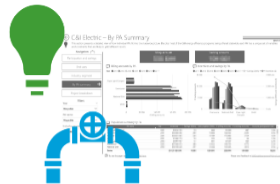
BY PA SUMMARY

This section provides a more detailed overview of participation and savings across PAs within a given fuel. It allows the user to view individual PA results and to compare PA results with one another.
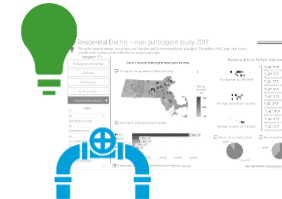
SOCIOECONOMIC ANALYSIS

This section provides some socioeconomic context for the accounts.

ON-DEMAND VISUALS

This section provides additional C&I figures and tables developed per stakeholder request to supplement the data provided in the core C&I sections of the dashboard. Descriptions are provided for each visual, and users can view, filter, and export this data as needed.

BROWSING THROUGH THE REPORT

	PAGE OVERVIEW	ACTION	EFFECT

MAIN CATEGORIES

Use the navigation menu to the left to toggle between data categories.
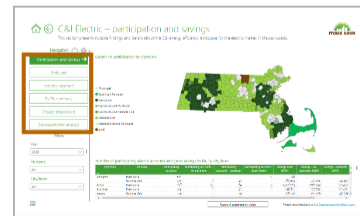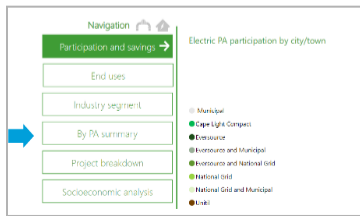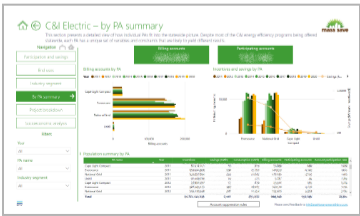
SUB-CATEGORIES

Most categories also have sub-categories. Access these sub-categories by clicking on the arrow to the right of each category bar. Hide the pop-up menu by clicking the left arrow once it's opened.
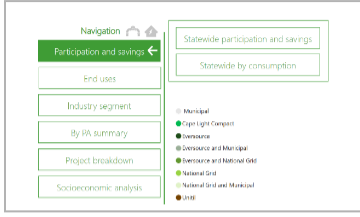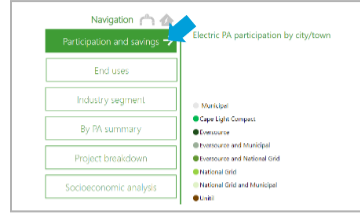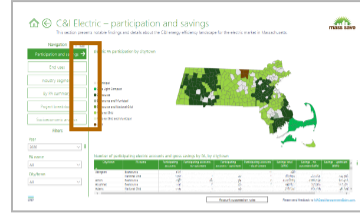
ADDITIONAL VISUALS

Use the "More" and "Previous" buttons on the bottom left of certain pages to toggle between additional charts and tables when available within the sections.

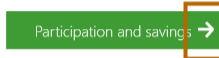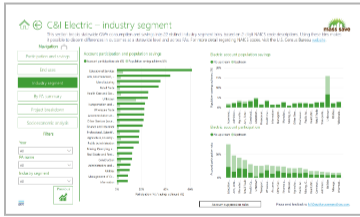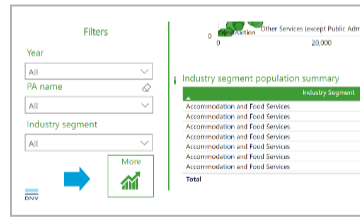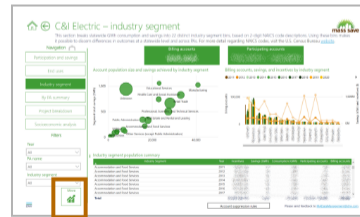## NAVIGATION ICONS

