PORTFOLIO ANALYTICS MANAGER USER GUIDE FOR FACILISIGHT PORTAL

VERSION 1.0

Contents

Preface

About the Document

This document is created to capture the new features introduced in Portfolio Analytics Manager (PAM) on the Facilisight portal.

Audience

The document is intended for the facility managers (organizational, primary, and secondary) using the Facilisight portal. They are referred to as *you* throughout the document.

Revision History

Version	Publication Date	Summary
1.0	May 19, 2021	Initial draft of Portfolio Analytics Manager features

Text Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1. Portfolio Analytics Manager

Portfolio Analytics Manager allows you to create dashboards with different types of predefined and custom visualizations. You can use these dashboards to view energy consumption details across the buildings of the portfolio for a specific time period. You can create visualizations for better understanding of the configured energy mappings of the buildings and to monitor the savings in energy consumption. You can observe system behavior using trend charts along with energy consumption on the various dashboards.

See also:
Dashboards
Visualizations

2. Dashboards

You can get analytics and visualizations from dashboards to monitor energy usage and trends across buildings. The dashboards can be created, viewed, or accessed for buildings from portfolio analytics or site analytics.

Advantages

With these dashboards, you can:

- Monitor energy and trends with add, view, edit, copy, or duplicate dashboards functionalities.
- Configure and use predefined/custom widgets for monitoring energy.
- Customize visualization with various editable configurations.
- Move or copy visualizations between dashboards.
- Create hybrid dashboards with different types of visualizations.
- Share dashboards with others who are in the similar role in the organization.
- Download reports of various graphs.
- View all previously set configurations of dashboards and visualizations.
- View different queries used by the system for retrieving data based on the setting.
- Switch between widget types.

See also:

Adding New Dashboard

Editing Dashboard

Viewing Dashboard

Sharing Dashboard

Deleting Dashboard

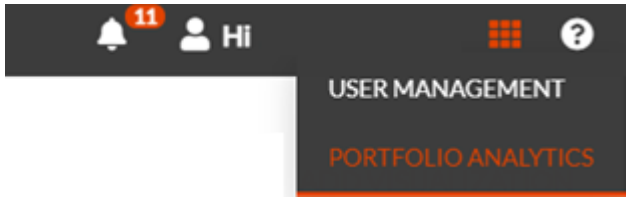
Duplicating Dashboard

Visualization

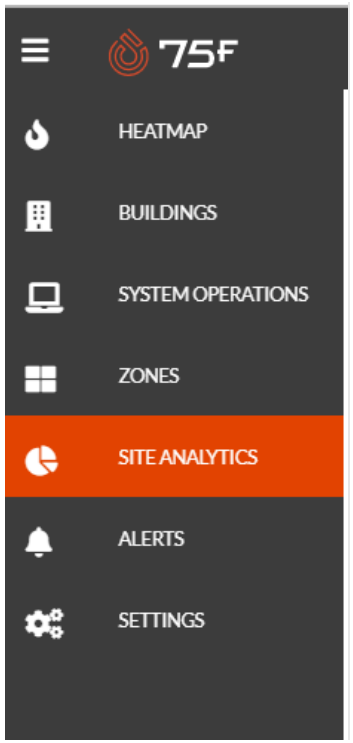
Accessing Dashboard

You can access the dashboard from the portfolio level or the site level.

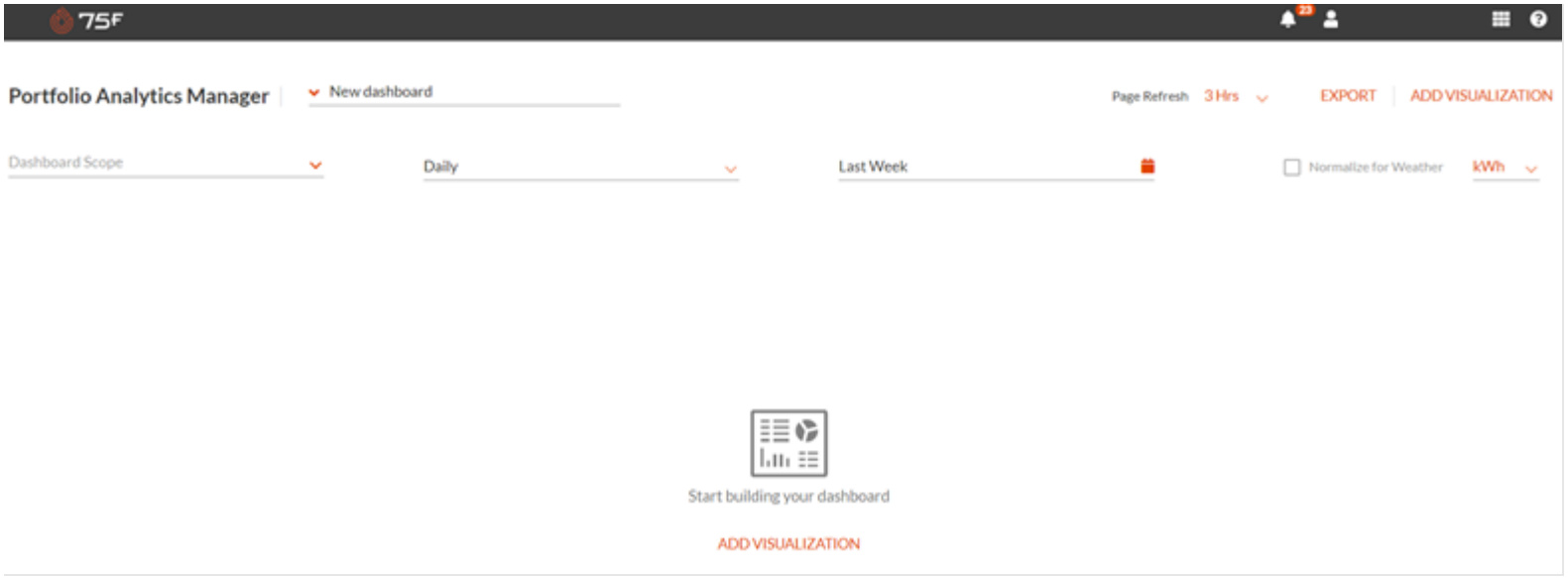
1. Log onto the Facilisight portal.
2. To access the dashboard from portfolio level, click **Menu** icon on the far right-hand corner of the screen and select **Portfolio Analytics.**



3. To access the dashboard from site analytics, click icon on the far left-hand corner of the screen, select a site and then click **Site Analytics** to access from site level.



The Portfolio Analytics Manager dashboard page is displayed.



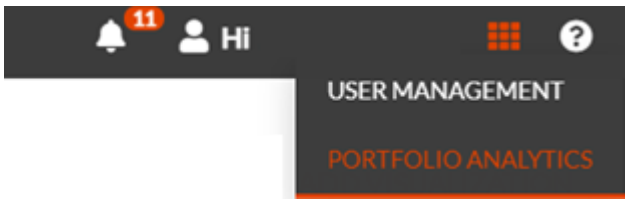
Adding New Dashboard

You can add a dashboard to analyze and monitor energy consumption, energy cost index, and site intensity. You can create your own visualizations of widgets using these data. The dashboard created appears on the dashboard home page. These dashboards can be created by selecting a building from Site Analytics or by selecting all buildings managed by a facility manager from Portfolio Analytics.

Procedure

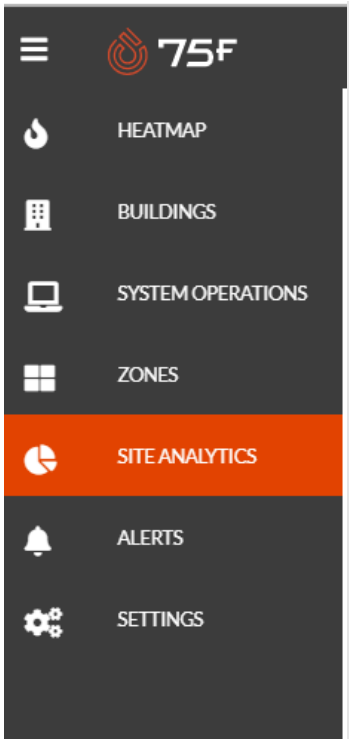
1. Log onto the Facilisight portal.
2. If you want to create, view, or access dashboard from portfolio analytics, then click **Menu** icon on the far right-hand corner of the screen and select **Portfolio Analytics.**

The **Portfolio Analytics Manager** page is displayed.

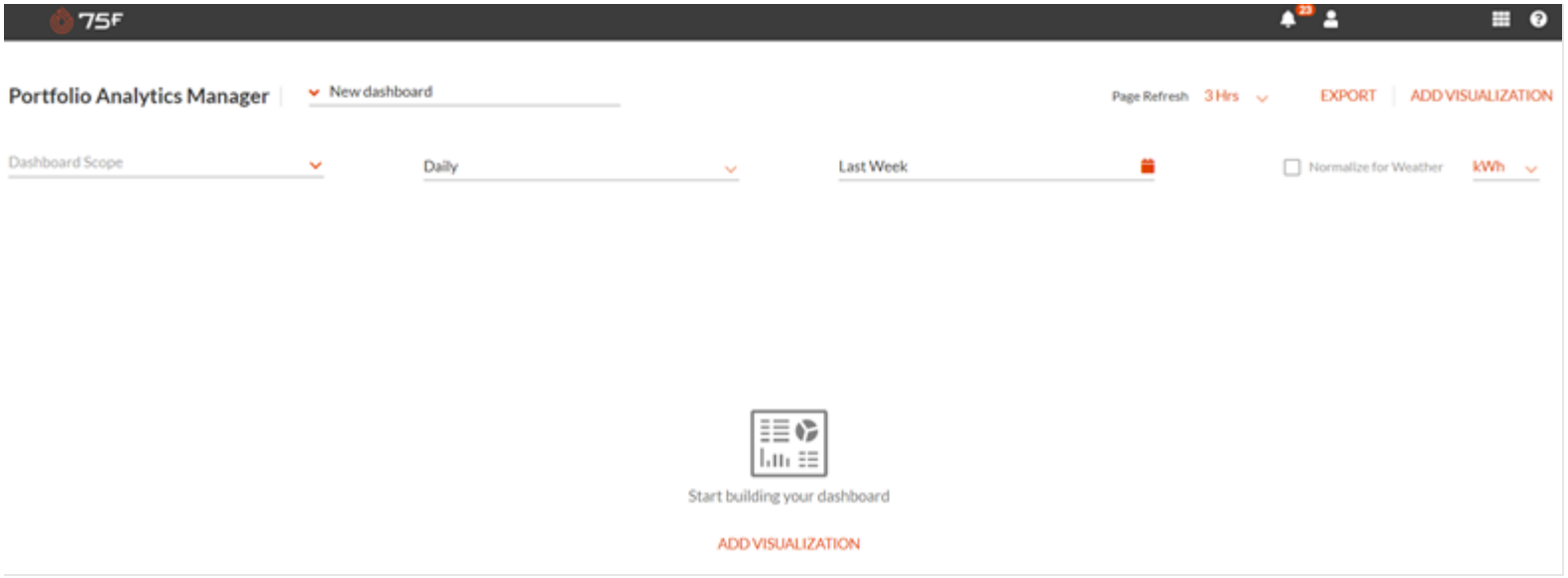


-OR-

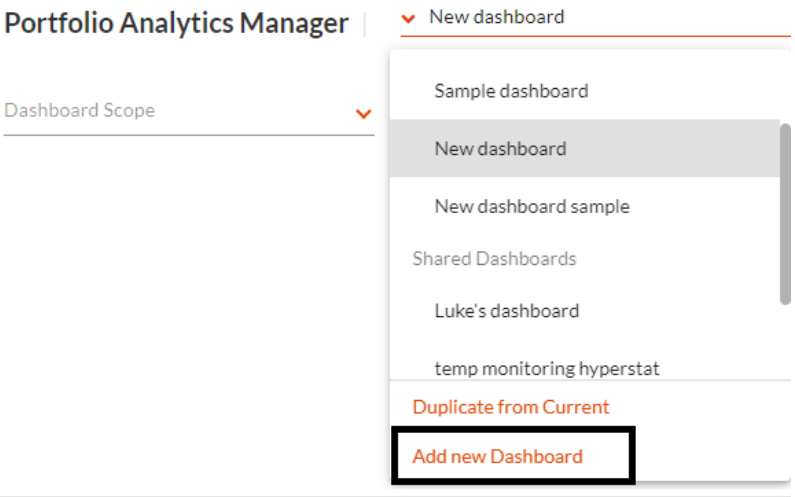
If you want to create, view, or access dashboard from site analytics, then click a site and click  icon on the far left-hand corner of the screen. Select **Site Analytics** to access from site level.



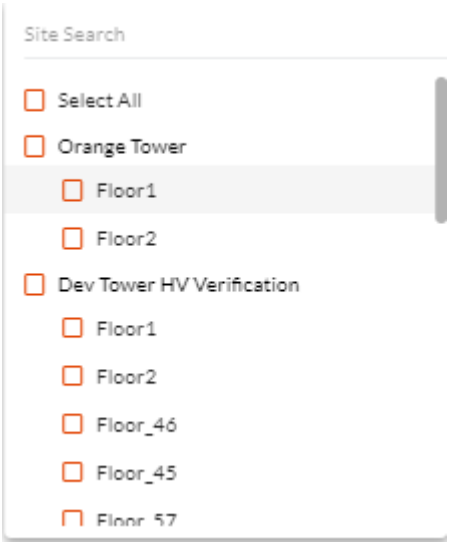
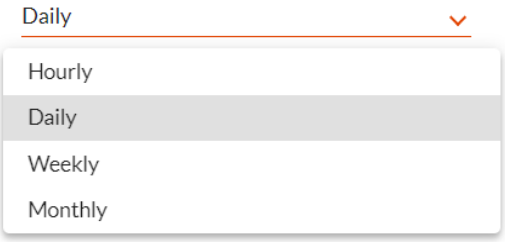
The Portfolio Analytics Manager dashboard page is displayed.

