



OAK

User Manual

Identify easy and affordable ways to reduce your  
energy bill and carbon footprint.



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## About OAK

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The Oak Network Ltd. (OAK) is an energy efficiency company delivering a net-zero carbon plan for all its businesses. As stated by Benjamin Franklin "Every penny saved is a penny earned". During these difficult financial times, OAK is focusing on UK businesses to deliver energy savings making them more economically resilient, energy efficient and making a difference to their carbon footprint. OAK helps businesses understand and manage their energy better and reduce their electricity consumption and return revenue to their bottom line.

OAK is diligently working towards digitally transforming the underlying issue of energy wastage and expensive bills that 5.7 million businesses across the UK face each month. OAK uses the insights from digitally monitoring and carrying out diagnostic analytics to bring about corrective and preventive measures that enable businesses to efficiently manage their operations 24/7.

For retail building operators, OAK maps energy usage during Trading hours, non-Trading hours and when prepping for and after service ("Prep"). From this continuous data monitoring OAK provides insights and alerts, which saves energy and makes business more profitable and sustainable.

Efficient energy usage will not just save significant amounts on monthly and annual bills but also significantly reduce the carbon footprint of a business and its direct impact on the environment. Hence, OAK is saving businesses significant money at this crucial time of instability as well as impacting their carbon footprint reduction during the climate crisis and implementing a sustainable net-zero long term strategy.

Please find the below sections in detail which will help you to be more energy efficient and reduce your impact on the planet.

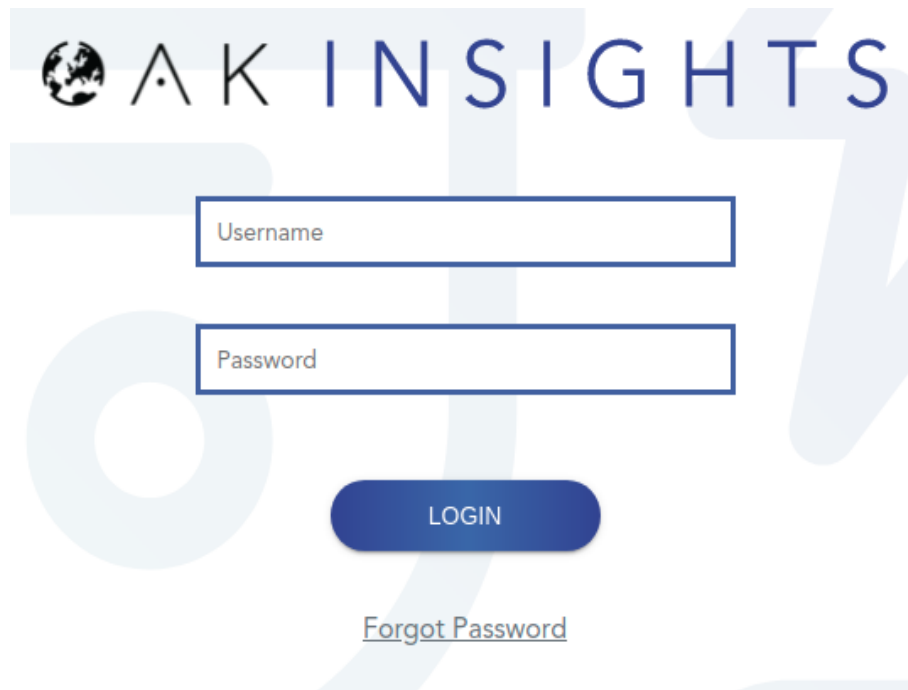


## Login Page

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This is the landing page of oak-insights.com where you can use your provided credentials to login into your energy consumption dashboard

- Type the username provided by OAK.
- Type the password and click login.
- In case password is forgotten, click on Forgot Password and follow the instructions.



The login form for Oak Insights features a large, light blue background graphic of a person. At the top, the logo consists of a globe icon followed by the text 'OAK INSIGHTS' in a blue, sans-serif font. Below the logo are two input fields: 'Username' and 'Password', both with blue borders. A blue, rounded rectangular button labeled 'LOGIN' is positioned below the password field. At the bottom, there is a blue link labeled 'Forgot Password'.