	PAGE OVERVIEW	ACTION	EFFECT

MASS SAVE LOGO

Click the Mass Save logo at the top right corner of each page to return to the home page from any location.
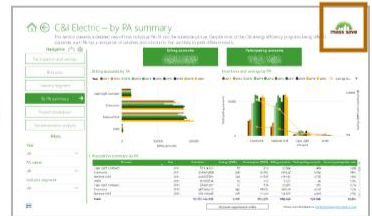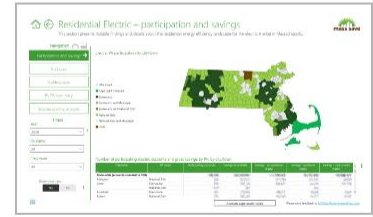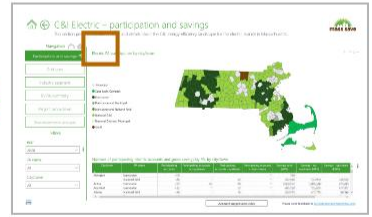

HOME ICON

Click the home icon at the top left corner of each page to return to the home page from any location.
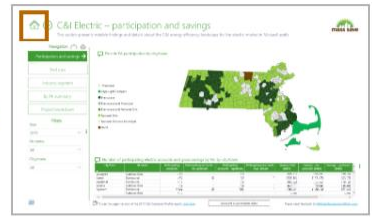
GREY INDUSTRIAL AND RESIDENTIAL ICONS

Click the gray industrial or residential icons next to the Navigation header to view the corresponding section of the dashboard for the other sector.

NAVIGATION ICONS (CONTINUED)

	PAGE OVERVIEW	ACTION	EFFECT

GREY LIGHT BULB AND PIPELINE

Click the gray light bulb or pipeline next to the Navigation header to view the corresponding section of the dashboard for the other fuel. (If viewing electric, click the pipeline to view the same section for gas, and vice versa).
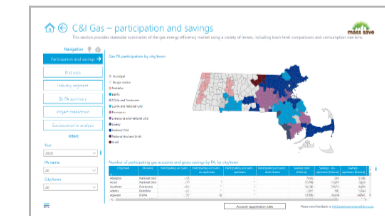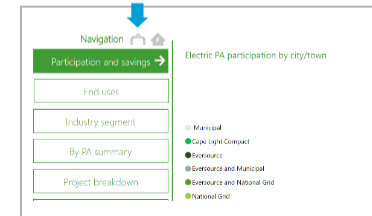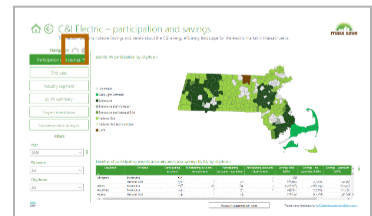
INTERNAL NAVIGATION SLIDER

If a section within the dashboard contains more content or has subsections, it is divided into pages. You can switch between these pages by clicking on the arrows or dots.
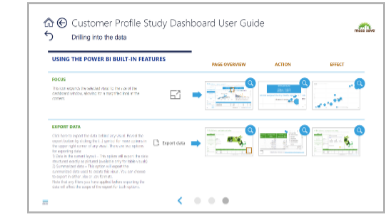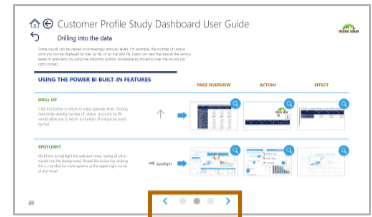
BACK ARROW

Click this arrow to return to the previous page.
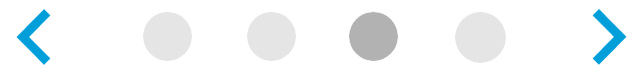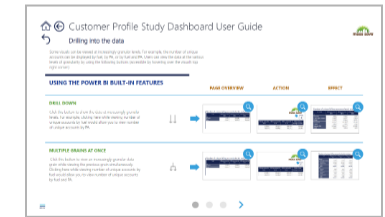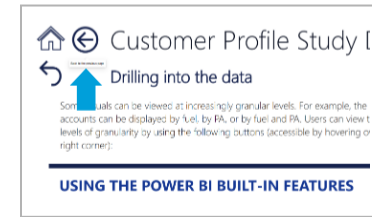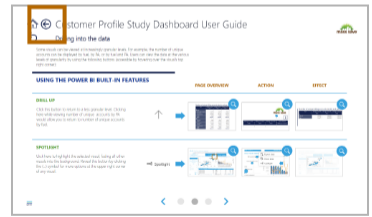
NAVIGATION ICONS (CONTINUED)

