OWL USB CONNECT

USER GUIDE

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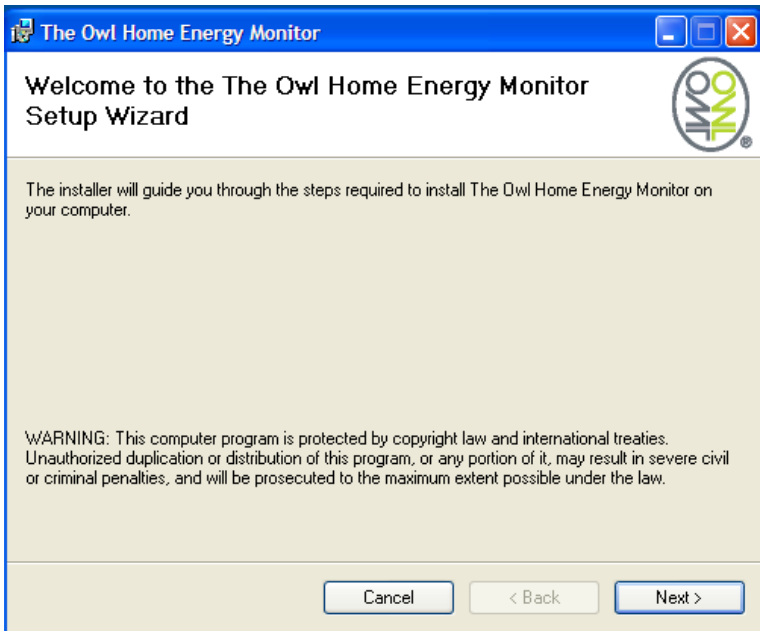
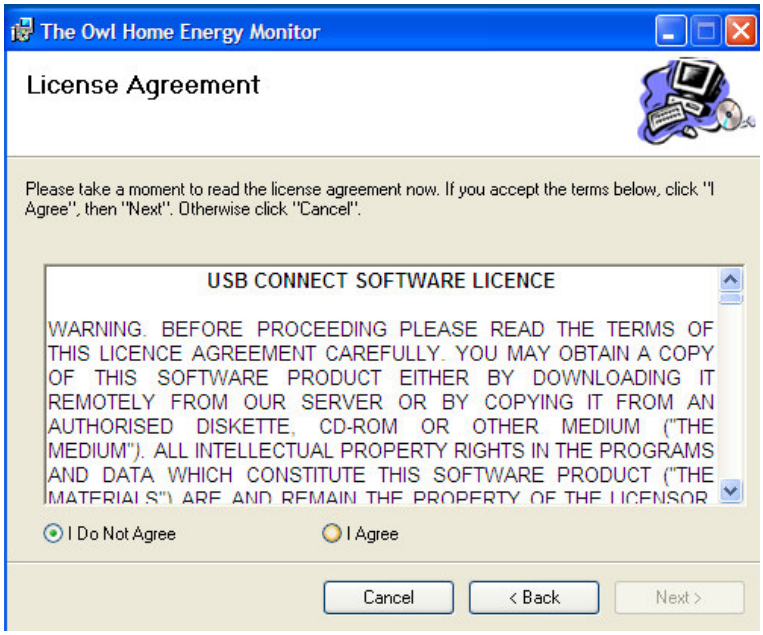
1.0 GETTING STARTED