## Home Tab

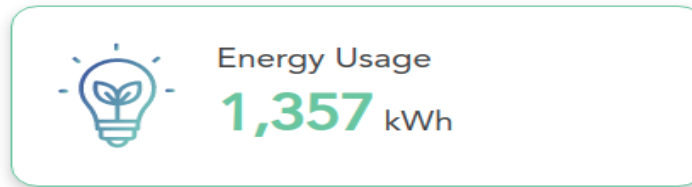
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The home tab provides a brief summary of the site's overall consumption over the selected time period (typically a month, which can be selected in the top right of the summary). The summary shows 6 key metrics in combination with an efficiency score and a month progress graphic.



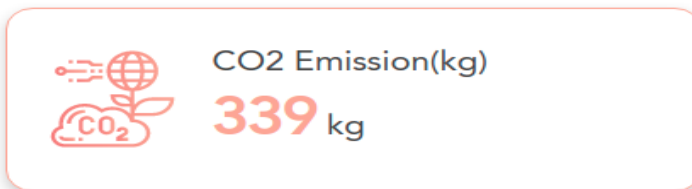
**Energy Usage:** Total energy (in kWh) used for the selected Month.

*For Reference:*



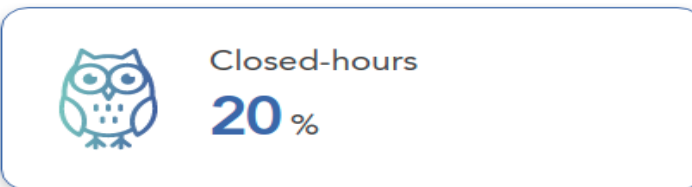
- **CO<sub>2</sub> Emission:** Total carbon dioxide emitted by your business in the given time period (in kg). It is calculated using the following the formula  $1 \text{ kWh} \times 0.212 = 1 \text{ kg of CO}_2$ . 0.25 is the UK pollution average as seen on

<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021> *For Reference:*



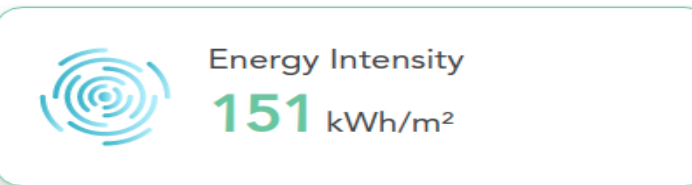
- **Closed hours consumption:** Total energy consumption (in kWh) used in non-operational hours and holidays.

*For Reference:*



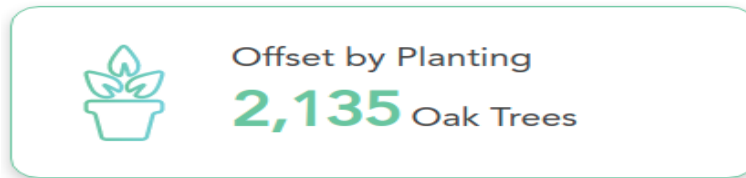
- **Energy intensity:** Energy intensity is the total consumption of the site in kWh divided by the floor space of the site. We will be comparing this metrics with other sites to benchmark the performance/efficiency of your site.

*For Reference:*



- **Offset by planting:** This metric shows the number of OAK trees that are needed to compensate the carbon emission of site. This is calculated by KgCO<sub>2</sub> multiplied by a factor.

*For Reference:*



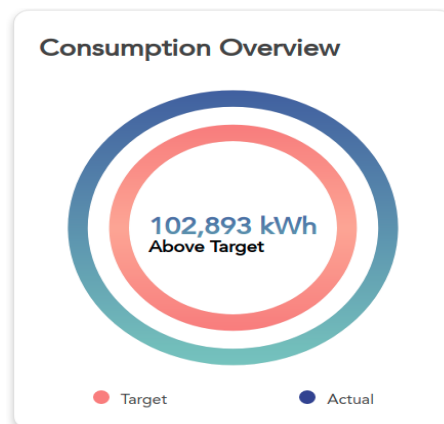
- **Trend vs. last month:** Shows the percentage difference in consumption of the current month and the prior month.

*For Reference:*



- **Consumption Overview:** Gives the comparison between target vs. current consumption (in kWh). The target is the moving average of consumption over the last 3 months. The red ring shows the number of days which have passed in the month (a complete circle therefore is equal to the total days in that month). The blue ring shows the consumption in terms of the total target, thereby if the blue ring is more complete than the inner ring, the site is over consuming in relation to its target.

*For Reference:*



- **OAK score:** A rating of the efficiency and reliability of the site. The higher the score, the more efficient the site is. This rating can be compared month over month in the Basic insights tab.