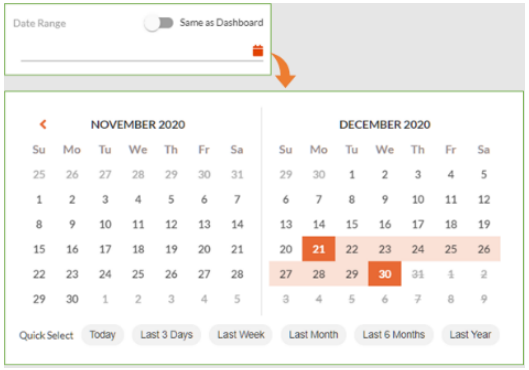
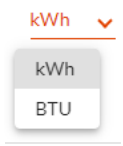


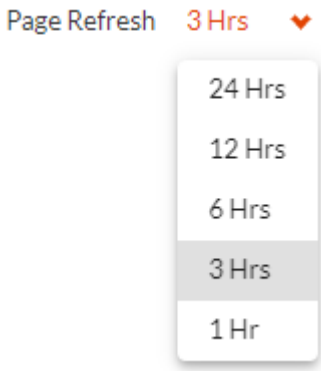
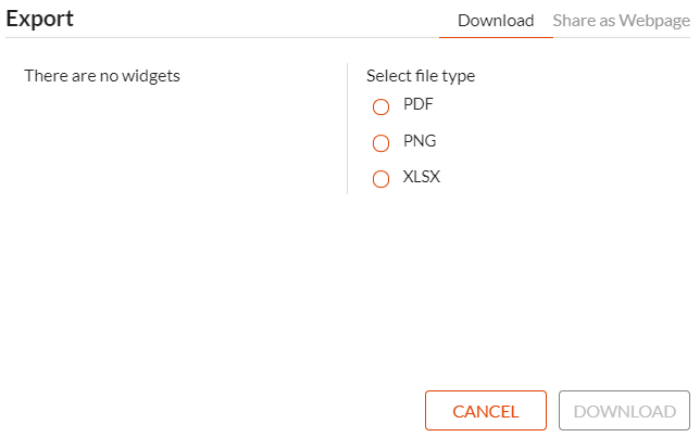
3. Click the **New Dashboard** dropdown list and select **Add New Dashboard** from the list.



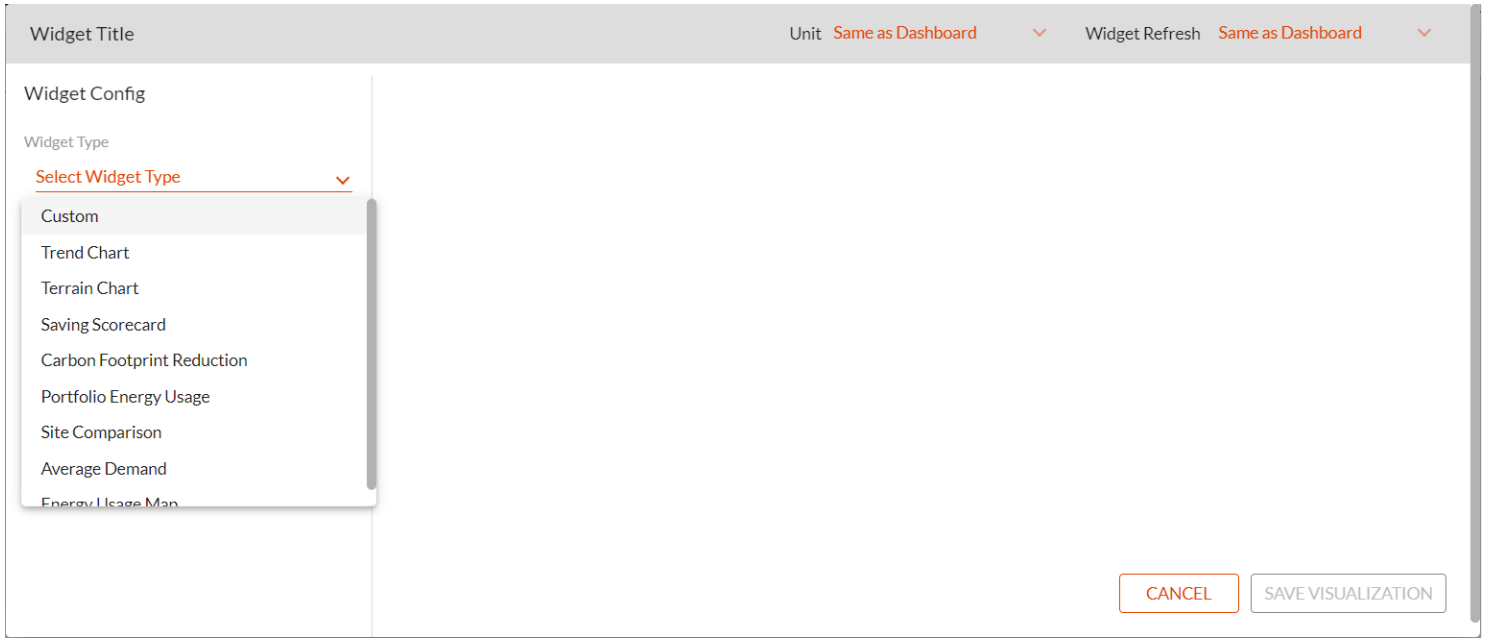
4. To edit the name of the dashboard, click **Edit** ( ) icon.
5. Type the name of the dashboard and click icon to save the changes.
6. Complete the following fields:

Field Name	Description
Dashboard Scope	 You can set the scope of building selection for which portfolio data is to be analyzed and monitored. Scope can be limited to one building or multiple buildings based on user navigation preference.
Group By	 You can use this option to view the desired data in grouping. You can group data by the following options: – **Hourly:** If data is group by hourly, then hour wise data can be viewed. – **Daily (default):** If data is group by daily, then per day data can be viewed. – **Weekly:** If data is group by weekly, then data per week can be viewed. – **Monthly:** If data is group by weekly, then data per week can be viewed.

Field Name	Description
Date Range	 You can select a date range based on the period for which you want to view and analyze from the following options: – Today – Last 3 Days – Last Week (default) – Last Month – Last 6 Months – Last Year Or click **Calendar** icon to select a date range.
Normalize for Weather	Normalized impact of weather on the energy consumption across multiple buildings. This is derived from heating and cooling degree day calculations for a building location.
Unit Selection	 You can select kWh (default) or BTU.

Field Name	Description
Page Refresh	 You can select page refresh interval. – Widget refresh options for energy charts are in hours (24 Hrs/12 Hrs/6 Hrs/3 Hrs/1 Hr) – Widget refresh options for equipment charts are in minutes (24 Hrs/12 Hrs/6 Hrs/3 Hrs/1 Hr, 5 Min, 1 Min)
Export	 You can export selected data and download one or more widgets on the dashboard in PDF, PNG, or XLSX format. You also have the option to share the widget as a Webpage. See Exporting and Downloading Visualization.

7. Click **Add Visualization.** The Widget page is displayed.



See Visualization to create your own widgets.

The dashboard thus created is saved under **Personal Dashboard** for future reference.

Editing Dashboard

You can edit the name of the dashboard you have created.

Procedure

1. Select the dashboard you want to edit from the dashboard dropdown list.
2. Hover the mouse on the dashboard title until the icons appear.
3. Click **Edit** icon to update the name of the dashboard.
4. Click **Confirm** to save the changes.

Viewing Dashboard

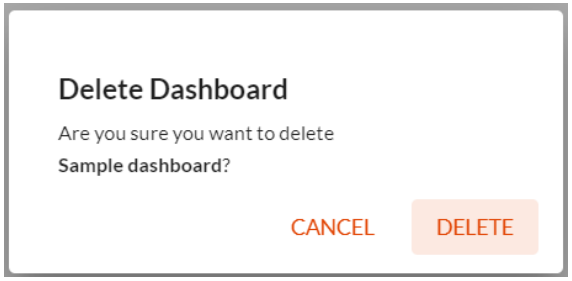
You can only view dashboards that you have created or shared with you by the support personnel. These dashboards can be accessed from the **Shared Dashboard** category in the dashboard dropdown list.

Deleting Dashboard

You can delete the dashboard you have created.

Procedure

1. Select the dashboard you want to delete from the dashboard dropdown list.
2. Hover the mouse on the dashboard title until the icons appear.
3. Click **Delete** icon.
4. A delete confirmation message is displayed as shown.



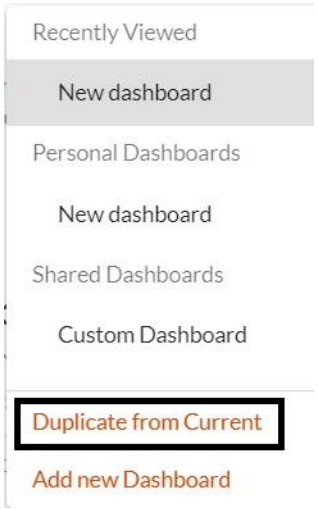
5. Click **Delete**. A message that the dashboard is successfully deleted appears.

Duplicating Dashboard

You can create more than one instance of the dashboard you created by using the **Duplicate from Current** option.

Procedure

1. Select the dashboard you want to duplicate from the dashboard dropdown list.
2. Scroll down the list and click the **Duplicate from Current** option.



A duplicate dashboard is created. The name of the dashboard is incremented by 1. For example, if you are duplicating the dashboard called *Sample Dashboard,* then the name of the duplicated dashboard will be *Sample Dashboard1.*

3. Visualizations

You can create visualizations to monitor energy usage and trend data across the buildings. You can create widgets with the parameters you want to analyze and monitor. These visualizations appear on the dashboard page.

You can create:

Predefined Widgets

Custom Widgets

Adding Predefined Visualization

Predefined Visualizations

You can choose from any of the following predefined visualizations:

- Trend Chart
- Terrain Chart
- Saving Scorecard
- Carbon Footprint Reduction
- Portfolio Energy Usage
- Site Comparison Chart
- Average Demand
- Energy Usage Map

Trend Chart

Trend charts show trends in data over time to understand the real-time performance of a process. All the trending points associated with a building or multiple building can be plotted using a trend chart.

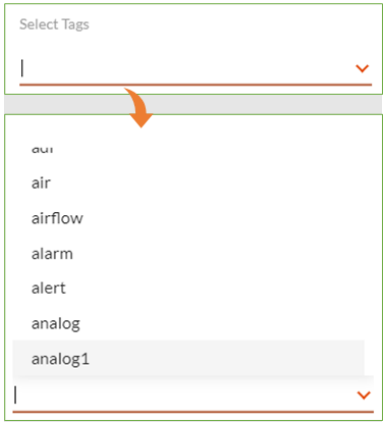
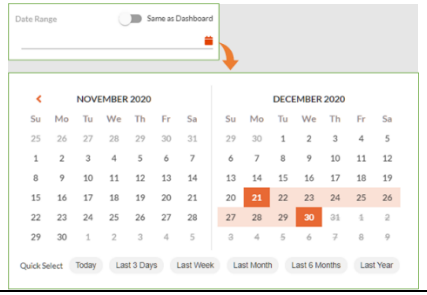
Creating Trend Chart

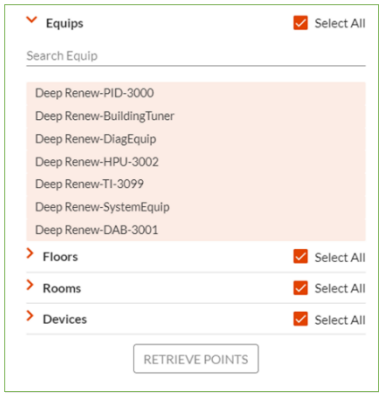
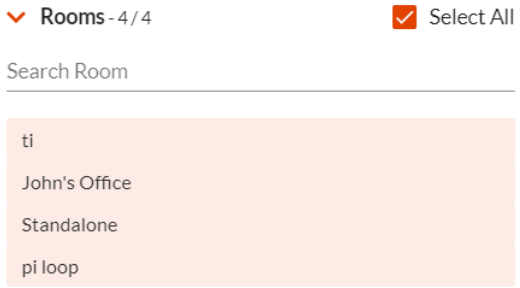
Procedure

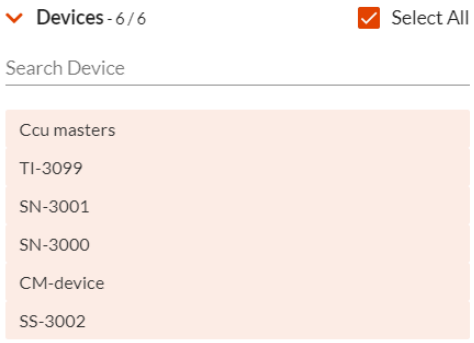
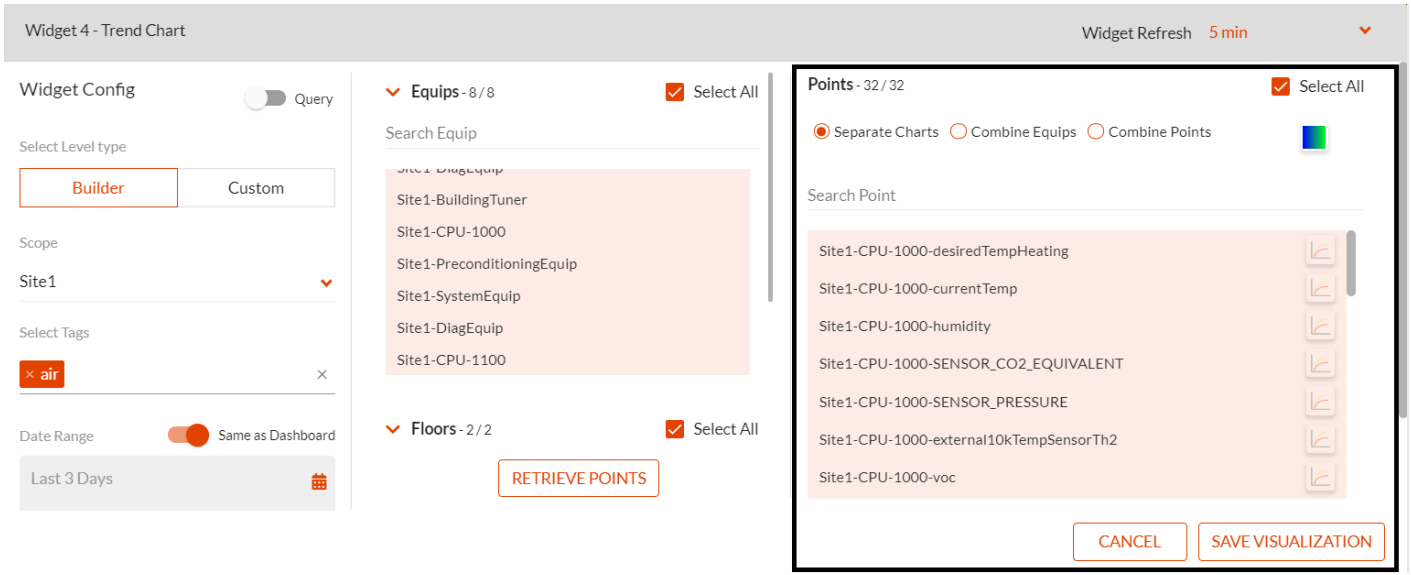
1. From the dashboard page, click **Add Visualization.**

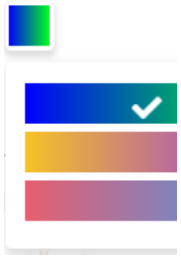
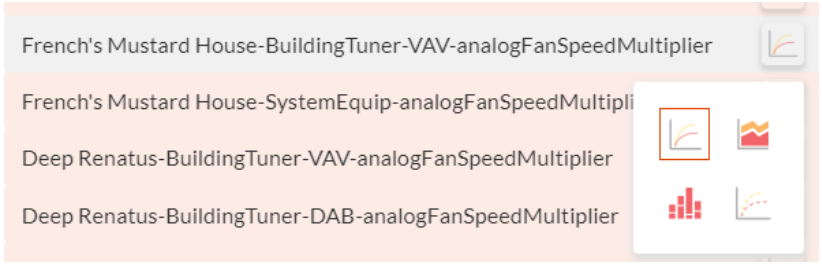
2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.
3. Select **Trend Chart** from the **Widget Type** dropdown list.
4. Click **Select Level** Type as **Builder**. This option allows you to build a query using the UI points. Select **Custom** option allows you to build a custom query for the zone or the equipment.
5. Select from the following fields to configure the widget.