Run the installation program file “setup” from the CD

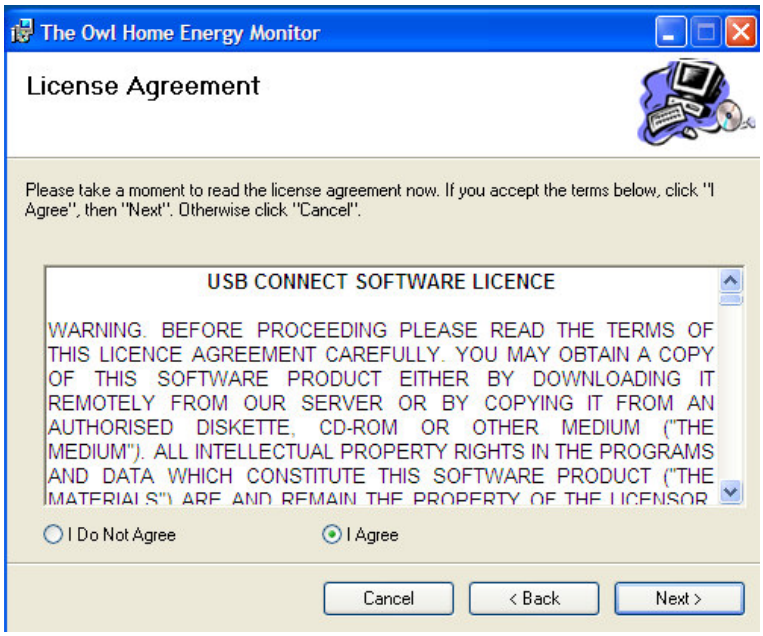


Proceed to the License Agreement Acceptance by pressing the [Next>] key.

1.1 LICENSE AGREEMENT



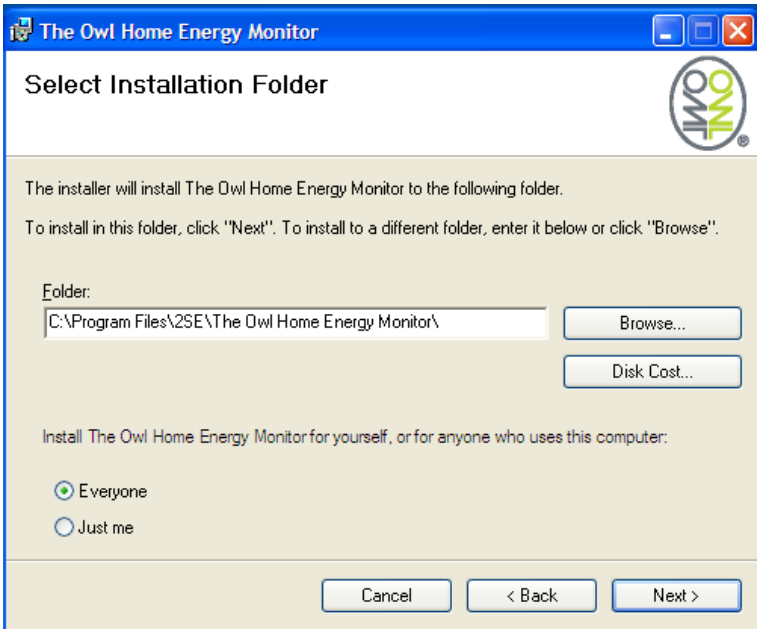
Select “I Agree” and press [Next>] to move to next stage of installation



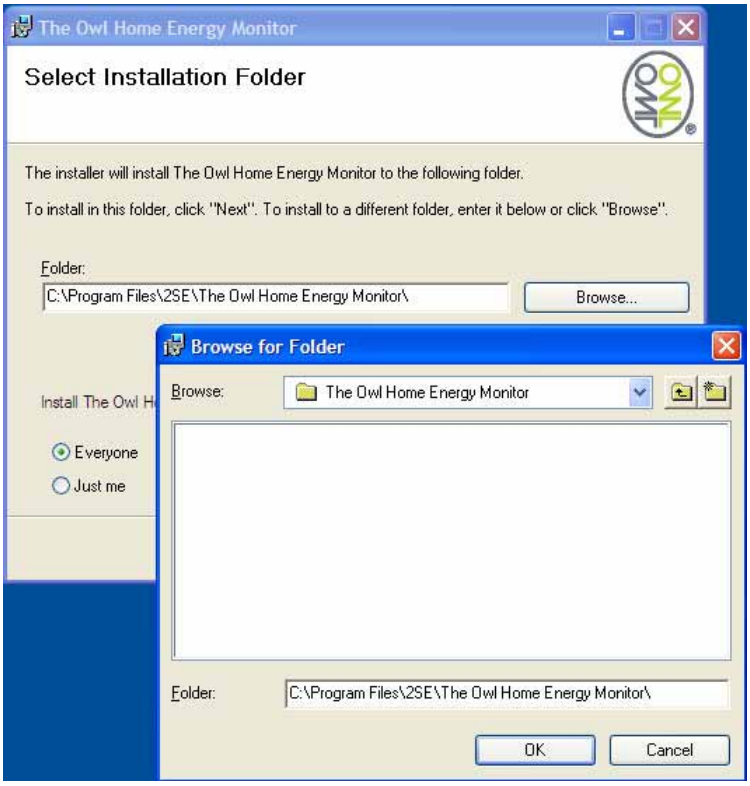
A copy of the License Agreement is available on the CD