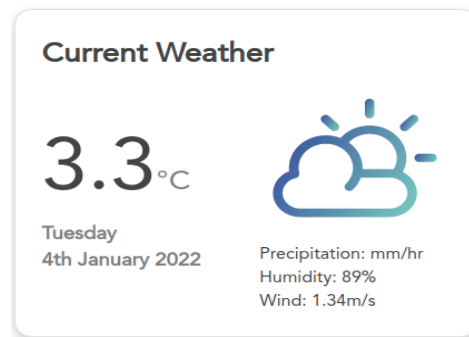


*For Reference:*



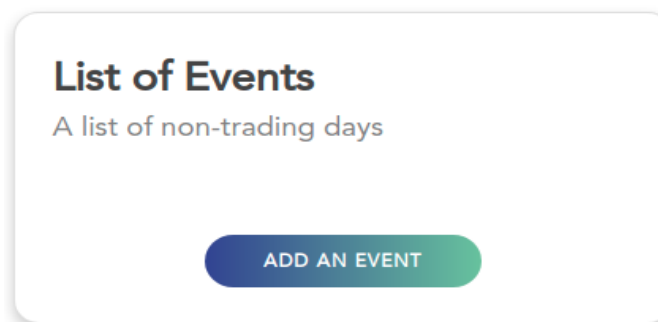
- **Google Weather:** This shows present weather status.

*For Reference:*



- **List of Events:** Shows the list of events in the current month. Events can be added by the "ADD AN EVENT" option. This is used to increase OAK's predictive and saving capabilities.

*For Reference:*

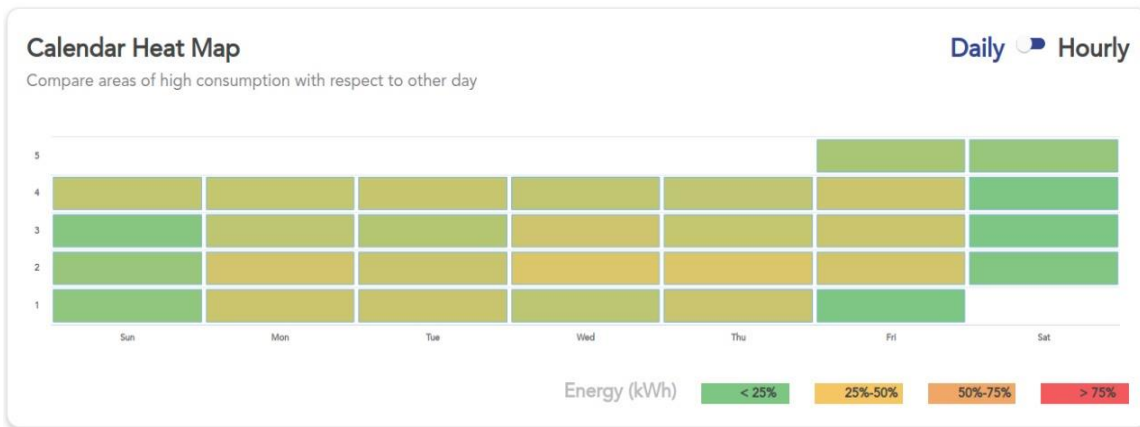


- **Calendar Heat Map:** Compares areas of high consumption with respect to other days.

➤ The map can be adjusted to show a daily or hourly basis for a given month.