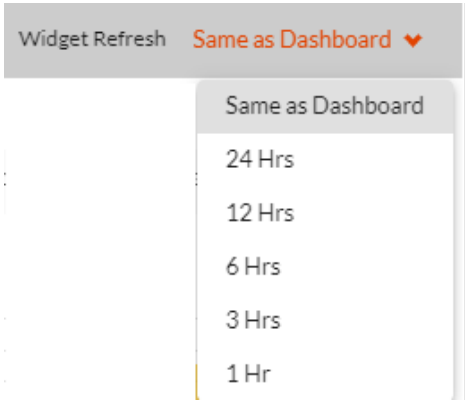
The following table explains the various fields displayed on the page:

Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Select Tags	 You can use tags to choose points that need to be plotted in the chart. You can choose from the following tags: air, airflow, alarm, analog, base, co2, conditioning group, id and so on. If you select the temperature tag, then all the points related to temperature is plotted. You can choose more than one tag.
Date Range	

Field Name	Description
	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.
Equips	 By default, all the equips are selected. To select individual equips from the list, clear **Select All** checkbox. Click an equip to select it. The points for that equips is selected as well.
Floors	 By default, all the floors are selected. To select individual floors from the list, clear **Select All** checkbox.
Rooms	 By default, all the rooms are selected. To select individual rooms from the list, clear **Select All** checkbox.

Field Name	Description
Devices	 By default, all the devices are selected. To select individual devices from the list, clear **Select All** checkbox.
Retrieve Points	After equips, floors, rooms, and devices are selected, you can click this button to get all the related points on the right-hand-side pane. If any of the previous selection such as scope, tags or equip/floor/room/device is modified, then clicking **Retrieve Points** displays the updated list of related points.
Points	 – **Separate Charts:** You can select this option to plot separate charts for each of the selected points. Click the Chart Type Selector icon to select from the options (line chart/area chart/bar chart/dashed line chart) along with color for each of the points.

Field Name	Description
	– **Combine Equips:** You can select this option to plot separate charts for each of the equips and its points. Click the Chart Type Selector icon to select from the options (line chart/area chart/bar chart/dashed line chart) along with color for each of the equips. – **Combine Points:** You can select this option to combine all selected points in one chart. Click the **Chart Type Selector** icon to select from the options (line chart/area chart/bar chart/dashed line chart) along with color for each of the equips. You will also have an option to name the chart.
Color Gradient	 You can select the legends provided to change the colors of the graphs. This appears only on selecting **Combine Equips** and **Separate Charts.**
Chart Type Selector	 You can customize the chart by clicking this icon.

Field Name	Description
Widget Refresh	 Select the frequency you want the data for this widget once saved to be refreshed by clicking this.

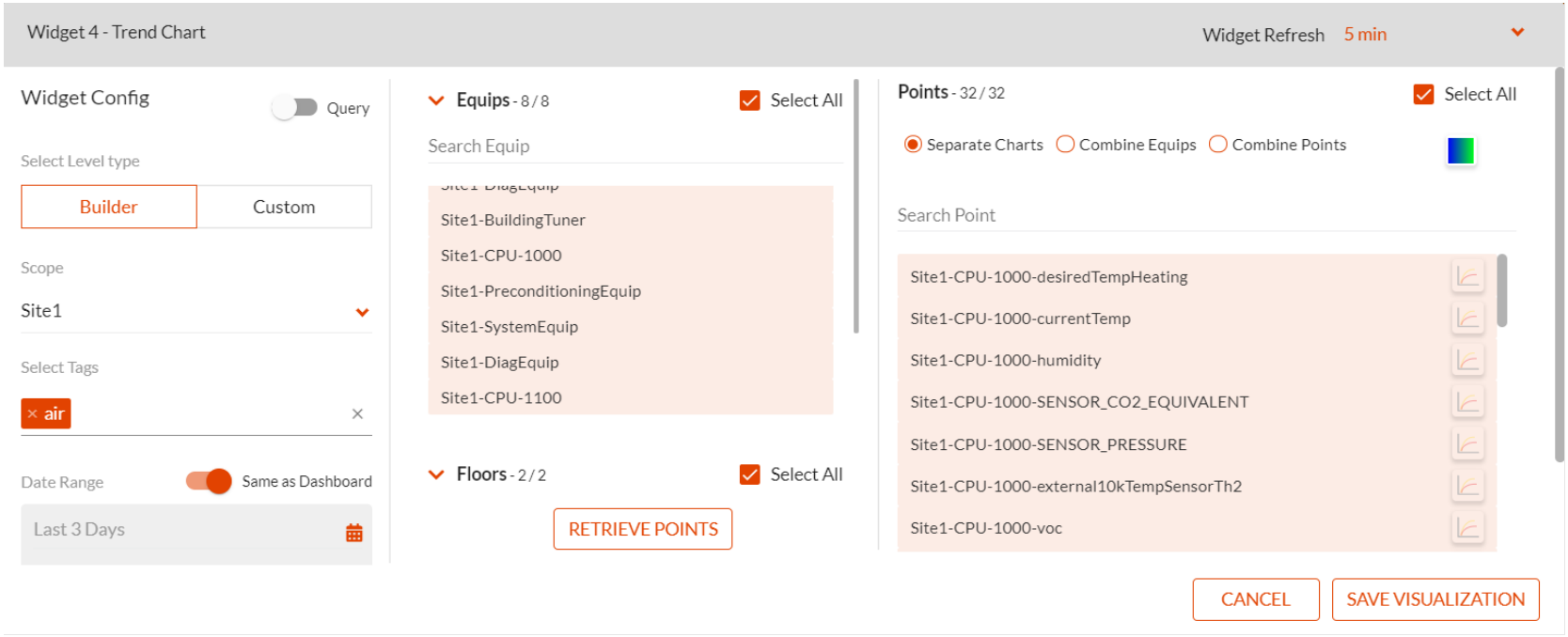
6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

For a demo video of how to create a trend chart, click here.

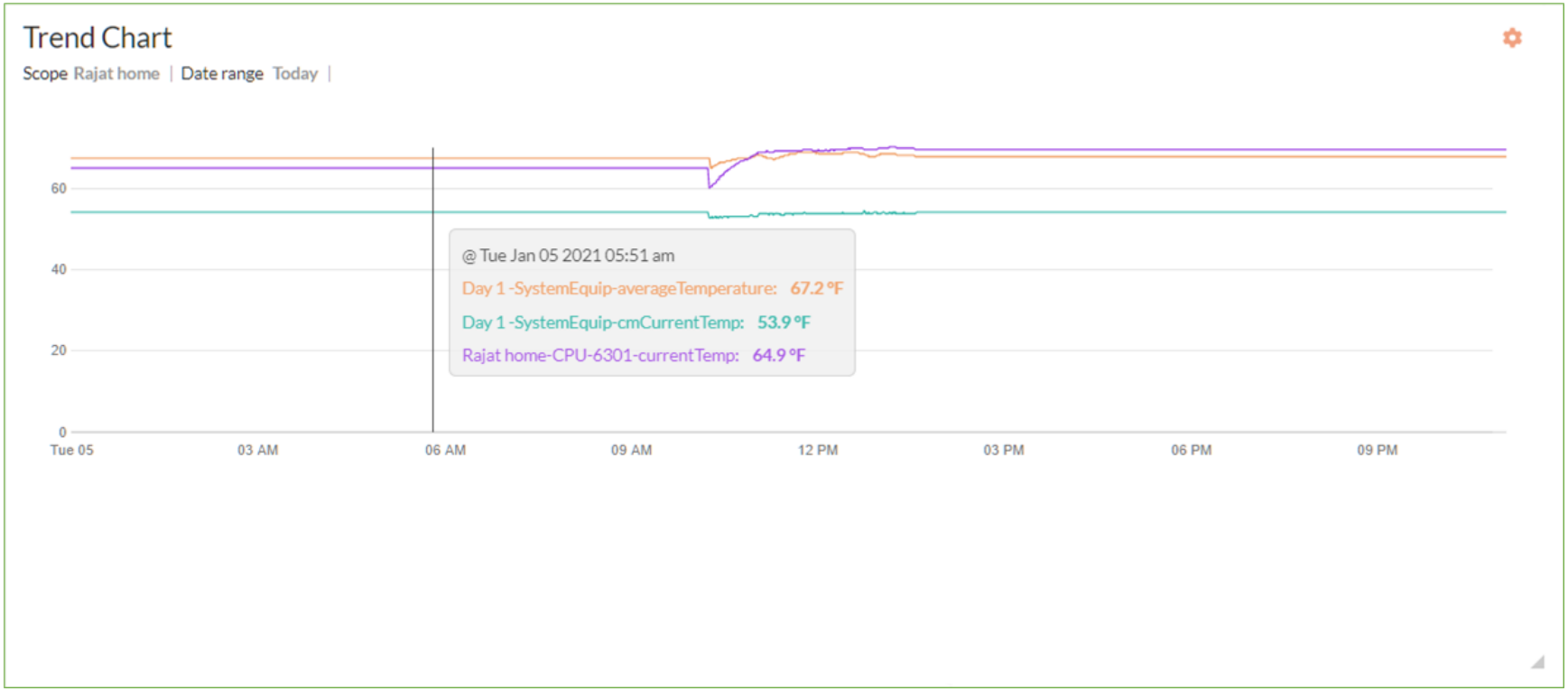
To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a trend chart for temperature of various equipment for one day. In this scenario, the scope is limited to only one building.


Widget 4 - Trend Chart
Widget Refresh 5 min
Widget Config
Query
Select Level type
Builder
Custom
Scope
Site1
Select Tags
air
Date Range
Same as Dashboard
Last 3 Days
Equips - 8 / 8
Select All
Search Equip
Site1-BuildingTuner
Site1-CPU-1000
Site1-PreconditioningEquip
Site1-SystemEquip
Site1-DiagEquip
Site1-CPU-1100
Floors - 2 / 2
Select All
RETRIEVE POINTS
Points - 32 / 32
Select All
Separate Charts
Combine Equips
Combine Points
Search Point
Site1-CPU-1000-desiredTempHeating
Site1-CPU-1000-currentTemp
Site1-CPU-1000-humidity
Site1-CPU-1000-SENSOR_CO2_EQUIVALENT
Site1-CPU-1000-SENSOR_PRESSURE
Site1-CPU-1000-external10kTempSensorTh2
Site1-CPU-1000-voc
CANCEL
SAVE VISUALIZATION

The trend chart plotted is as shown:



The trend chart displays data as follows:

- For the first day, it will show minute-by-minute data.
- For 2 days, it will show 1 min data for plotting and downloading.
- For date range from 3 to 15 days, it will show data at 5 min intervals for plotting and downloading.
- For date range from 16 to 60 days, it will show data at 15 min intervals for plotting and downloading.
- Beyond the date range of 60 days, it will show data only at 1-hour intervals for plotting and downloading.

Hover the mouse over the chart to view the daily temperature as shown.

For a demo video of how to create a trend chart, click here.

Terrain Chart

The terrain chart plots energy consumption on a three-dimensional surface in a similar way that topographic maps visualize elevation. The colors and patterns represent parameters within the same range. This chart type is especially useful for finding the optimum results when comparing two or more sets of building data.

Creating Terrain Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit**  icon appears. Click the **Edit** icon and edit the title.
3. Select **Terrain Chart** from the **Widget Type** dropdown list.
4. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

5. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

For a demo video of how to create a terrain chart, click here.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a terrain chart for energy consumption (kWh) of two floors of a building for three days. In this scenario, the scope is limited to only one building.

This chart shows the energy consumption across the first and second floor of the selected building for three days. You can hover the mouse over the graph to view the details. Hover the mouse over the chart to view the daily energy consumption as shown.

Saving Scorecard

You can use this widget to check savings in energy consumptions of the building based on the details entered on the **Energy Configuration** page of the internal portal. The data benchmarked for the previous year prior to 75F system installation is used to compare the energy savings.