1.2 SOFTWARE INSTALLATION

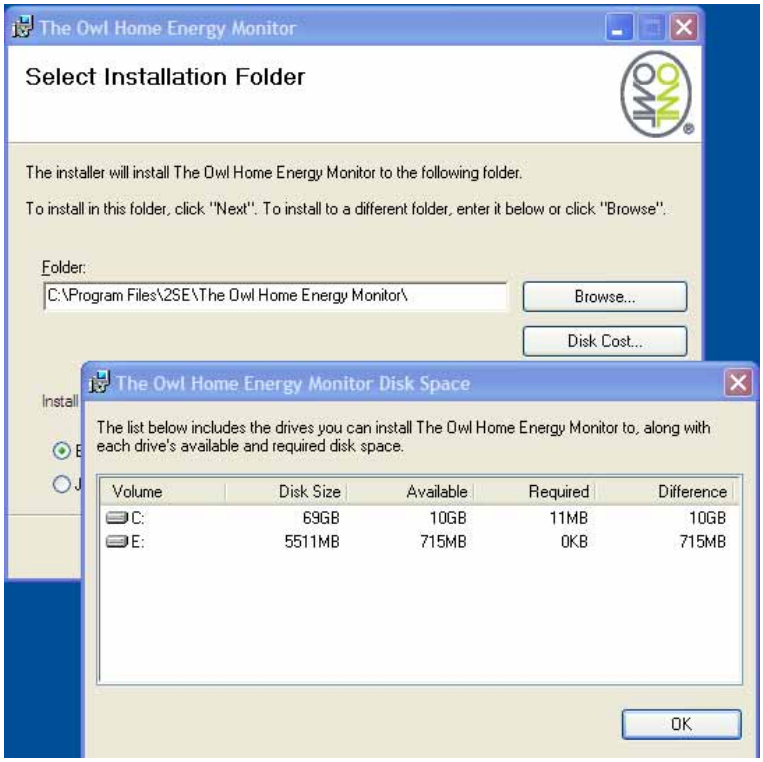
The installation of the OWL Home Energy Monitor program will default to “C:\Program Files\2SE\The Owl Home Energy Monitor\”.



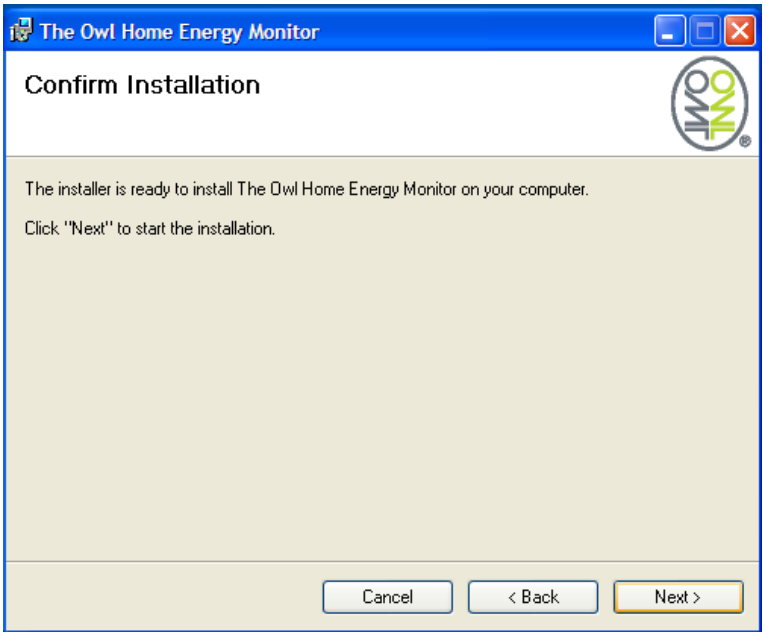
A different folder location can be used to install The OWL Home Energy Monitor application by selecting the [Browse…] button.