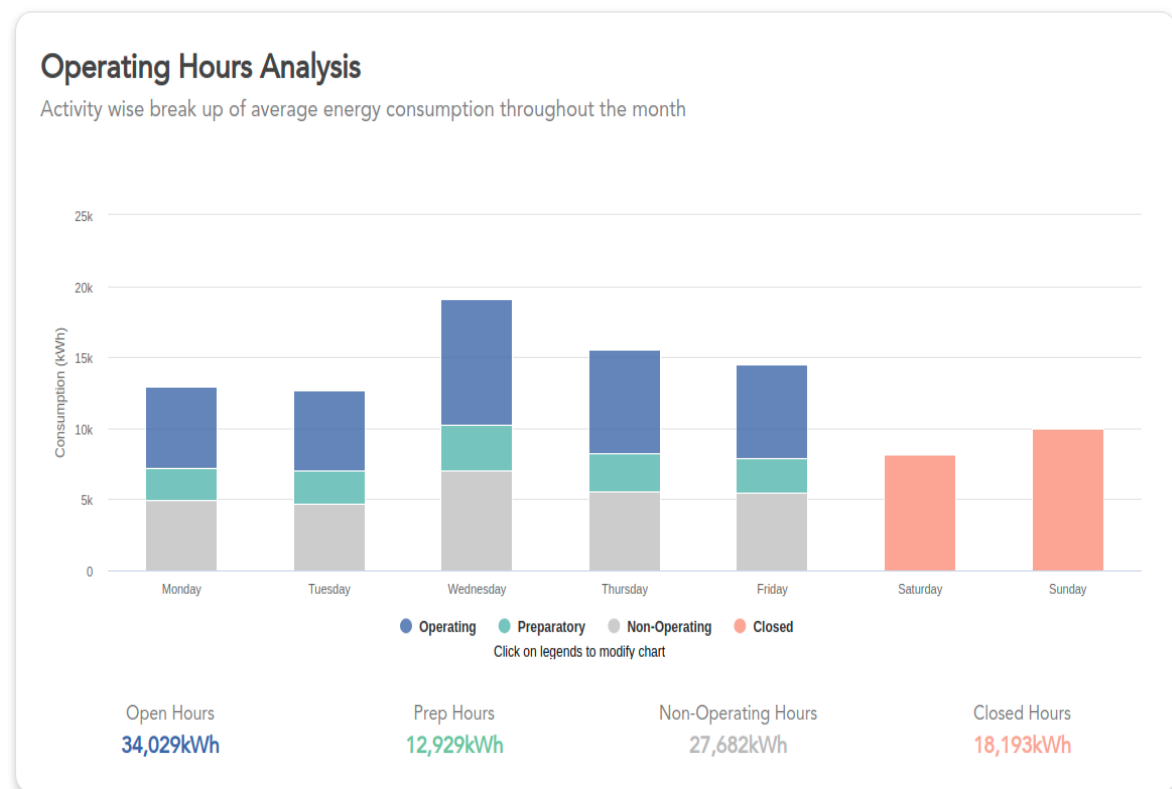
*For Reference:*





- **Operating Hours Analysis:** Allows you to easily compare energy consumption during the different types of operating hours (categorized into Open Hours, Prep Hours, Non-Operating Hours and Closed Hours; shown in deep blue, sky blue, grey, and orange respectively)

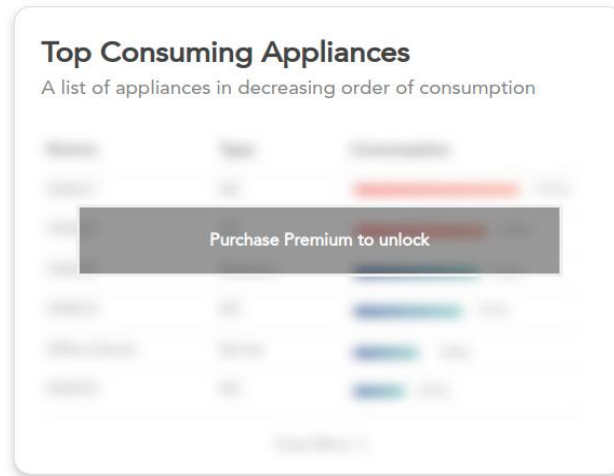
*For Reference:*





- **Top Consuming Appliances:** A list of appliances in decreasing order of consumption.