Creating Saving Scorecard

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit**  icon appears. Click the **Edit** icon and edit the title.
3. Select **Savings Scorecard** from the **Widget Type** dropdown list.
4. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

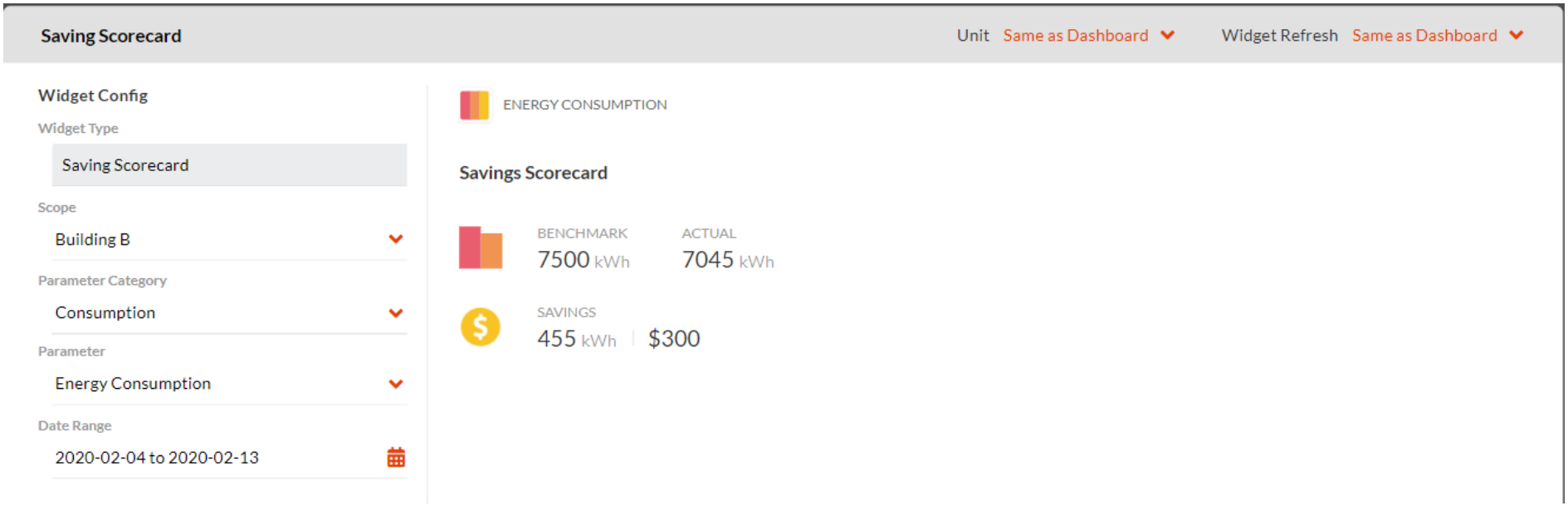
Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select the parameter category as consumption.
Parameters	Depending on the parameter category chosen, the parameters are displayed. For example, the parameters for Consumption include Energy Consumption, Electricity Consumption, Gas Consumption, HVAC Electricity, HVAC Gas, and Light.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

5. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a Saving Scoreboard chart for energy consumption of a selected building.



In this example, the benchmark data is set as 7500 kWh while the actual energy consumption was 7045 kWh for the year prior to 75F system installation in the building. The Saving Scorecard chart shows a energy consumption of 455 kWh and $300 in savings after 75F system was installed.

Carbon Footprint Reduction

You can use this widget to check the reduction in carbon footprint for energy consumption, electricity consumption, gas consumption, HVAC electricity, HVAC gas, or light of a building. This chart is plotted based on the computations of the **Energy Configuration** page of the internal portal.

Creating Carbon Footprint Reduction

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.
3. Select **Carbon Footprint Reduction** from the **Widget Type** dropdown list.
4. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

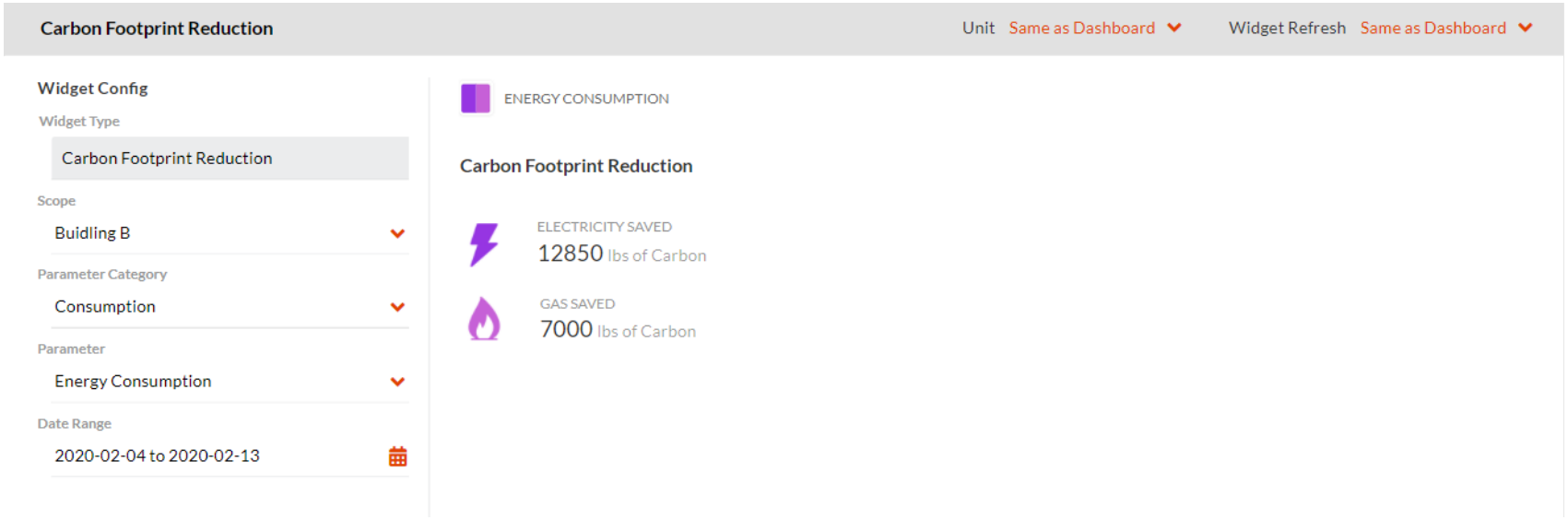
Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select the parameter category as consumption.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

5. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a Carbon Footprint Reduction chart for energy consumption of a selected building.



The chart shows a carbon footprint reduction of 12850 pounds of carbon of electricity saved and 7000 pounds of carbon of gas saved after 75F system was installed in Building B.

Portfolio Energy Usage

You can use this widget to view and compare the data with any other parameters and range for the selected buildings. If you do not choose another building for comparison, then by default the benchmark data set in the **Consumption Data** section of the **Energy Consumption** page on the internal portal is considered.

Creating Portfolio Energy Usage Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit**  icon appears. Click the **Edit** icon and edit the title.
3. Select **Portfolio Energy Usage** from the **Widget Type** dropdown list.
4. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chosen, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

Click **Compare** if you want to the data with any other parameter and range.

Notes:

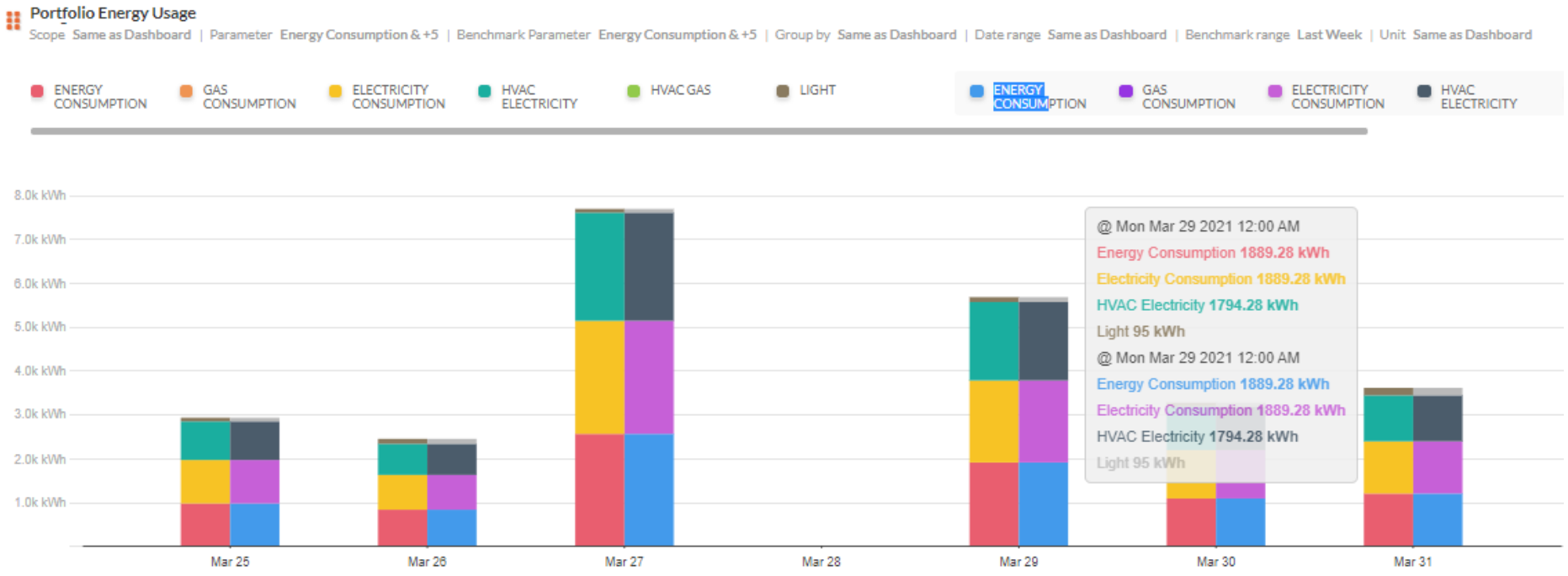
- If you select the **Compare** option, then it will be mapped as per your preference and parameters in the **Compare** option.
- If you do not select the **Compare** option, then it will compare the selected parameters with the benchmark data if previous year's data is entered and marked as benchmark.

5. In the **Comparing with** section, select the parameters and the date range.
6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to compare the same set of parameters across two buildings.



Site Comparison

You can use this widget to plot comparisons of energy consumption, cost index, or site intensity across various sites. The Site Comparison visualization shows a box and whisker plot along with maximum consumption for the building. This type of box and whisker plot shows the shape of the parameter distribution, its central value, and its variability. In a box and whisker plot, the ends of the box are the upper and lower quartiles, so the box spans the interquartile range.

The maximum to minimum consumption building list highlights the maximum to minimum energy consumers among all the sites if multiple sites are selected; if only one site is selected, then all the floors are compared.

Creating Site Comparison Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit**  icon appears. Click the **Edit** icon and edit the title.
3. Select **Site Comparison** from the **Widget Type** dropdown list.
4. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

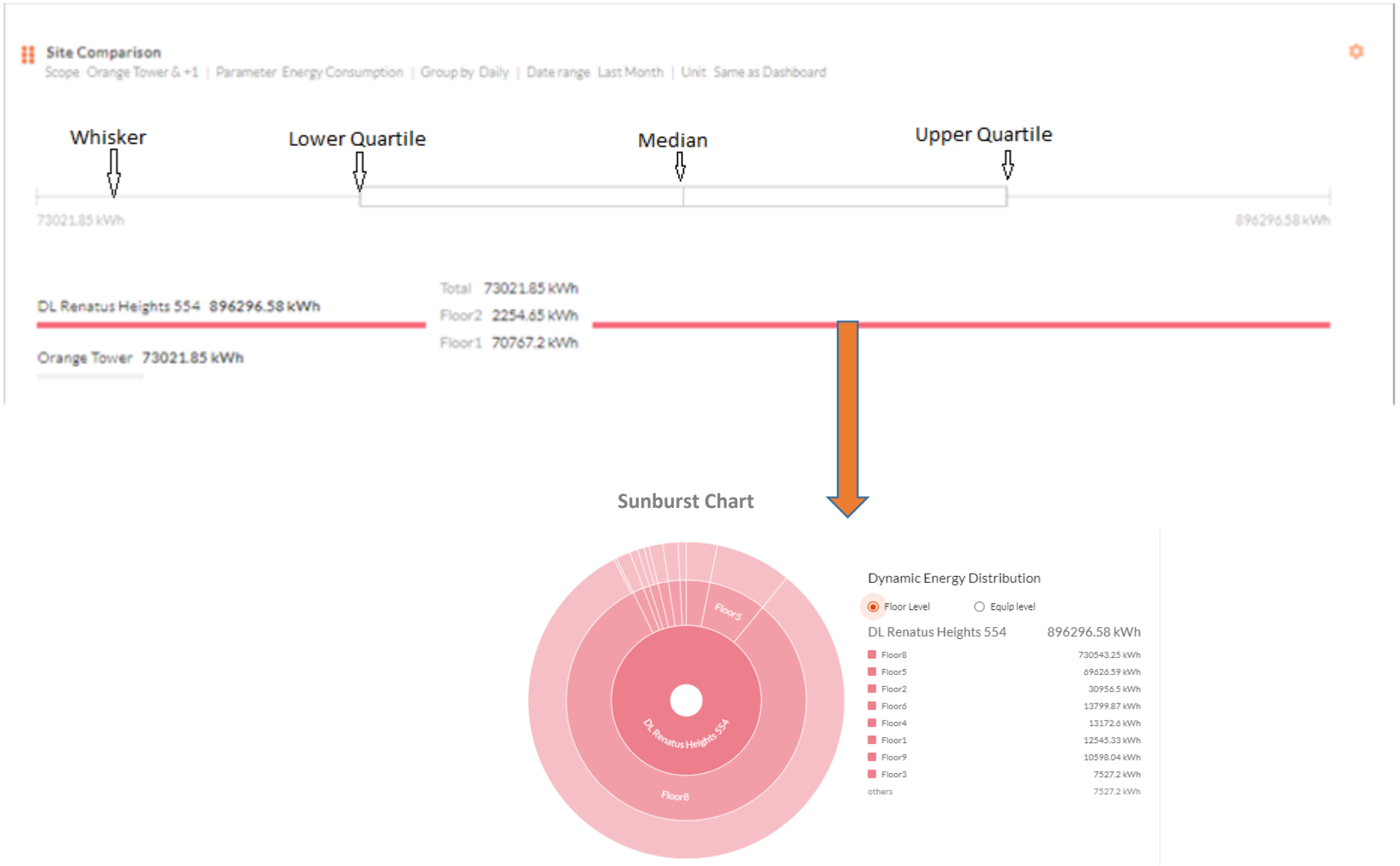
Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chosen, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

5. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

In the following example, site comparison for energy consumption is done for two buildings in the portfolio for the selected date range.



The graph shows the energy consumption for the two buildings for the date range selected. Hover the mouse over the horizontal graph to view the energy consumption across the floors of the selected building. Click the areas indicated by arrows to read median, quartile, and whisker values on the chart. If you click the horizontal line graph, a sunburst chart is displayed with the dynamic energy distribution that can be viewed by floor or equip level. The sunburst chart shows the hierarchical consumption data of buildings/CCUs/zones and equip type distribution. Each level of the hierarchy is represented by one ring or circle with the innermost circle as the top of the hierarchy. Hover the mouse over the sunburst chart until the cursor changes to hand pointer and click to get different representations of the sunburst chart.