	PAGE OVERVIEW	ACTION	EFFECT

BACK TO THE TABLE OF CONTENTS

While reading through the User Guide or Metrics sections, you can use this button to go back directly to the User Guide Table of Contents.
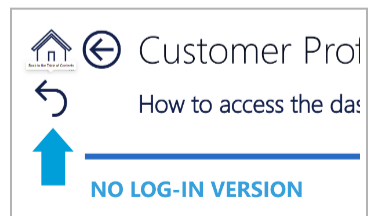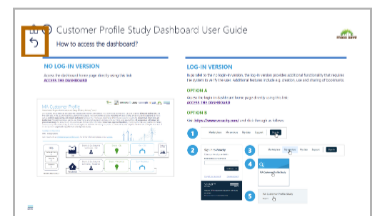
USING FILTERS AND HIGHLIGHTS

PAGE OVERVIEW	ACTION	EFFECT

FILTERS

Filters narrow the scope of the data displayed in the visuals. They allow the user to view targeted information by filtering out other data. Filters affect all the visuals on the page and are preserved between pages. Remove any filter by hitting the eraser icon made visible by hovering over the filter. It is possible to apply multiple filters or select multiple options within one filter. Please note that filtering data can cause it to reach fewer than 15 entries, which will trigger data suppression for customer privacy.
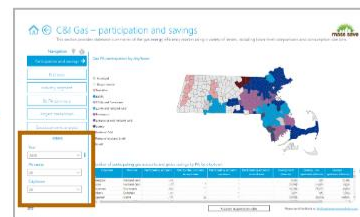
HIGHLIGHTS

Click on any visual to highlight a particular piece of information on other visuals on the page. The effect of highlighting depends on the type of visuals present on the page. For example, clicking on one element of the map legend will highlight the cities relevant to this element. Make multiple selections at once by CTRL + clicking.

DNV

Drilling into the data

Some visuals can be viewed at increasingly granular levels. For example, the number of unique accounts can be displayed by fuel, by PA, or by fuel and PA. Users can view the data at the various levels of granularity by using the following buttons (accessible by hovering over the visual's top right corner):

USING THE POWER BI BUILT-IN FEATURES

	PAGE OVERVIEW	ACTION	EFFECT

DRILL DOWN

Click this button to show the data at increasingly granular levels. For example, clicking here while viewing number of unique accounts by fuel would allow you to view number of unique accounts by PA.

MULTIPLE GRAINS AT ONCE

Click this button to view an increasingly granular data grain while viewing the previous grain simultaneously. Clicking here while viewing number of unique accounts by fuel would allow you to view number of unique accounts by fuel and PA.

Drilling into the data

Some visuals can be viewed at increasingly granular levels. For example, the number of unique accounts can be displayed by fuel, by PA, or by fuel and PA. Users can view the data at the various levels of granularity by using the following buttons (accessible by hovering over the visual's top right corner):

USING THE POWER BI BUILT-IN FEATURES

	PAGE OVERVIEW	ACTION	EFFECT

DRILL UP

Click this button to return to a less granular level. Clicking here while viewing number of unique accounts by PA would allow you to return to number of unique accounts by fuel.