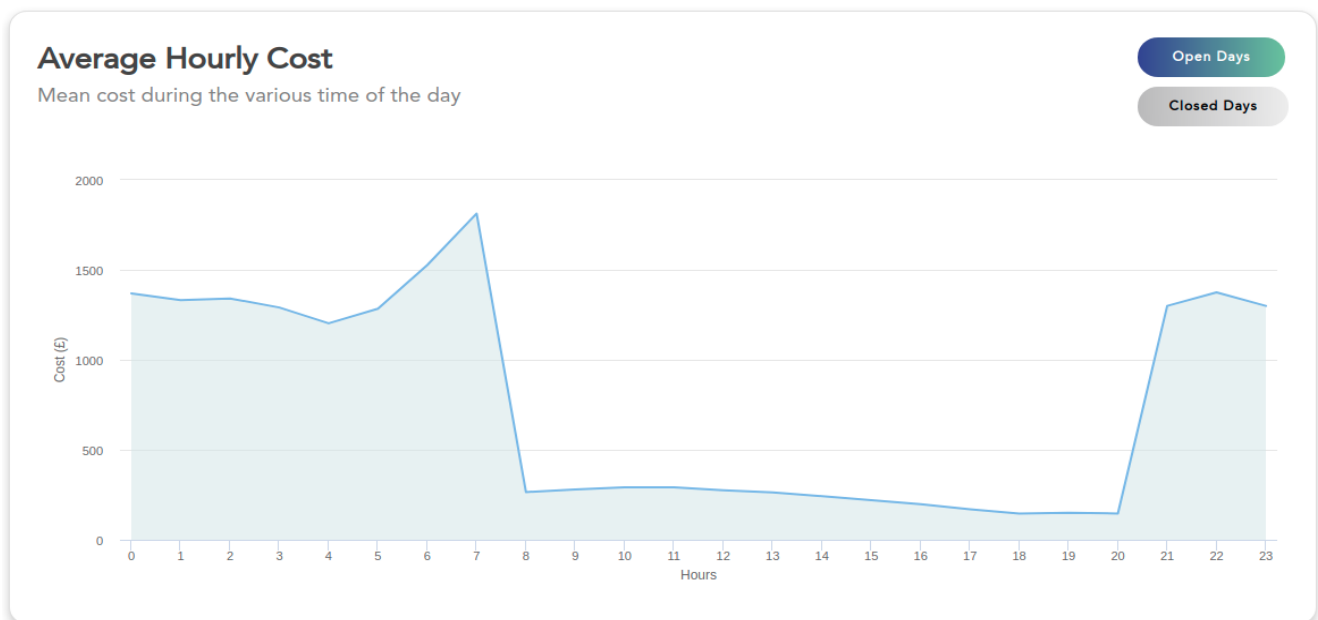
*For Reference:*



- **Energy Cost throughout the day:** This shows you how much each hour of the day is costing you on average, thereby taking the average consumption in that hour for every day and translating it into cost according to your energy price.

- This can be filtered for Open and Closed days to help you gain an understanding of your cost at every point of your operations.

*For Reference:*



- **Google News:** Short articles on related interests.

*For Reference:*



## News Updates

### Lack of electricity drives sustainability options in Lebanon

With Lebanon's deepening electricity crisis and fuel shortage, many homes and businesses have switched to solar panels to generate electricity due to widespread power cuts from the country's unpredictable energy sector.

### Green Energy push for future sustainability in India

With a growing economy, the demand for energy from the commercial and industrial sectors is going to increase.

### City of Ann Arbor looking for next A2Zero Ambassadors

Program coursework explores topics including sustainability, transportation, environmental justice, circular economy, local food and water and energy efficiency.

## Basic Insights Tab

In this tab, you can scroll through summaries of your past months to easily compare between months. By clicking on a specific month, a more detailed summary will appear.

- **Basic Insights:** The key metrics for each month are shown. Before clicking on a specific month you will be able to compare consumption (kWh), emissions (kgCO<sub>2</sub>) and the consumption in comparison to the target.
  - You can click on each month to get detailed insights into the consumption of that particular month.
  - Once clicked, you will see the 6 key metrics along with your energy usage (kWh) along with OAK's predicted consumption represented by the blue circle.

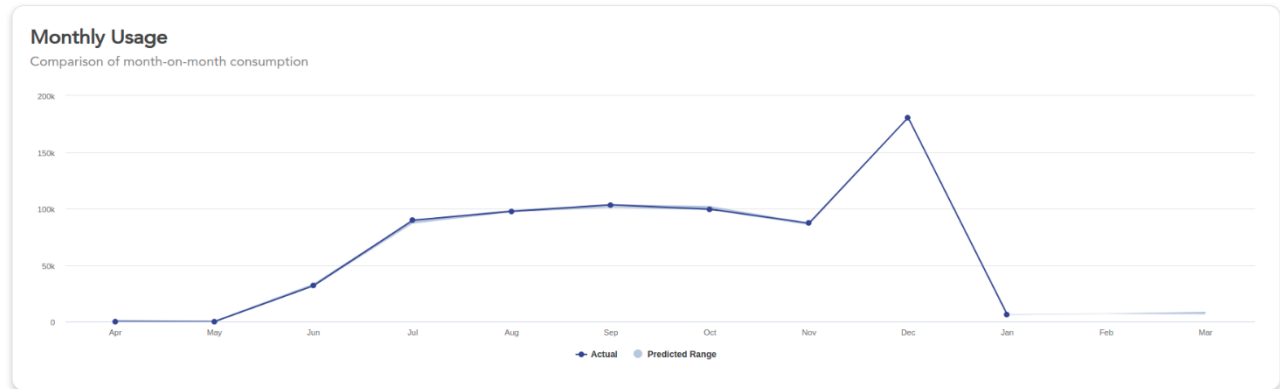
*For Reference:*



- **Monthly Usage:** This is a time-series report of your consumption for the running year, where you can compare all the 12 months of year to understand the seasonality of consumption and which months cost you the most.