Average Demand

You can use this widget to plot the average demand of energy consumption, cost index, or site intensity across various sites. The chart shows the average maximum and minimum demand against the benchmark maximum and minimum load that is set in the **Energy Consumption** page of the internal portal.

Creating Average Demand Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit**  icon appears. Click the **Edit** icon and edit the title.
3. Select **Average Demand** from the **Widget Type** dropdown list.
4. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

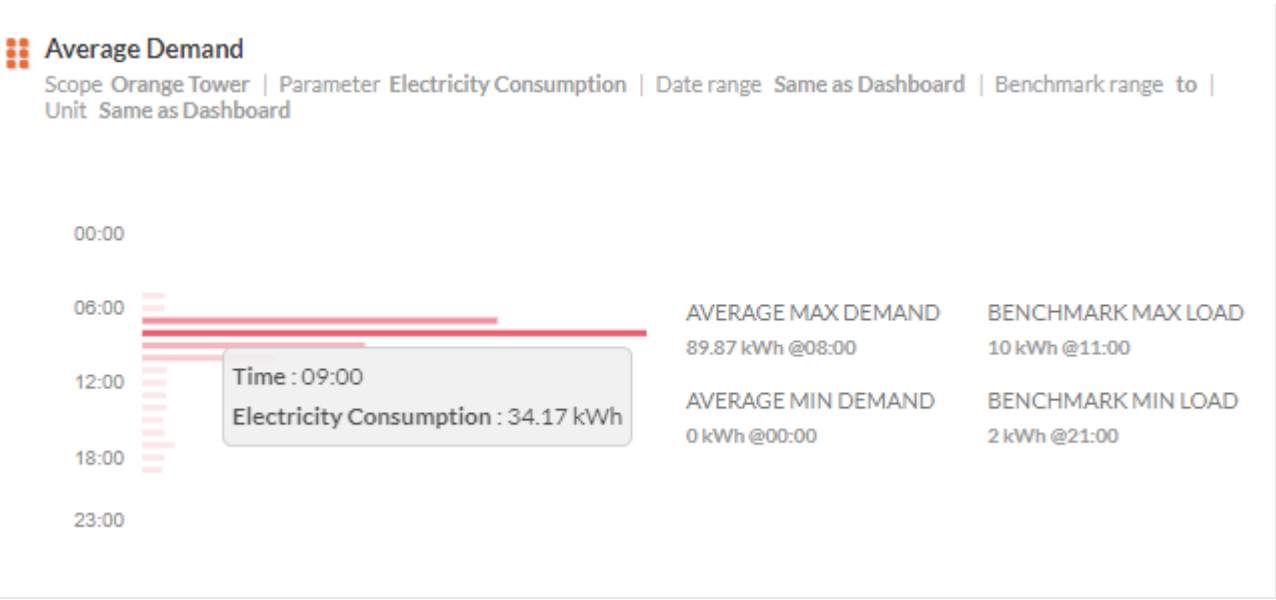
Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select the parameter category as Consumption.
Parameters	Depending on the parameter category chosen, the parameters are displayed. For example, the parameters for Consumption include Energy Consumption, Electricity Consumption, Gas Consumption, HVAC Electricity, HVAC Gas, and Light.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

5. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

In the following example, site comparison for energy consumption is done for all buildings in the portfolio for the selected date range.



In this chart, the average maximum demand is 89.87kWh against the benchmark maximum load of 10kWh whereas the average minimum demand is 0kWh against the benchmark minimum load of 2kWh for the selected building in the selected date range. Hover the mouse over the chart to view the electricity consumption at an hourly basis.

Energy Usage Map

Based on the building(s) selected, you can see the energy consumption across the buildings.

Creating Energy Usage Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.
3. Select **Energy Usage Map** from the **Widget Type** dropdown list.
4. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

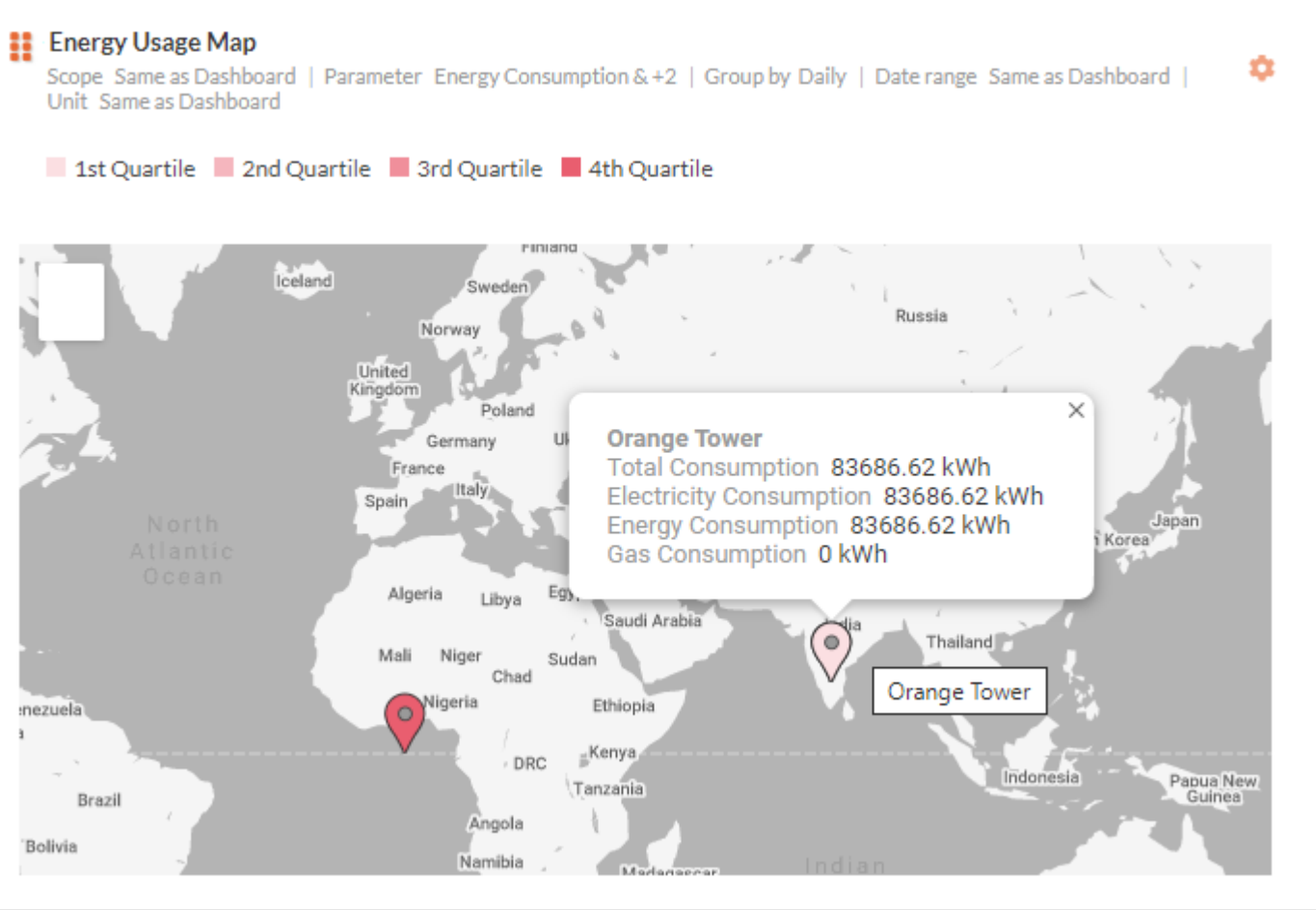
Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chosen, the parameters are displayed. For example, the parameters for Consumption include Energy Consumption, Electricity Consumption, Gas Consumption, HVAC Electricity, HVAC Gas, and Light.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

5. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot an energy usage chart for electricity, energy, and gas consumption of two buildings across the globe.



In this example, the total consumption for the selected building is shown as 83686.62 kWh computed as the sum of electricity, energy, and gas consumption. Hover the mouse over the pinned locations to view the daily consumption as shown. Click the pinned location to zoom in.

Adding Custom Visualization

Custom visualizations are made up of combination charts allowing you to plot multiple datasets on the same chart. You can use combination charts to plot multiple chart types on the same chart. For example, you can show the donut and line chart on the same or multiple area charts on the same chart canvas.

You can choose from any of the following custom visualizations:

- Line Chart
- Area Chart

- Donut Chart
- Pie Chart
- Horizontal Bar Chart
- Vertical Bar Chart
- Line + Donut Chart
- Vertical + Donut Chart
- Horizontal + Donut chart
- Heatmap

Line Chart

A line chart uses lines to connect individual data points that display quantitative values over a specified time interval.

Creating Line Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit**  icon appears. Click the **Edit** icon and edit the title.
3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Line Chart**  icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.

Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

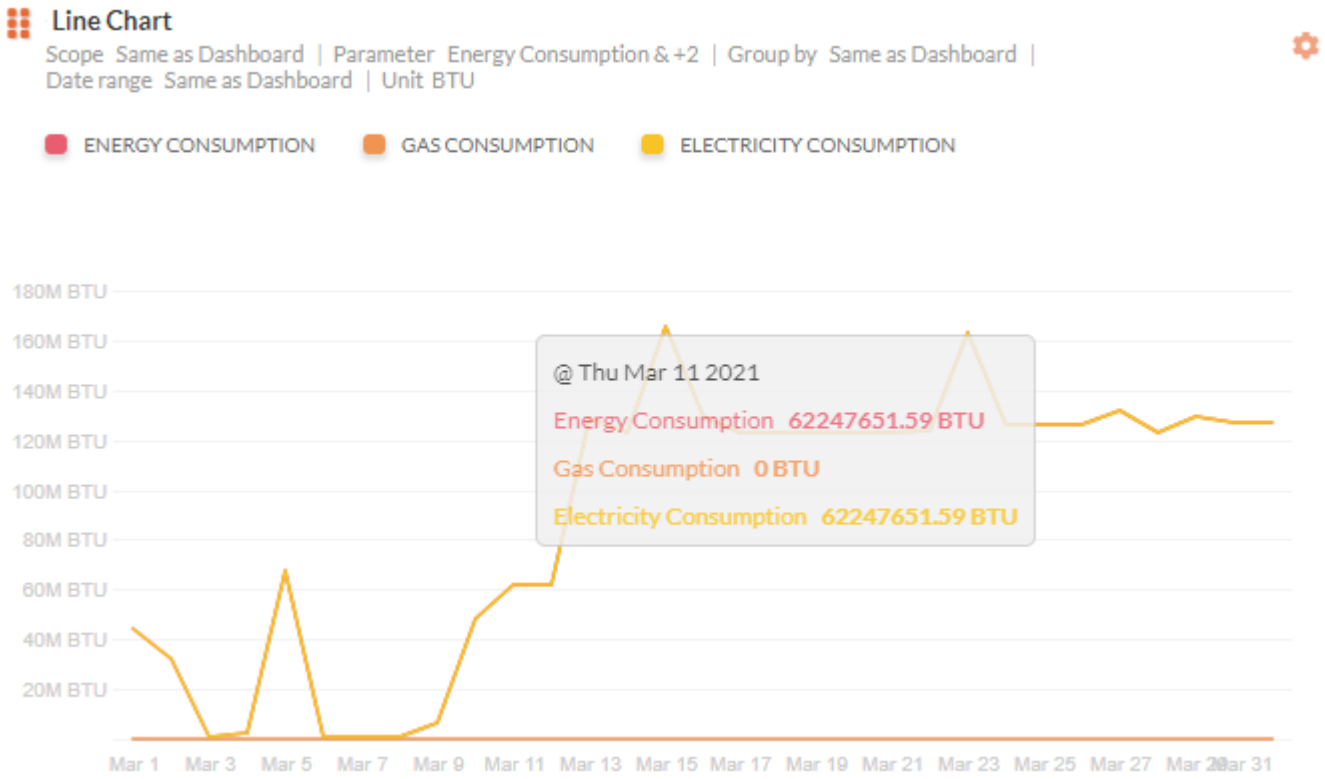
6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

For a demo video of how to create a line chart, click here.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a line chart for energy, gas, and electricity cost index of a selected building.



In this example, the energy, gas, and electricity consumption for a building is plotted for the selected date range. Hover the mouse over the chart to view the daily consumption as shown.

Area Chart

An area chart represents data that follows a time-series relationship.

Creating Area Chart

Procedure

1. From the dashboard page, click **Add Visualization.**

2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.
3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Area Chart** icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
View By	 You can view the graph by selecting any of these options: – **Summate Parameters & Scope:** All the building scope data as well as selected parameters are aggregated. – **Segregate Parameters & Summate Scope:** Parameters are separated but building scope data is aggregated. – **Summate Parameters & Segregate Scope:** Parameters are aggregated but building scope data is segregated. – **Segregate Parameter & Scope:** Parameters and scope are segregated.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

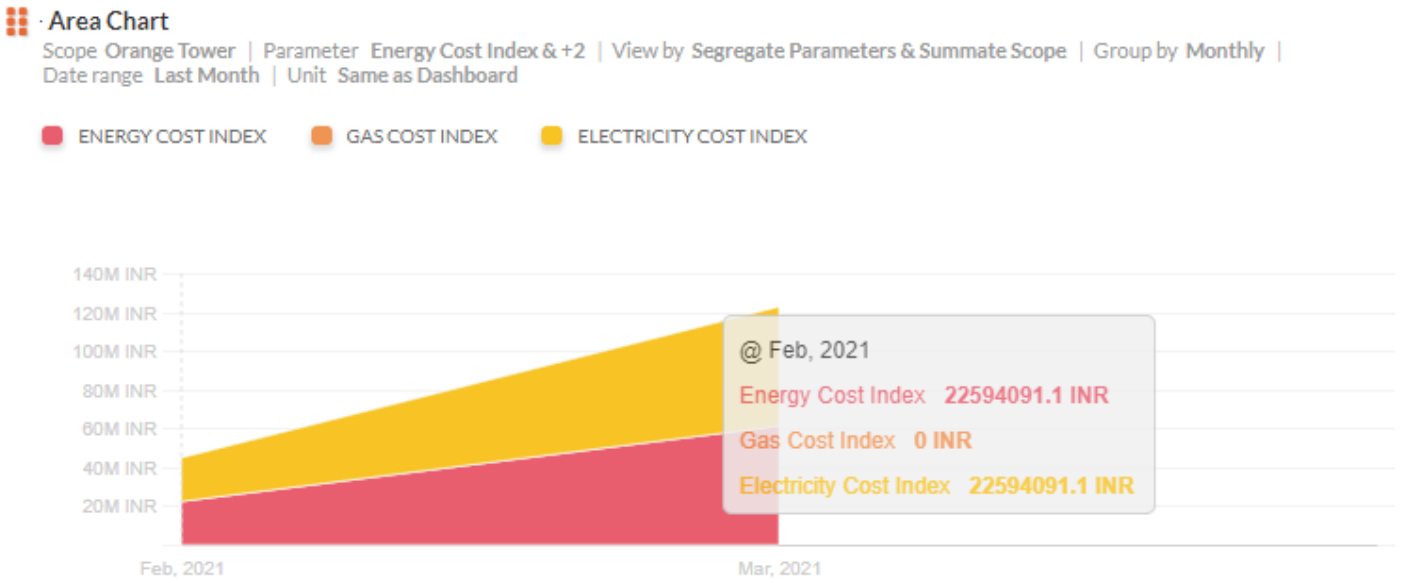
6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Video Link: Microsoft Stream

Example

Let us consider an example where you want to plot an area chart for energy, gas, and electricity cost index of a selected building.