SPOTLIGHT

Click here to highlight the selected visual, fading all other visuals into the background. Reveal this button by clicking the (...) symbol for more options at the upper right corner of any visual.
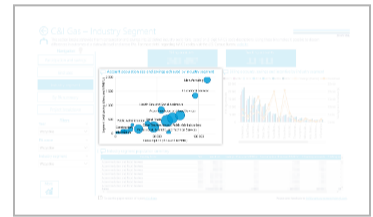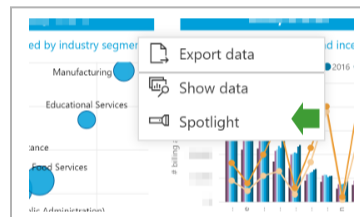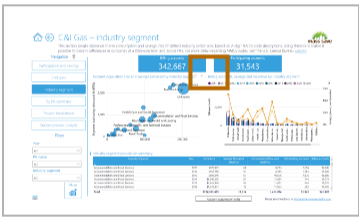
USING THE POWER BI BUILT-IN FEATURES

	PAGE OVERVIEW	ACTION	EFFECT

FOCUS

This icon expands the selected visual to the size of the dashboard window, allowing for a magnified look at the content.
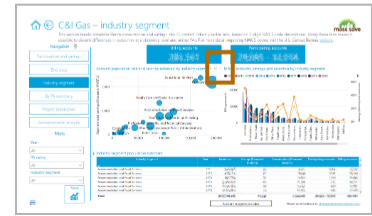
EXPORT DATA

Click here to export the data behind any visual. Reveal the export button by clicking the (…) symbol for more options in the upper right corner of any visual. There are two options for exporting data:
1) Data in the current layout – This option will export the data structured exactly as pictured (available only for table visuals)
2) Summarized data – This option will export the summarized data used to create this visual. You can choose to export in either .xlsx or .csv formats.
Note that any filters you have applied before exporting the data will affect the scope of the export for both options.
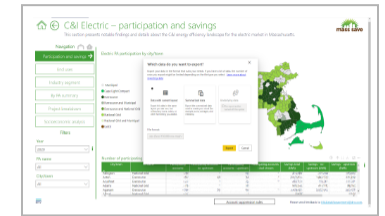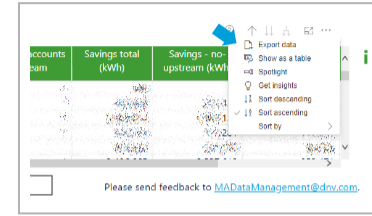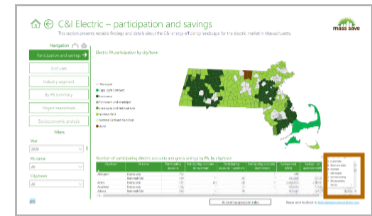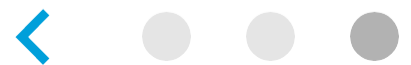
ADDITIONAL EXPLANATIONS OF VISUAL CONTENT

	PAGE OVERVIEW	ACTION	EFFECT

INFORMATION ICONS

Hover over information icons to display additional comments about the content of a visual or a filter. These comments explain the meaning of symbols, clarify certain measures, and describe calculation approaches.
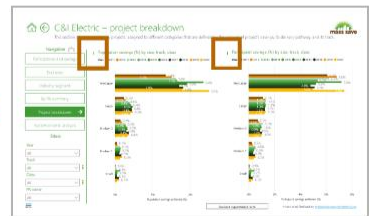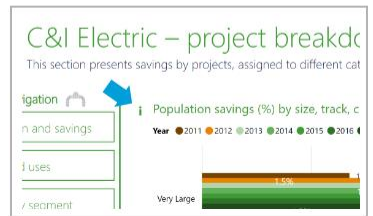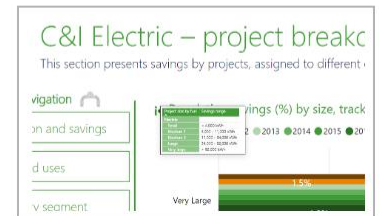
CONTENT ICON

Each visual on the dashboard is accompanied by a question mark with comments about the visual's content, accessed by hovering over the icon.
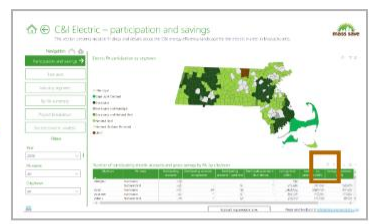
LINK ICON

Click this icon to open a third-party web page associated with a given topic and explore the topic in more detail.