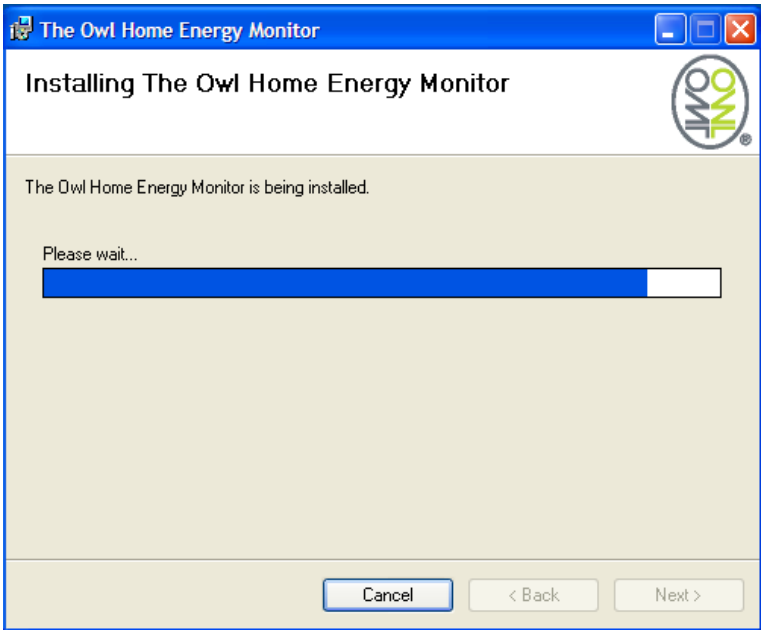


Check to see which disk has enough room to load the program using the [Disk Cost…] button

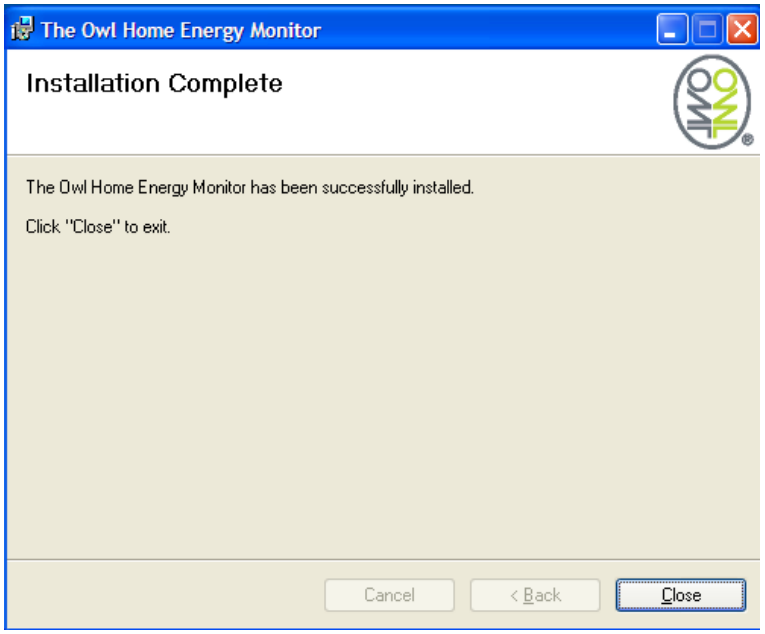


Confirm that you are ready to proceed with the installation by selecting [Next>] button.





The Owl Home Energy Monitor software is being installed.



The OWL Home Energy Monitor has been successfully installed.

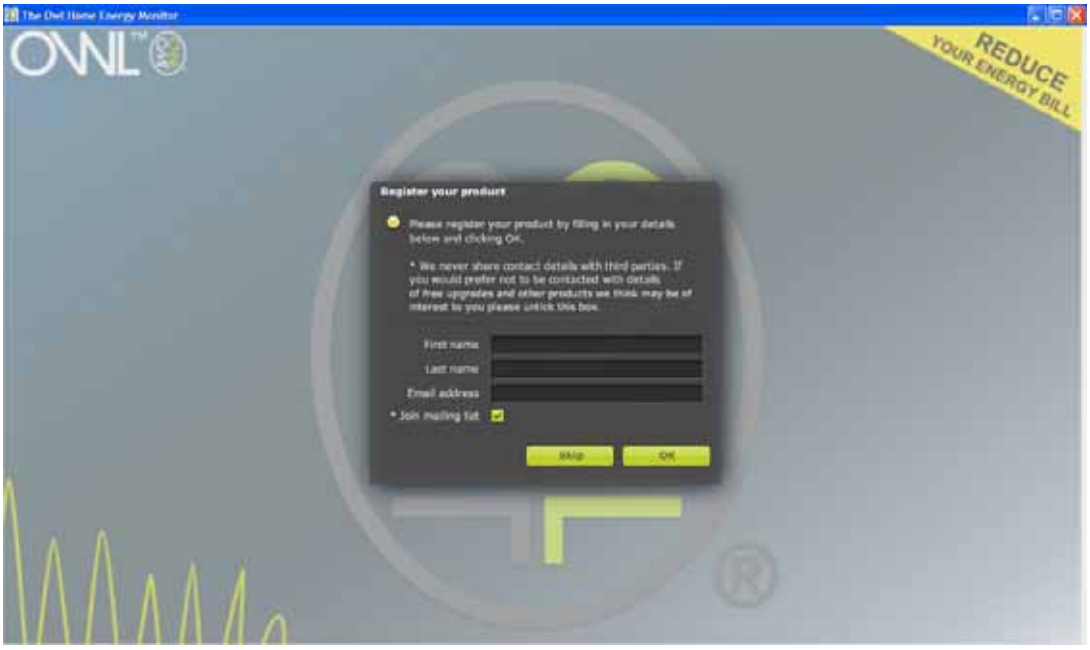
To exit from the installation select the [Close] button.