- Above and below the line of actual consumption there is a grey shade; this is the predicted range OAK had forecasted for that particular month.

*For Reference:*



- **Predicted Usage:** Shows the target value, statistics, and the OAK score on a yearly basis.
- **Day by day Analysis:** Shows daily energy consumption (in kWh).
  - Actual consumption is denoted by bars.
  - Predicted Consumption is denoted by line.

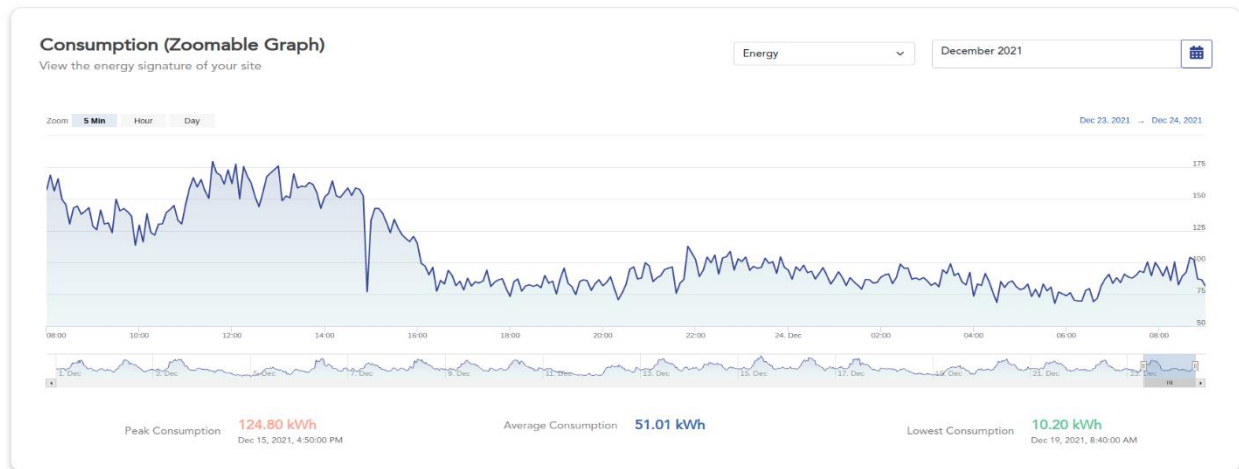
## Deep Insights Tab

This tab shows detailed energy consumption. The graph has a standard frequency of one data point every 5 mins throughout your last month. More details and filters can be selected, as well as changing the time window through the month's drop down menu.

- **Consumption Graph:** Provides the daily Energy Signature of the site.
  - Energy consumption loads can be seen in 5 intervals along with 1 Day, 1 week, 1 month intervals.
  - Highest, Lowest, and Average consumptions are listed.

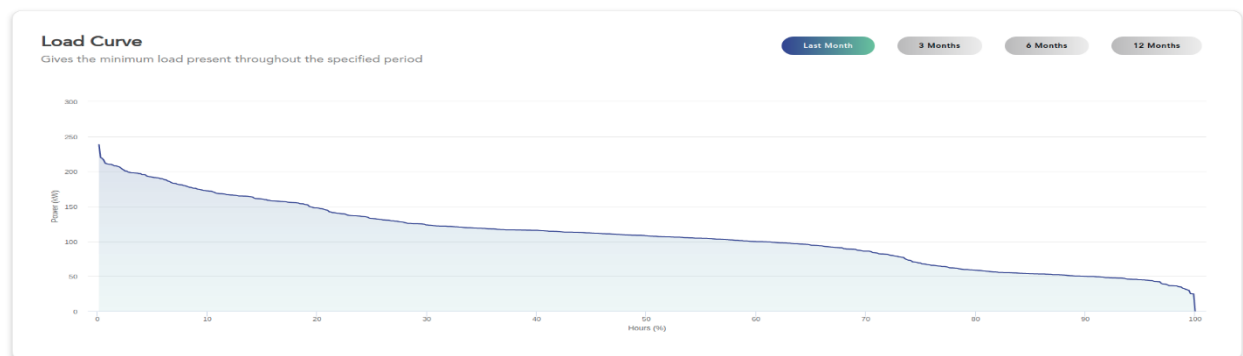


*For Reference:*



- **Load Curve:** Shows the minimum load present throughout the specified period.