In this example, the energy, gas, and electricity consumption for a building is plotted for the month selected. Hover the mouse over the chart to view the daily consumption as shown.

Donut Graph

A donut graph is a variant of the pie chart, with a blank center allowing for additional information about the data as a whole to be included. Each point is specified by an arc whose length is proportional to the circumference as the data value to the total sum of all values.

Creating Donut Graph

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.
3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Donut Graph** icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
View By	 You can view the graph by selecting any of these options: – **View by Building:** If you select two buildings, then the graph is split into two parts and shows selected parameters for Building A and Building B. – **View by Floor:** If you select only one building as scope, then the graph is split into multiple parts and shows selected parameters for various floors. – **View by CCU:** If you select only one building as scope, then the graph is split into multiple parts depends on the number of CCUs paired in the building. You can see the selected parameters for each CCU level.

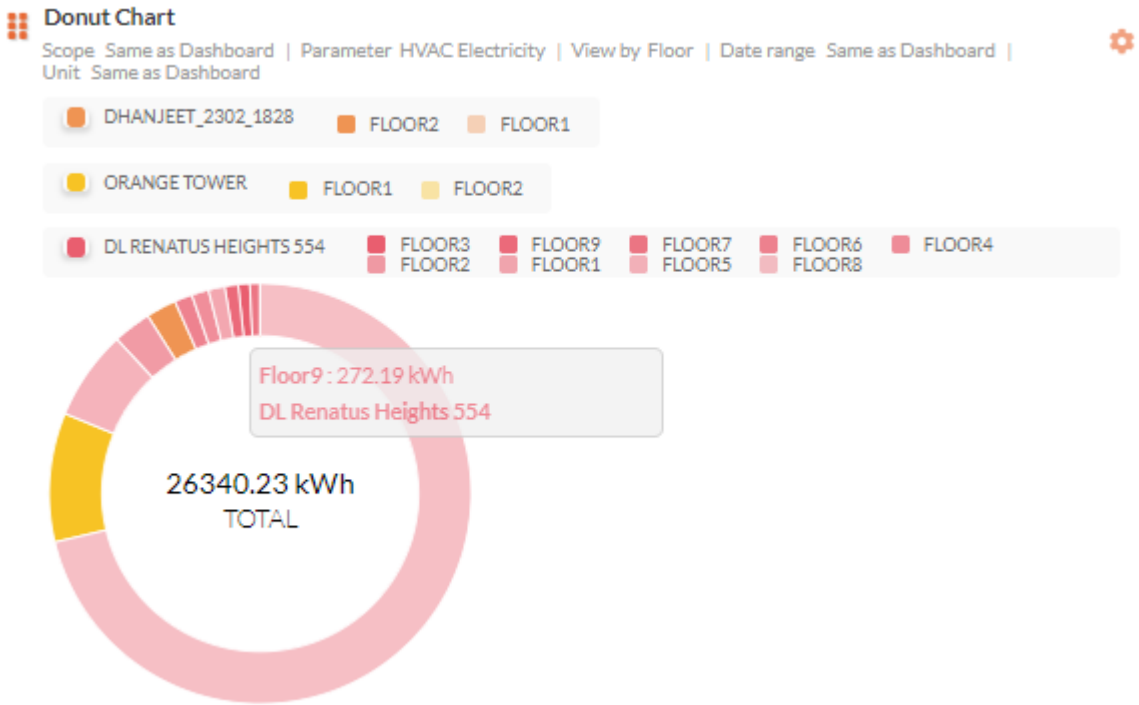
Field Name	Description
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a donut chart for HVAC electricity consumption for three buildings.



In this example, three buildings are selected and the total consumption is shown as 26340.23kWh. The color codes distinguish the different buildings. Hover the mouse over the donut chart to view the consumption by each floor as **View By** selection is floor.

Pie Chart

A pie chart is a circular chart in which each slice of pie shows the relative size of the data.

Creating Pie Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.
3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Pie Chart** icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
View By	 You can view the graph by selecting any of these options: – **View by Building:** If you select two buildings, then the graph is split into two parts and shows selected parameters for Building A and Building B.

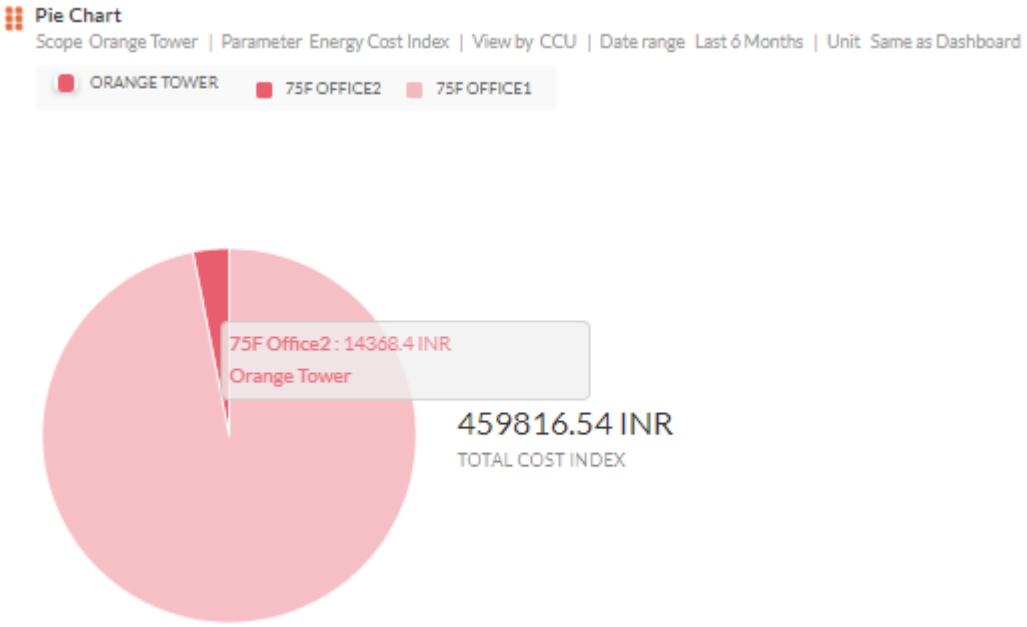
Field Name	Description
	– **View by Floor:** If you select only one building as scope, then the graph is split into multiple parts and shows selected parameters for various floors. – **View by CCU:** If you select only one building as scope, then the graph is split into multiple parts depends on the number of CCUs paired in the building. You can see the selected parameters for each CCU level.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a pie chart for energy cost index in a building.



In this example, three buildings are selected and the total energy cost index is shown as 459816.56 INR. The color codes distinguish the different buildings. Hover the mouse over the pie chart to view the energy cost index by each CCU as **View By** selection is CCU.

Horizontal Bar Chart

A horizontal bar chart represents the data horizontally. It is a graph whose bars are drawn horizontally. The data categories are shown on the vertical axis and the data values are shown on the horizontal axis.

Creating Horizontal Bar Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit**  icon appears. Click the **Edit** icon and edit the title.
3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Horizontal Bar Chart**  icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

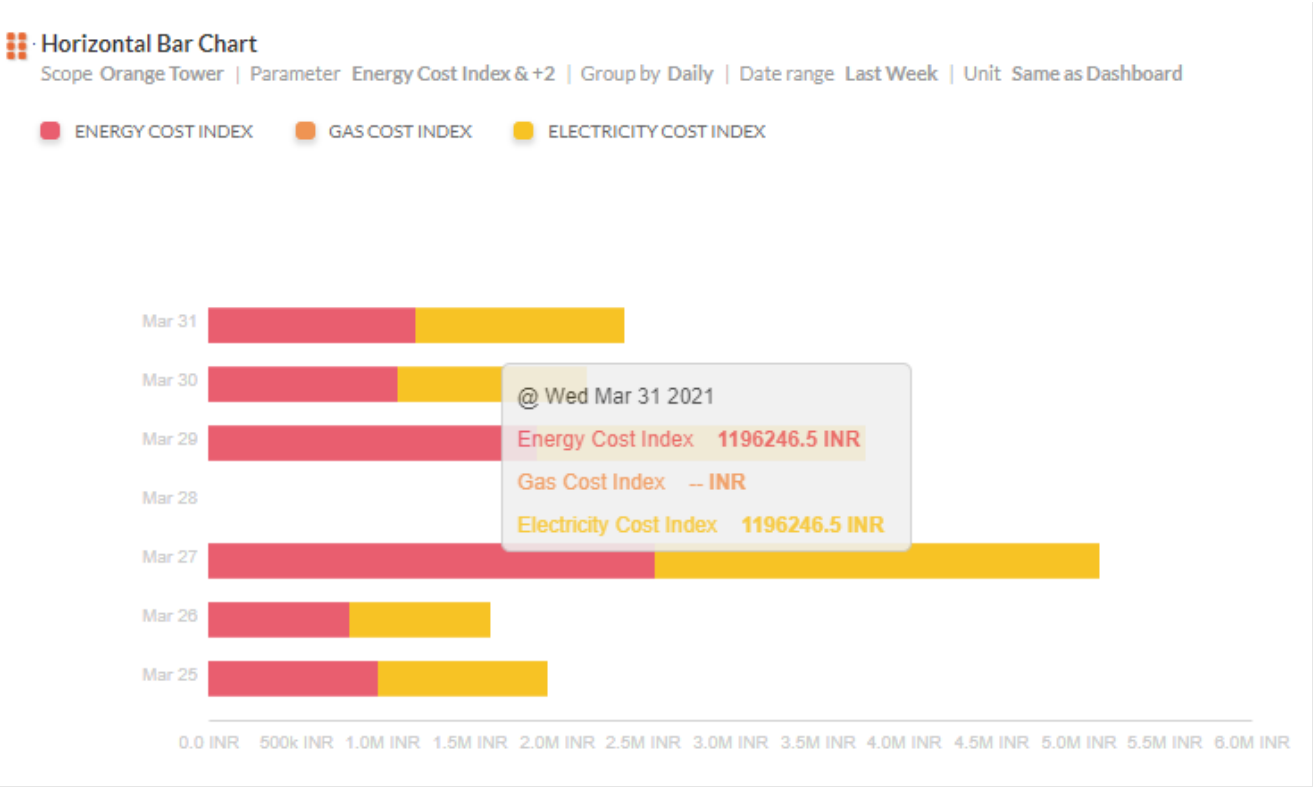
Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a horizontal bar area chart for energy and electricity consumption for a selected building.



In this example, the horizontal bar shows the daily energy cost index in pink, gas cost index in orange, and electricity cost index in yellow for the selected building. Hover the mouse over the chart to view the daily cost index as **Group By** selection is daily.

Vertical Bar Chart

A vertical bar chart represents the data in columns. One axis of the chart shows the specific categories being compared while the other axis represents a measured value.

Creating Vertical Bar

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit**  icon appears. Click the **Edit** icon and edit the title.
3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Vertical Bar Chart**  icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

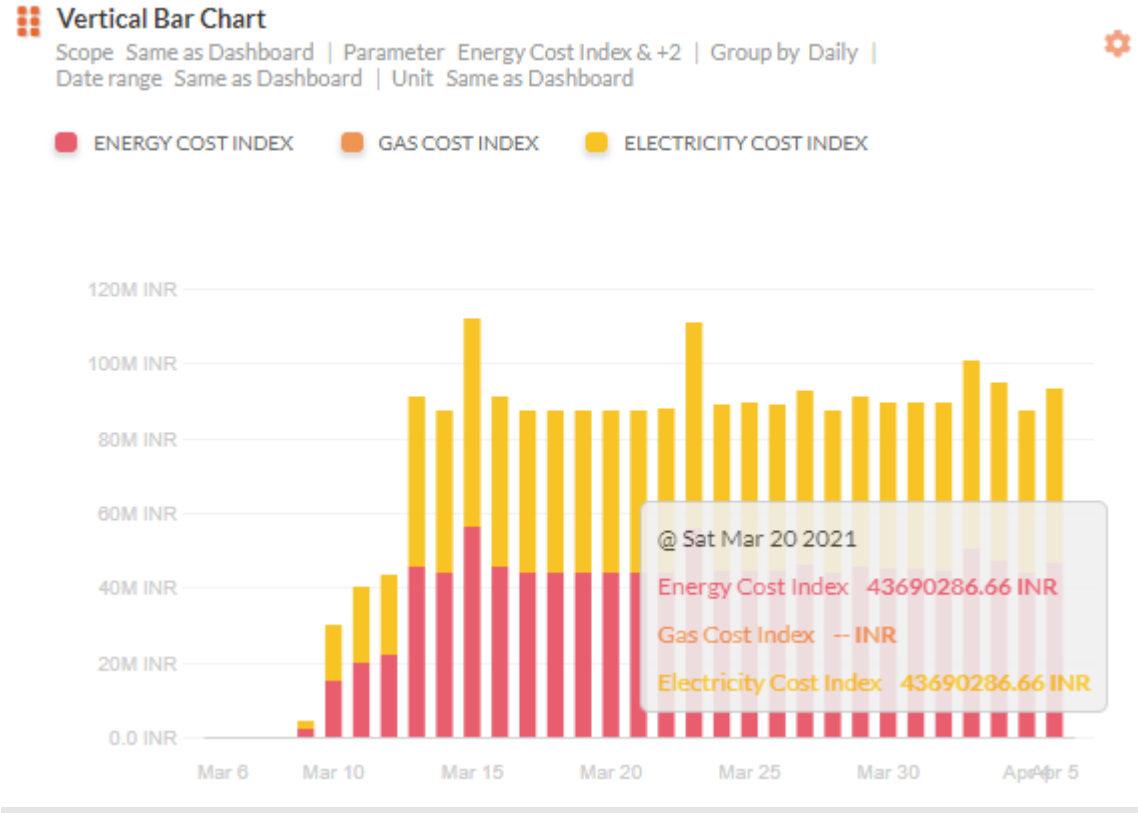
Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a vertical bar chart for energy, gas, and electricity cost index for a selected building.