2.0 USING USB CONNECT

From the START Menu select “The OWL Home Energy Monitor”

2.1 PRODUCT REGISTRATION

Product registration is required to validate your product guarantee and to inform you via e-mail of any software updates that will be accessible as a download from the website.



* Un-check the box if you do not wish to be added to our Newsletter mailing list where you will receive information about new product releases and promotions.

2.2 CONNECTING THE USB CONNECT

Using the supplied USB cable, connect the USB Receiver shown below to one of the USB ports on your PC.

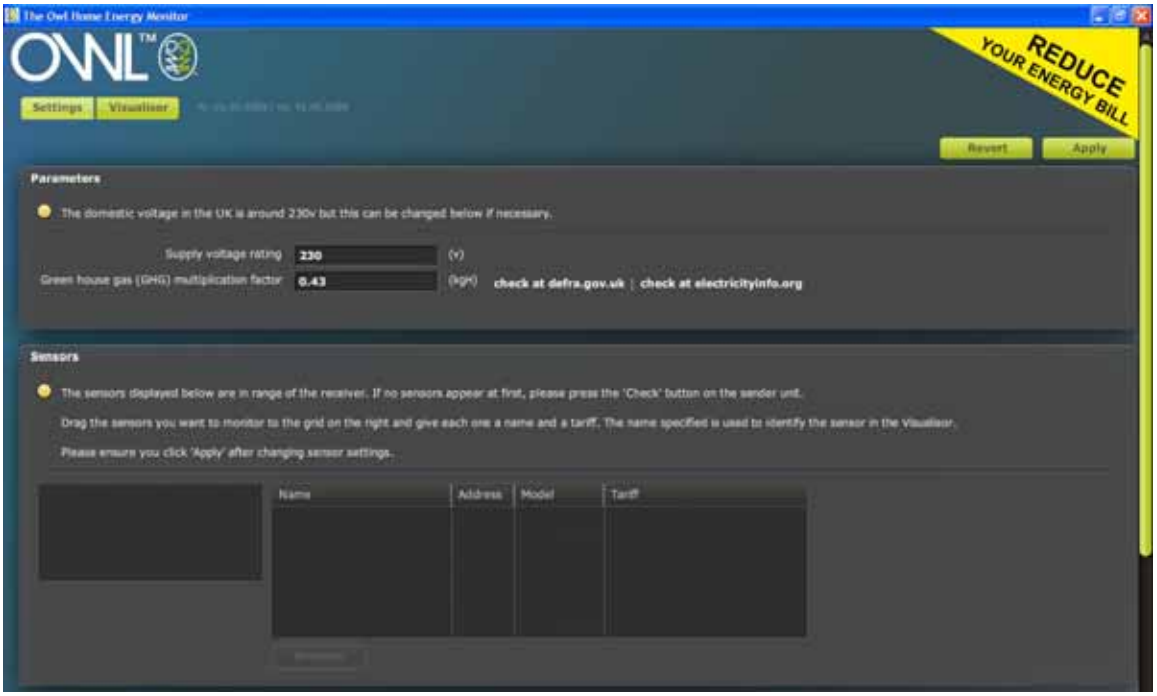
A warning screen will be displayed if your computer has not found your receiver. Please check connections or if plugged in remove and try connecting again. If this fails then try rebooting your computer.