ADDITIONAL HELP AND FEEDBACK

	PAGE OVERVIEW	ACTION	EFFECT

METRICS USED IN THE REPORT

For more information about this report's metrics and how they are calculated, click on the information icon below the Mass Save logo in the Executive Summary section.

i
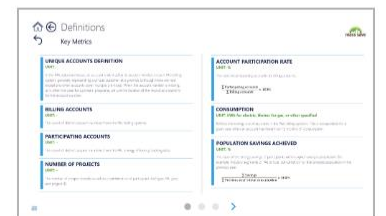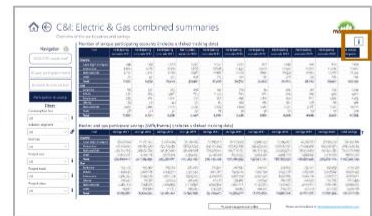
CONTACT US

To submit feedback or request assistance from the DNV data management team, use the contact email located at the bottom right of every page.

MADataManagement@dnv.com

Key Metrics
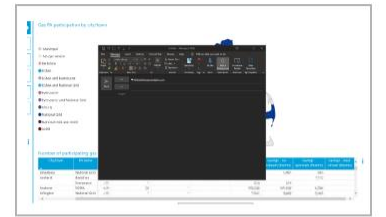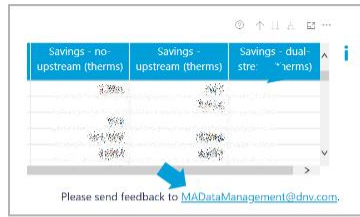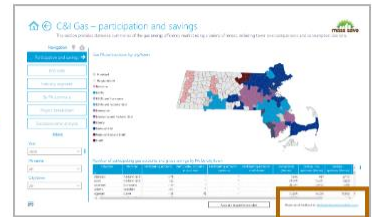
UNIQUE ACCOUNTS DEFINITION
UNIT: -

In the MA data warehouse, an account is defined by its account number in each PA's billing system, generally representing a unique customer at a premise (although there are rare exceptions when accounts cover multiple premises). When the account number is missing, as is often the case for upstream programs, we use the location of the record as a stand-in for the account number.

BILLING ACCOUNTS
UNIT: -

The count of distinct account numbers from the PAs' billing systems.

PARTICIPATING ACCOUNTS
UNIT: -

The count of distinct account numbers from the PAs' energy efficiency tracking data.

NUMBER OF PROJECTS
UNIT: -

The number of unique records based on a combination of participant, fuel type, PA, year, and project ID.

ACCOUNT PARTICIPATION RATE
UNIT: %

The ratio of participating accounts to billing accounts.

$$\frac{\sum \text{Participating accounts}}{\sum \text{Billing accounts}} \times 100\%$$

CONSUMPTION
UNIT: kWh for electric, therms for gas, or other specified

Reflects the energy use of accounts in the PAs' billing systems. This is extrapolated for a given year when an account has fewer than 12 months of consumption.

POPULATION SAVINGS ACHIEVED
UNIT: %

The ratio of the energy savings of participants within a given analysis population (for example, industry segments or PA) to total consumption for that analysis population in the previous year.

$$\frac{\sum \text{Savings}}{\sum \text{Previous year's total consumption}} \times 100\%$$

PARTICIPANT SAVINGS ACHIEVED
UNIT: -

The ratio of energy savings of participants within a given analysis population (for example, industry segments or PA) to the total consumption of those participants. For new construction participants only, their savings are added to the current year's consumption because consumption for those accounts in the year of construction typically doesn't reflect a fully operational building.

$$\frac{\sum \text{Savings}}{\sum \text{Previous year's consumption modified}} \times 100\%$$

LOCATION PARTICIPATION RATE
UNIT: %

The ratio of participating locations to billing locations based on primary street address.

$$\frac{\sum \text{Participating locations}}{\sum \text{Billing locations}} \times 100\%$$

BILLING ACCOUNTS
UNIT: -

The count of distinct account numbers from the PAs' billing systems.

SAVINGS
UNIT: kWh for electric, therms for gas, or other specified

Reflects gross energy savings achieved by accounts participating in energy savings programs.