*For Reference:*



- The last 1, 3, 6, 12 month loads can be viewed by clicking the respective options.
- **Daily Min-Max:** Provides the range of consumption, which helps in understanding the variation in demand by hour. The shorter the line, the more stable the consumption is in that time period. The longer the line, the larger the fluctuation in demand; which suggests there is potential to optimise your consumption.
  - The range of energy consumption of the last 1, 3, 6, 12 months can be viewed by clicking the respective options.



*For Reference:*



## Multi-site Comparison Tab

In this tab, the monthly energy consumption of different sites is shown.

- Different months can be selected using the drop-down menu.
- **Basic Insights:** Provides Energy usage (kWh), CO<sub>2</sub> Emission (kg), Energy Cost (£), and Peak Usage (kWh) of different sites.
  - The highest value is highlighted for each parameter.
- **Budget and Target consumption:** Provides a comparison between the budget and target.
  - Green if consumption is 20% or more below benchmark
  - Red if consumption is 20% or more above benchmark
  - Otherwise, it will be grey.
- **Consumption Distribution:** Shows the consumption of different sites.
  - Shows the total energy consumed by all sites.
- **Consumption Comparison:** Allows you to compare different sites for a holistic view.
  - Different colour lines define different sites.

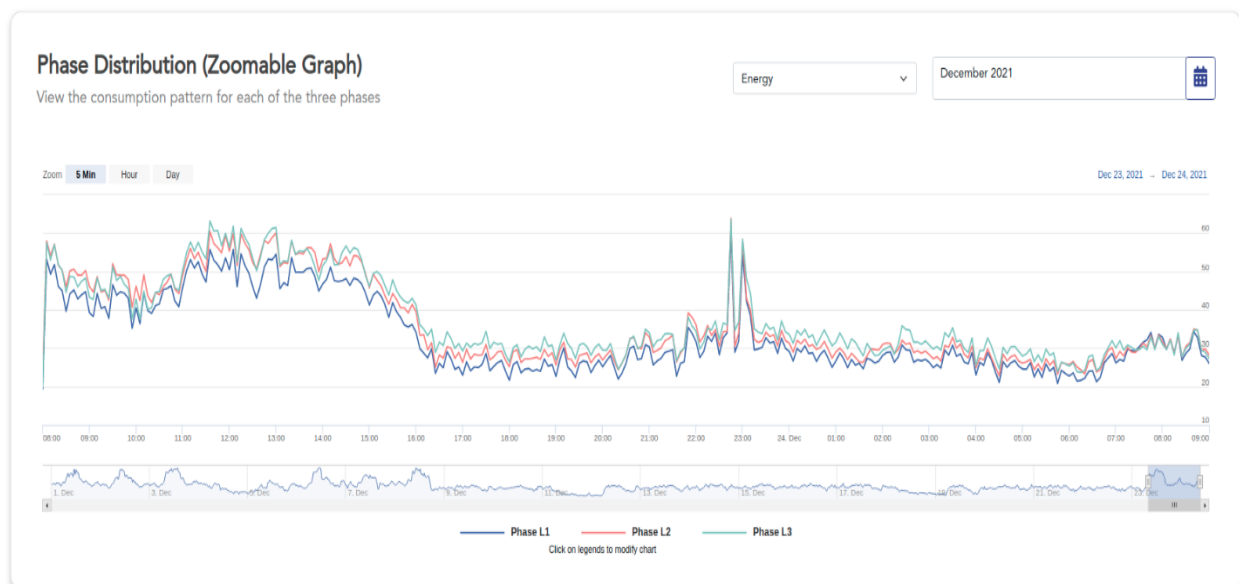
- **Information:** Provides information about the sites and the sensors.

## Phase Distribution Tab

This tab shows a deep dive into the load of the site's phases. An imbalance in phases can cause significant wastage, so keeping phases in balance is key.

- **Phase Distribution Graph:** Shows the consumption pattern for each of the three phases.
  - Power, Energy, and Voltage information can be viewed by selecting respective options.
  - Data can be viewed on 5 mins, 1 hour, and 1 day intervals.

*For Reference:*



- **Appliances:** Shows a distribution of top-consuming appliances across the three phases.