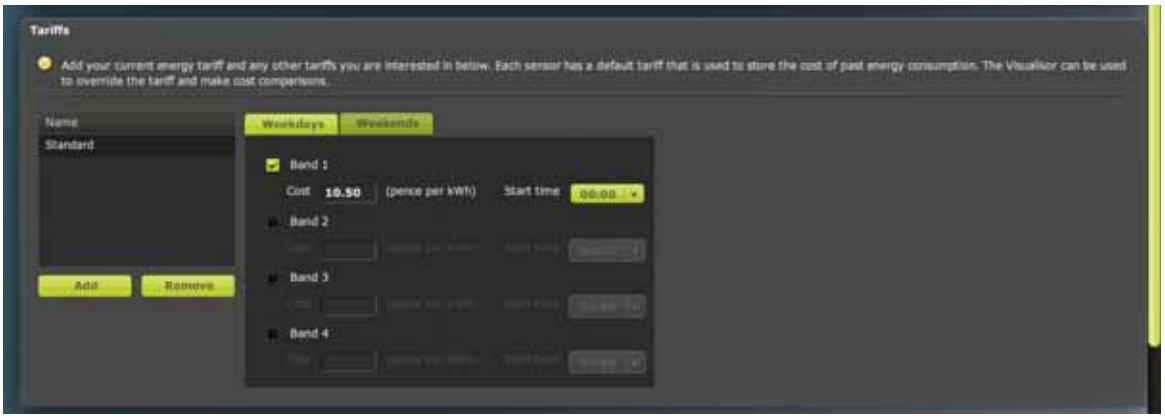
When the application has found the USB Receiver it will take you to the "Settings" screen.

2.3 SETTINGS SCREEN

The settings screen is split into 3 windows:-

- Parameters ➔ For setting up the voltage and greenhouse multiplication or conversion factor with links to related websites that could help you with finding out the conversion factor relating to your utility company.
- Sensors ➔ For adding, naming, and selecting appropriate tariff for up to 10 sensor units that can be monitored and charted in the "Visualisor" screen.
- Tariffs ➔ For adding cost of electricity for current plan. Set up other cost of electricity plans that can be used to see the overall cost if you had been on or moved to a different plan.





2.3.1 Parameters

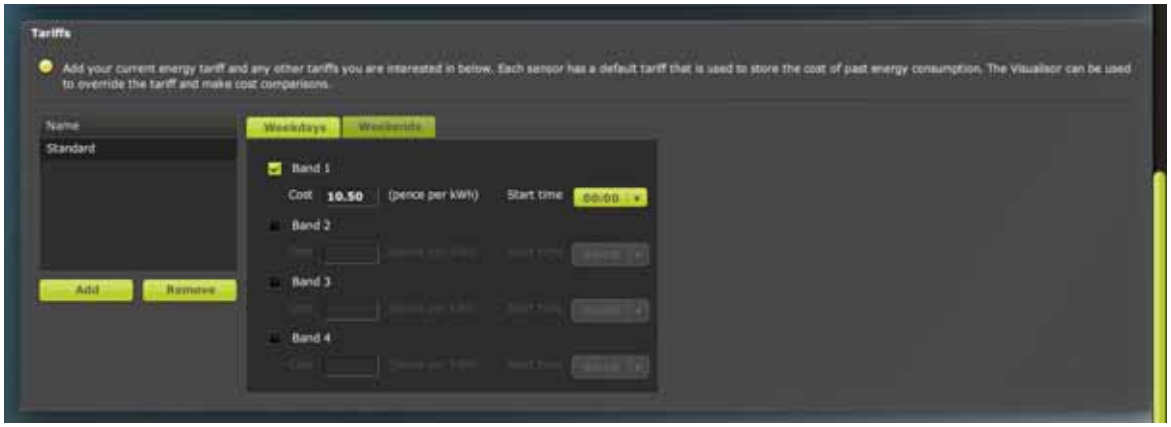
To change the Supply Voltage rating place cursor over the current value and select. The box will be highlighted by a blue line around the edge of the Supply Voltage rating box. Change the value and press the [Enter] key.

To change the Greenhouse gas multiplication factor place cursor over the current value and select. The box will be highlighted by a blue line around the edge of the Greenhouse gas multiplication factor box. Change the value and press the [Enter] key.