INCENTIVES
UNIT: -

Money paid to participants by PAs to encourage participation in energy efficiency programs.

INCENTIVES PER KWH/THERM SAVED
UNIT: USD/(kWh or therm)

The ratio of incentives paid by PAs to the total savings achieved.

MEAN SAVINGS
UNIT: kWh or therm

Mean value of savings.

Key Metrics

MEDIAN SAVINGS
UNIT: kWh or therm

Median value of savings.

CUMULATIVE LOCATION PARTICIPATION RATE
UNIT: -

This measure calculates number of unique participating locations (defined as a unique combination of city name, zip code and street address assigned to a participating account) since 2013 to currently selected year and divides the result by number of all unique locations since 2013 to the selected year. This measure therefore indicates a percentage of locations that participated in energy savings programs at least once since 2013

$$\frac{\text{Count of unique participating locations since 2013}}{\text{Count of unique locations since 2013}} \times 100\%$$

PARTICIPATION CONTRIBUTION RATIO
UNIT: -

This measure calculates a share of savings (%) achieved in a selected category (e.g. single end use), and divides it by projects participation ratio (%) for this category. It is a standardized measure that allows comparing categories one to another in therms of their efficiency in generating savings.

$$\frac{\frac{\sum \text{Savings in a selected context}}{\sum \text{Savings in total}}}{\frac{\sum \text{Number of projects in a selected context}}{\sum \text{Projects in total}}}$$

CONTRIBUTION RATIO
UNIT: -

This measure calculates a share of savings (%) achieved in a selected category (e.g. single end use), and divides it by share of consumption (%) generated in this category. It is a standardized measure that allows comparing categories one to another in therms of their efficiency in generating savings.

$$\frac{\frac{\sum \text{Savings in a selected context}}{\sum \text{Savings in total}}}{\frac{\sum \text{Previous year's consumption in a selected context}}{\sum \text{Previous year's consumption in total}}}$$

Suppression rules were introduced in order to protect participant's confidentiality. There is a threshold of 15 accounts for Commercial and Industrial participants and 100 accounts for Residential participants, below which data is hidden - usually displayed as a "*" symbol. For more information refer to data documentation (currently in preparation).

Suppression may sometimes cause data formatting issues raised by Excel when opening the file. In the event of such communicates being raised, please try CSV export instead.

Unique accounts 2018	Unique accounts 2019
*	*
472	450
286	268
*	*
760 - 786	720 - 746

An example of suppressed values displayed in one of the tables. Here, number of accounts does not exceed 15, hence a star is displayed instead.

Please note, that the total value is displayed as a range of possible values considering each "*" may contain between 1 and 15 accounts.

City/town	PA name	Participating accounts	Participating accounts - no-upstream	Participating accounts - upstream
Abington	Cape Light Compact	0	0	0
	Eversource	0	0	0
	National Grid	>30	*	30

The example above shows another way of expressing the total number in presence of suppression. Total number of accounts in 'Participation and savings" section indicates there is at least 30 accounts in this row, but the real value is unknown due to the suppression on no-upstream accounts.

Tracking accounts

376 - 558

Suppression may appear on the page summary cards as well, as ranges of possible values.

If a number of accounts should be a subject of suppression, related measures might be suppressed as well. In this example we see hidden values of consumption, as they present summary for less than 15 accounts.

Suppressed numbers are not included in the total number, hence ">" sign, informing the real consumption exceeds visible sum.

Consumption 2018	Consumption 2019
*	*
5,520,758,541	5,427,421,605
3,005,246,797	2,750,754,039
*	*
>8,526,005,339	>8,178,175,644

For visuals other than tables, matrices and cards, suppressed values are omitted (due to the fact that ranges and non-numerical values cannot be plotted).

Figure on the right presents Accounts by PA. For Cape Light Compact, a range of 2014-2019 is presented. In fact, all data in the range of 2011-2013 were available, but had to be suppressed.

💬 Billing accounts by PA

Year ● 2011 ● 2012 ● 2013 ● 2014 ● 2015 ● 2016 ● 2017 ● 2018 ● 2019

Cape Light Compact

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