In this example, the vertical bar shows the energy consumption in pink, gas consumption in orange, electricity consumption is yellow for the selected building. Hover the mouse over the chart to view the daily cost index as **Group By** selection is daily.

Line + Donut Chart

This is a combination of a line chart and a donut chart.

Creating Line + Donut Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.
3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Line + Donut Chart**  icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

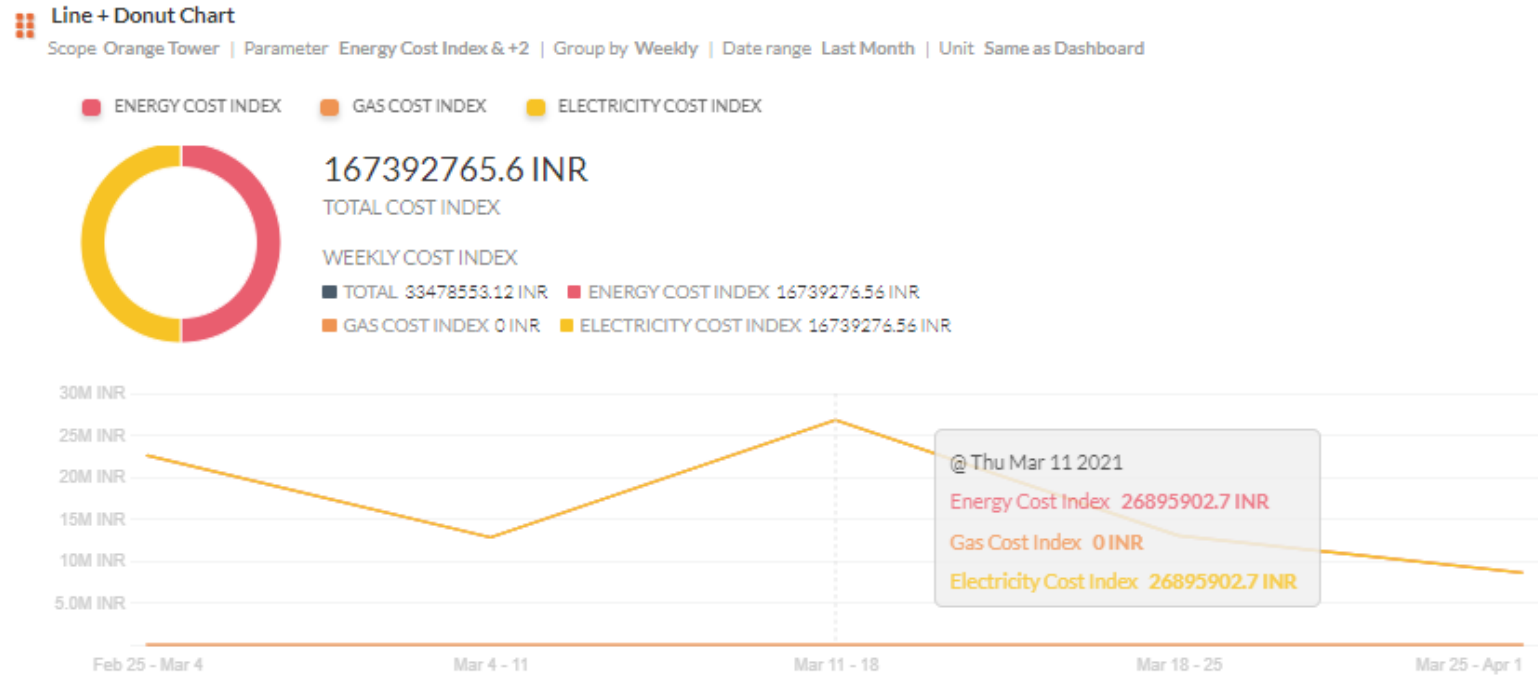
Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a line + donut chart for energy, gas, and electricity cost index for a selected building.



In this example, the donut chart shows the energy cost index in pink, gas cost index in orange, and electricity cost index in yellow for a selected building. Along with the weekly cost index, the total cost index is also displayed. Hover the mouse over the chart to view the daily consumption as shown.

Horizontal + Donut Chart

This is a combination of a horizontal chart and a donut chart.

Creating Horizontal + Donut Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.
3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Horizontal + Donut Chart**  icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

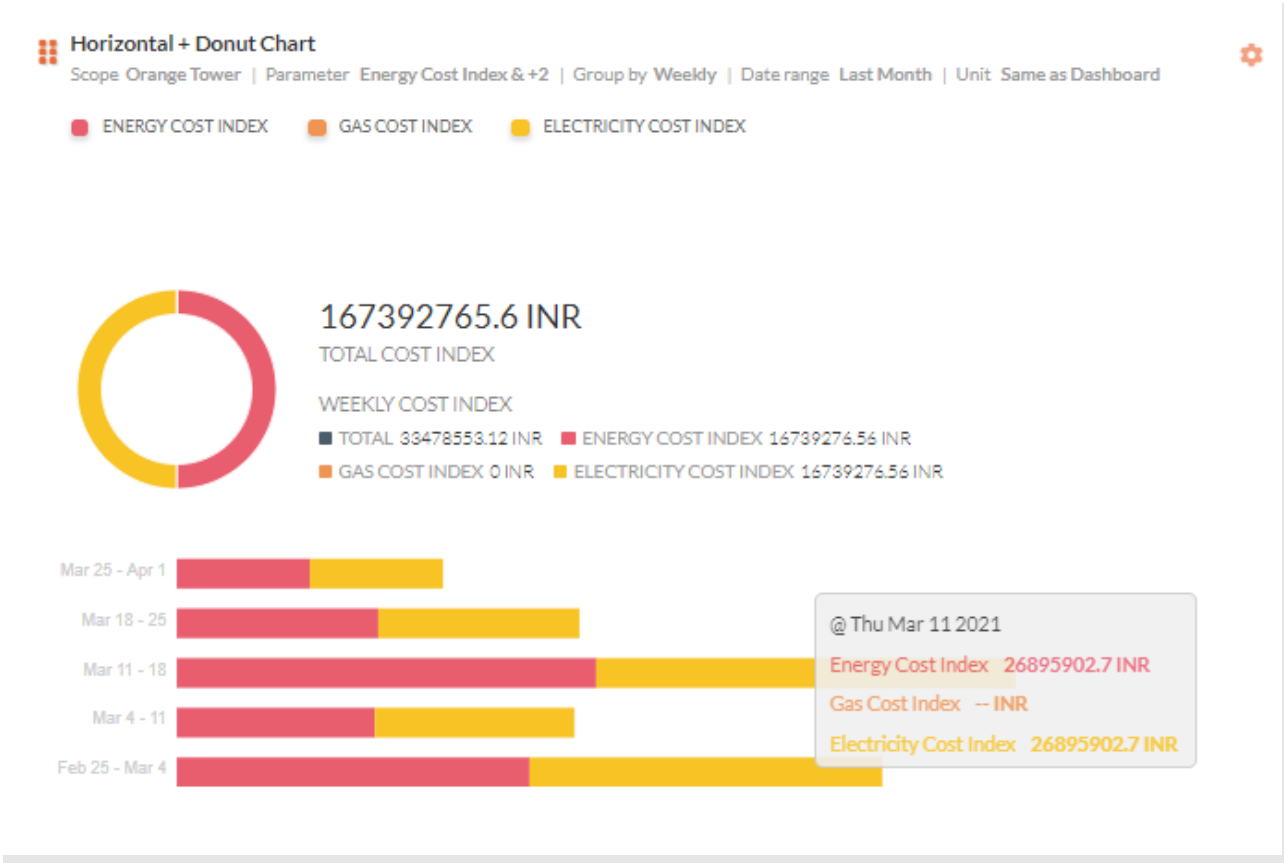
Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a horizontal + donut chart for energy, gas, and electricity cost index of a selected building.



In this example, the donut chart shows the weekly energy cost index in pink, gas cost index in orange, and electricity cost index in green along with total cost index for the selected building. The horizontal chart shows the energy, gas, and electricity cost index for the month selected. Hover the mouse over the chart to view the daily cost index as shown.

Vertical + Donut Chart

This is a combination of a vertical chart and a donut chart.

Creating Vertical + Donut Chart

Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.

3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Vertical + Donut Chart**  icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

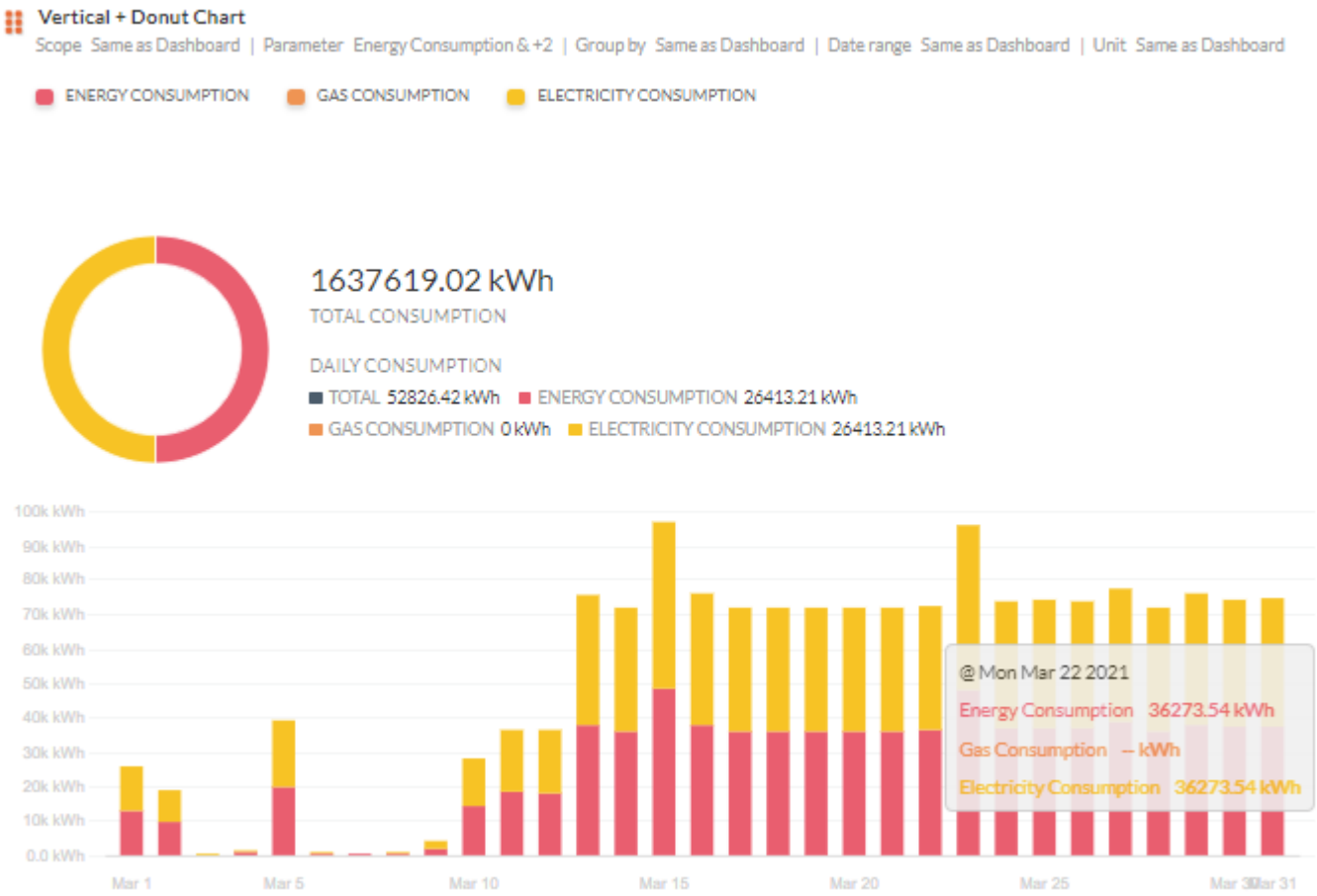
Field Name	Description
Scope	You can select the building for which the portfolio data needs to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a vertical + donut chart for energy, gas, and electricity consumption of a selected building.



In this example, the donut chart shows the daily energy consumption in pink and electricity consumption in yellow for a selected building. The vertical chart shows the electricity and energy consumption plotted for the days selected. Hover the mouse over the chart to view the daily consumption as shown.

Heatmap

A heatmap represents data in the form of a map or diagram in which data values are represented as colors.

Creating Heatmap Chart

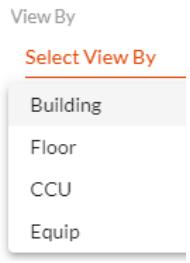
Procedure

1. From the dashboard page, click **Add Visualization.**
2. Hover the mouse over the **Widget Title** until the **Edit** icon appears. Click the **Edit** icon and edit the title.
3. Select **Custom Chart** from the **Widget Type** dropdown list.

The custom widget options are displayed.

4. Hover the mouse over the **Heatmap** icon and select it.
5. Select from the following fields to configure the widget.

The following table explains the various fields displayed on the page:

Field Name	Description
Scope	You can select the building for which portfolio data is to be analyzed and monitored. Scope can be one building or multiple buildings based on user navigation preference.
Parameter Category	You can select from the parameter category such as Consumption, Cost Index, and Site Intensity.
Parameters	Depending on the parameter category chose, the parameters are displayed. For example, the parameters for Cost Index include Energy Cost Index, Gas Cost Index, and Electricity Cost Index.
View By	 You can view the graph by selecting any of these options: – **View by Building:** If you select two buildings, then the graph is split into two parts and shows selected parameters for Building A and Building B. – **View by Floor:** If you select only one building as scope, then the graph is split into multiple parts and shows selected parameters for various floors. – **View by CCU:** If you select only one building as scope, then the graph is split into multiple parts depends on the number of CCUs paired in the building. You can see the selected parameters for each CCU level.