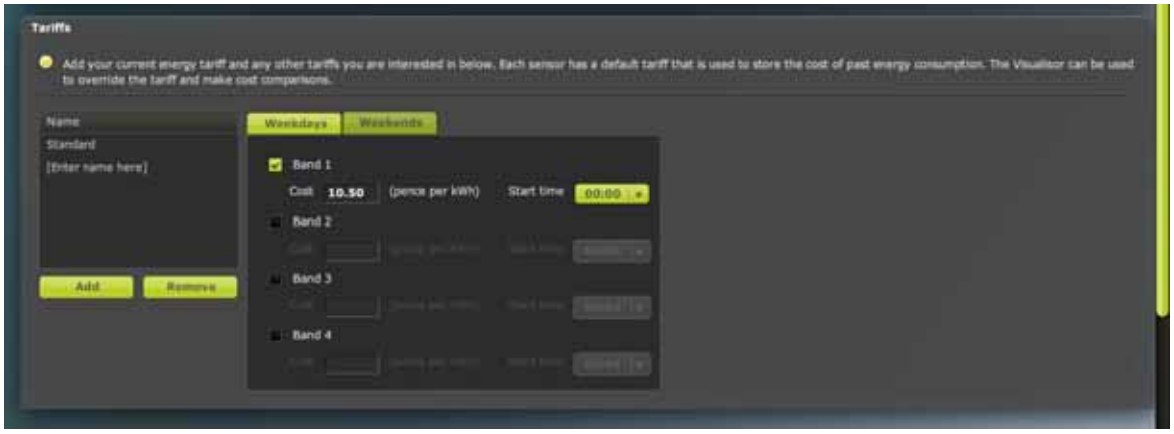
For greenhouse multiplication or conversion factors use the links to take you to related websites that could help you with finding out the multiplication or conversion factor relating to your utility company.

2.3.2 Tariffs

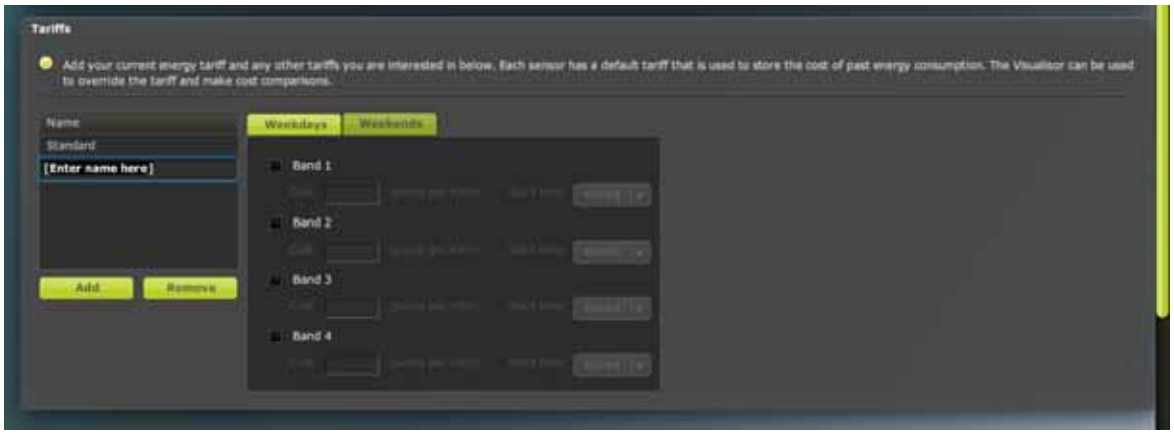
A nominal tariff has been preset within the software but this can be changed or removed as required.



To introduce your current tariff plan or additional tariff plans for evaluation purposes select the [Add] key.