*For Reference:*



## Appliances

A distribution of top consuming appliances across the three phases

### Phase L1

(150kWh, 33.33%)

HVAC1 - AC  
HVAC2 - AC  
HVAC3 - AC

### Phase L2

(160kWh, 36.75%)

Refrigerator  
HVAC4 - Radiator

### Phase L3

(140kWh, 32.45%)

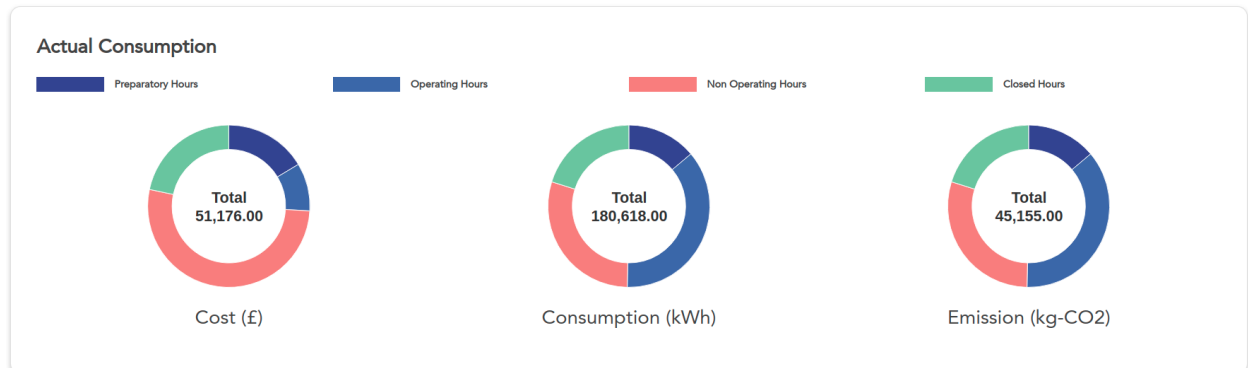
Office Server  
HVAC2 - AC  
HVAC3 - AC

## Savings Calculator Tab

This tab provides information regarding Current Consumption, Savings, and Projected Consumption.

- **Current Consumption:** Provides information about Cost (£), Carbon Emission (in kg), and Energy Consumption (in kWh). Respective values of Preparatory Hours, Operational, Non-operational Hours and Closed Hours are shown in each Pie chart.

*For Reference:*



- **Savings:** Percentages of Preparatory Hours, Operational Hours, Non-operational Hours, Closed Hours can be set.

*For Reference:*



## Savings

Preparatory Hours

2 %

Operational Hours

1 %

Non Operational Hours

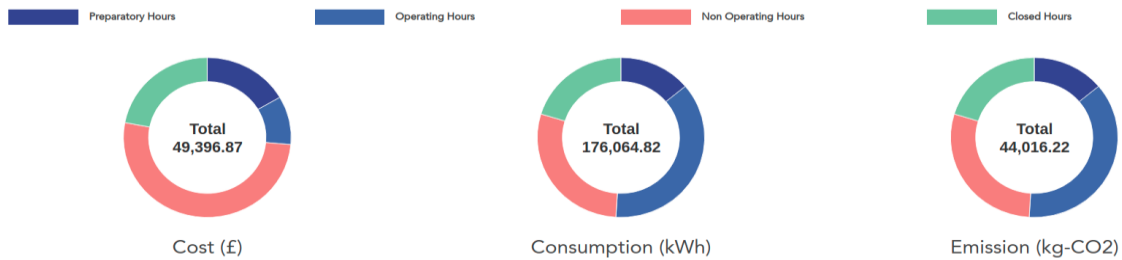
5 %

Closed Hours

2 %

- **Projected Consumption:** In this tab, Projected Consumption for Cost (£), Carbon Emission (in kg) and Energy Consumption (in kWh) can be found. Respective values of Preparatory Hours, Operational, Non-operational Hours and Closed Hours are shown in each Pie chart.

*For Reference:*



- **In Other Words:** Provides equivalent examples of what can be achieved with your savings.



317 litres of  
Petrol saved



8,111 km of  
road trip  
gained



392,724  
smartphones  
charged



54 full-grown  
trees planted



214 days of free  
electricity for  
your home



140 days of no  
taking out the  
trash





## Recommendations Tab

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In this tab, all your recommendations from OAK to improve energy efficiency can be found. By clicking the plus on the right-hand side, you can view more details for each recommendation. They include:

- Monthly basis recommendations to improve the energy efficiency and reliability of the site.
- Specific recommendations at phase level or equipment level.

December2021

Limiting the electrical leakage during OFF Hours can bag £4087 per year