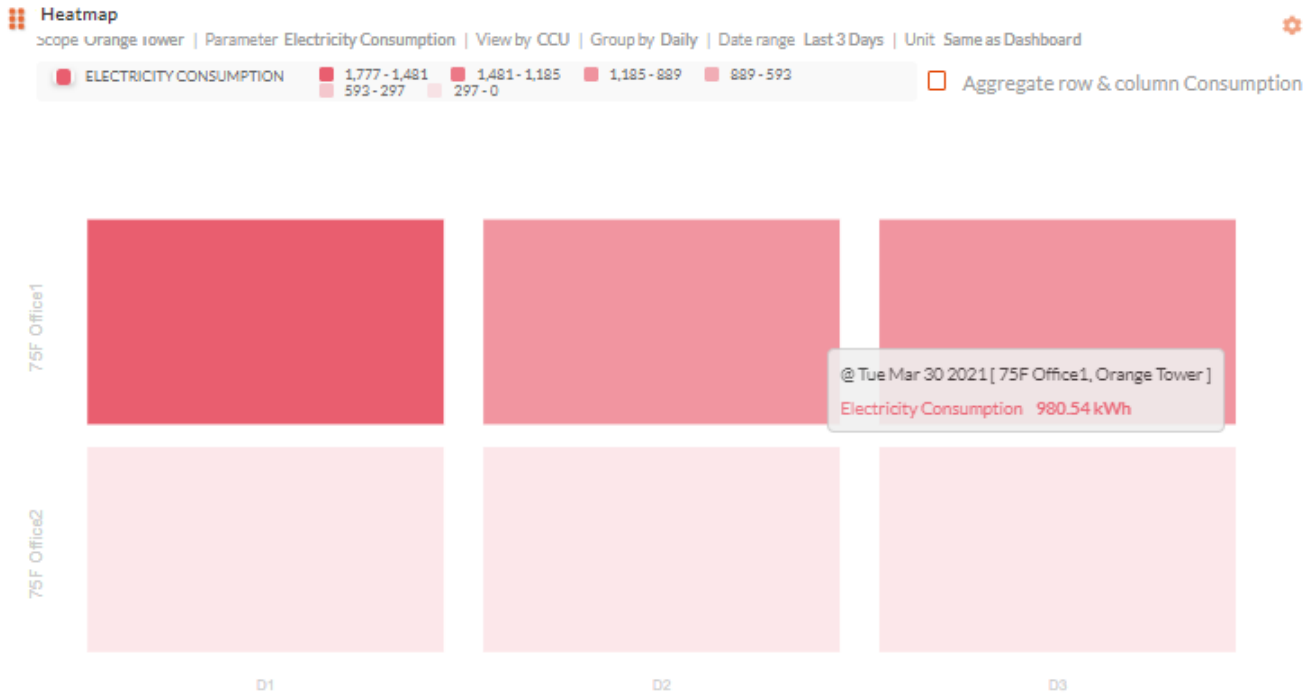
Field Name	Description
	– **View by Equip:** If you select only one building as scope, then the graph is split into multiple parts depends on the number of equipment in the building. You can see the selected parameters by each equipment.
Group By	You can select the Same as Dashboard option or select from Hourly, Daily, Weekly, or Monthly options.
Date Range	You can use this option to either retain the date range same as the dashboard or manually select a different date range. You can choose from the following options: Today, Last 3 Days, Last Week, Last Month, Last 6 months, Last Year. If you select the Same as Dashboard option, then the other options are disabled.

6. Click **Save Visualization.** Dashboard is refreshed with the latest visualization.

To learn more about other actions on the chart, see Additional Features.

Example

Let us consider an example where you want to plot a heatmap chart of electricity consumption for a selected building.



In this example, the heatmap chart shows the daily electricity consumption in shades of pink for a selected building. Hover the mouse over the chart to view the daily electricity consumption as shown.

Editing Visualization

You can edit the visualization you have created.

Procedure

1. Select the visualization you want to edit from the dashboard page.
2. Hover the mouse on the selected visualization until the **Setting** icon appears.
3. Click the **Setting** icon and select **Edit in Builder.**

The Widget page appears.

4. Edit the widget.
5. Click **Update Existing Visualization** to overwrite the changes in the existing visualization or click **Create as New Visualization** if you want to save as a new visualization.

The updated visualization appears on the dashboard page.

Moving Visualization

You can move the visualization you have created from one dashboard to another dashboard that you have created.

Procedure

1. Select the visualization you want to move from the dashboard page.
2. Hover the mouse on the visualization until the **Setting** icon appears.
3. Click the **Setting** icon and select **Move Visualization To.**
4. Select the dashboard you want to move the visualization to.

The visualization is moved to the selected dashboard instance.

Copying Visualization

You can copy the visualization you have created to another dashboard that you have created.

Procedure

1. Select the visualization you want to edit from the dashboard page.
2. Hover the mouse on the visualization until the **Setting** icon appears.
3. Click the **Setting** icon and select **Copy Visualization To.**
4. Select the dashboard you want to copy the visualization to.

The visualization is copied to the selected dashboard instance.

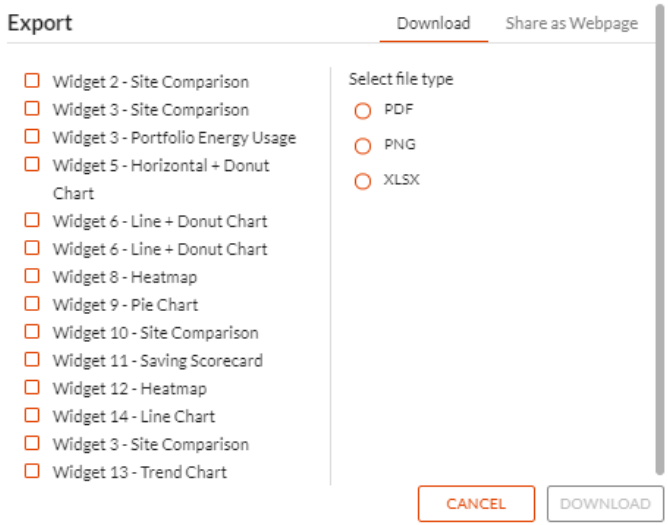
Exporting and Downloading Visualization

You can export the visualization you have created at system level and zone level. At the system level, you can select all the widgets in one go from the dashboard page of Portfolio Analytics page or the Site Analytics page and export them to the desired format or web page. At the zone level, you can select only one widget and export them to the desired format or web page.

Procedure

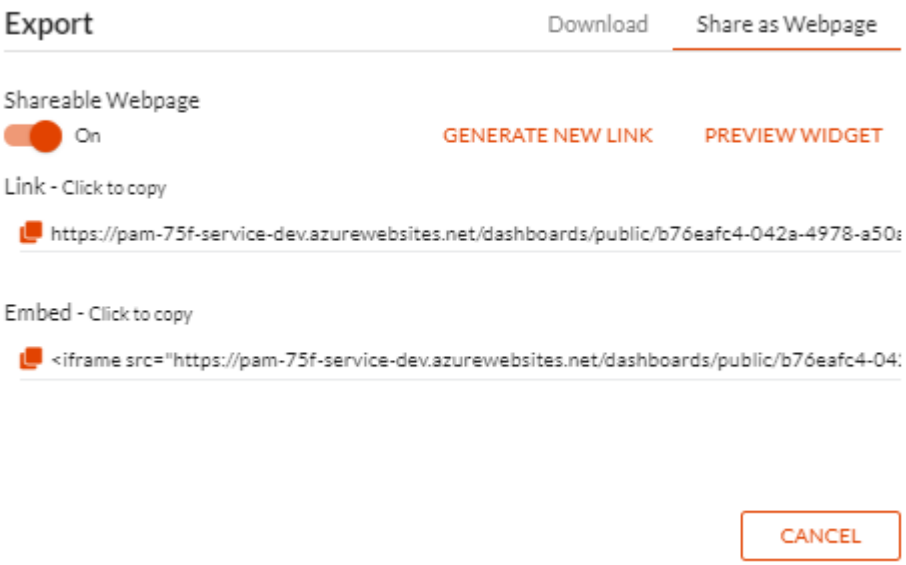
System Level

1. Select the visualization(s) you want to edit and click **Export** on the top right-hand-side of the Dashboard page.



2. Select the file type in which you want to export the visualization.

3. Click **Download** to save the file on your system.
4. If you want to export the visualization as a Webpage, then click **Share as Webpage.**

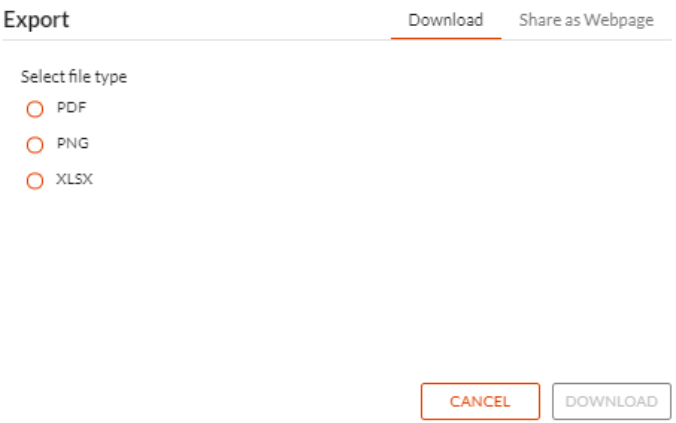


The selected visualizations are exported and shared as Webpages.

Zone Level

1. Select the visualization you want to export and click the **Setting** icon.
2. Click **Export.**

The **Export** page appears.



3. Select the file type in which you want to export the visualization.
4. Click **Download** to save the file on your system or click **Share as Webpage**.

The selected visualizations are exported and saved to your system or shared as Webpage.

Deleting Visualization

You can edit the visualization you have created.

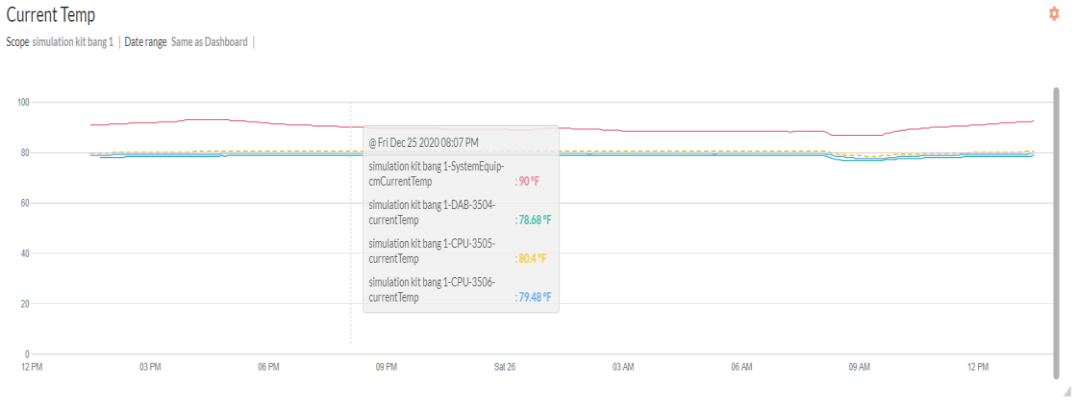
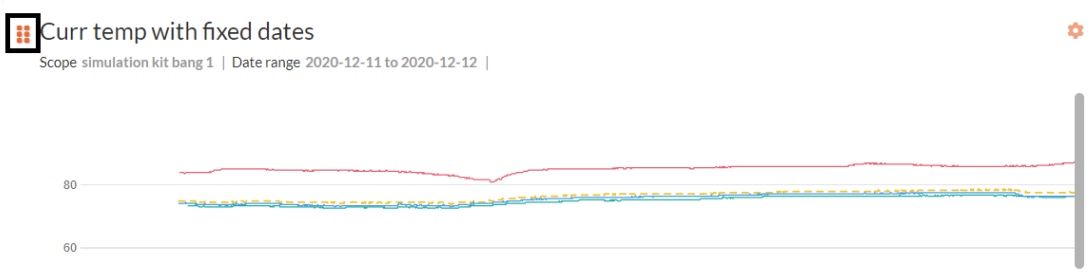
Procedure

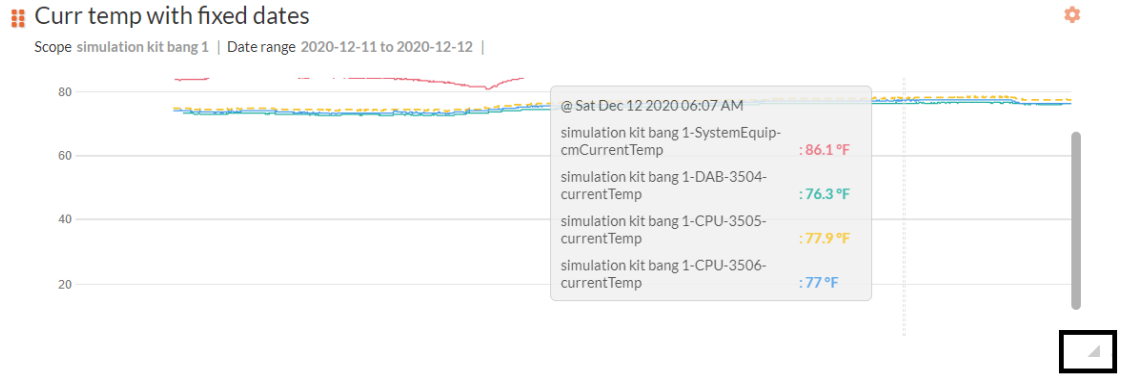
1. Select the visualization you want to edit from the dashboard page.
2. Hover the mouse on the visualization until the **Setting** icon appears.
3. Click the **Setting** icon and select **Delete.**

A confirmation message that the visualization is deleted appears.

Additional Features

The following additional features can be found on the visualizations on the Dashboard page:

Action	Description
Mouse Hover	 You can hover the mouse over any visualization to view the data as shown.
Drag and Drop/Reorder	 You can drag and drop/reorder the visualizations on the Dashboard page. Hover the mouse over the visualization you want to move until you see the **Drag and Drop/Reorder** icon and the shape of the cursor changes. Pressing the mouse, you can drag and drop the visualization around the page.

Resize	 Hover the mouse to the bottom right of the visualization until you see the mouse change to . Now use the mouse to resize the visualization.