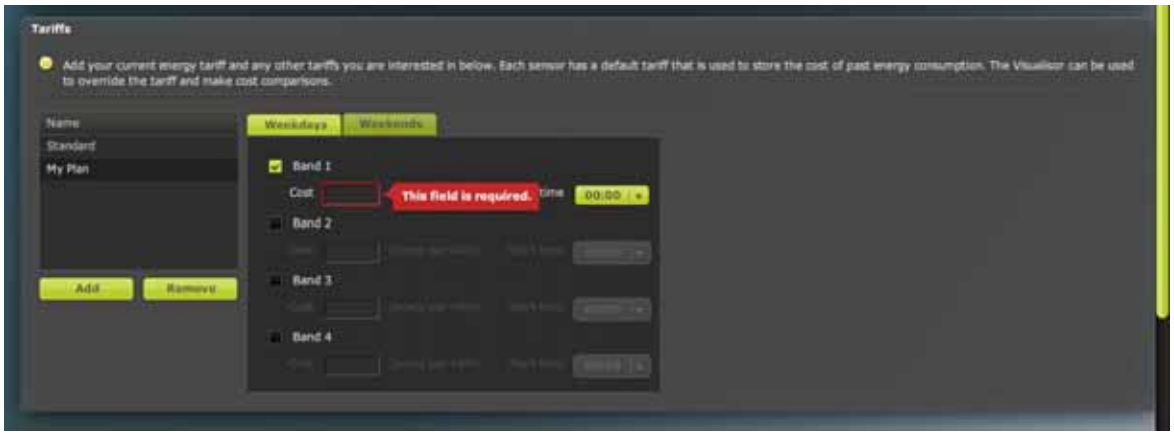


A tariff window will open with no values set within the bands or start times for weekdays or weekends.



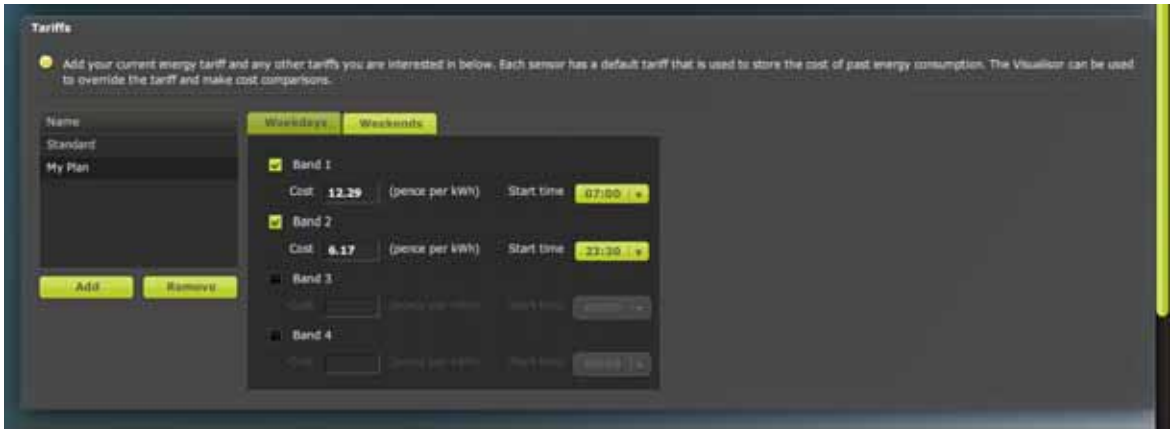
A name needs to be allocated to each of the tariff plans that are set up.

Check the box associated with the “Band” you intend to set with Cost per kWh and time of day that value starts to be charged.



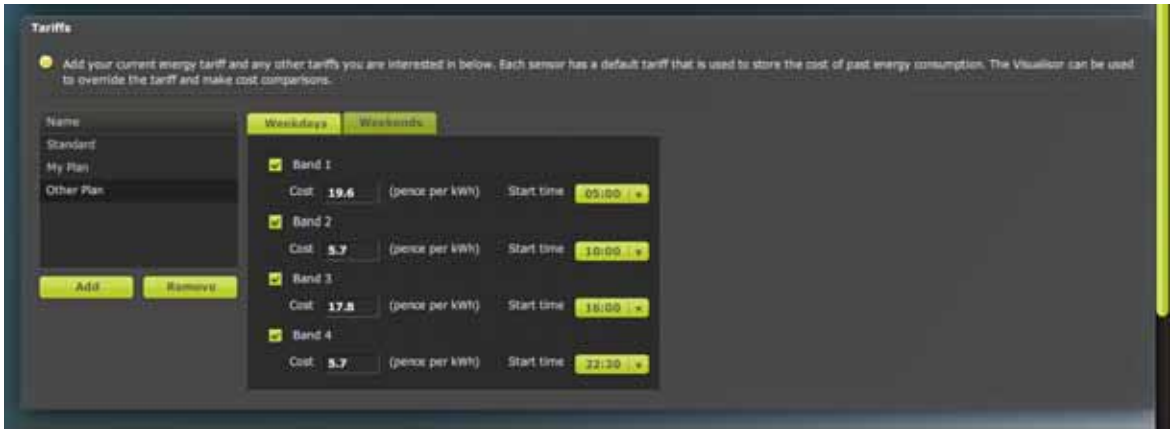
Repeat as required for additional bands within the same plan.

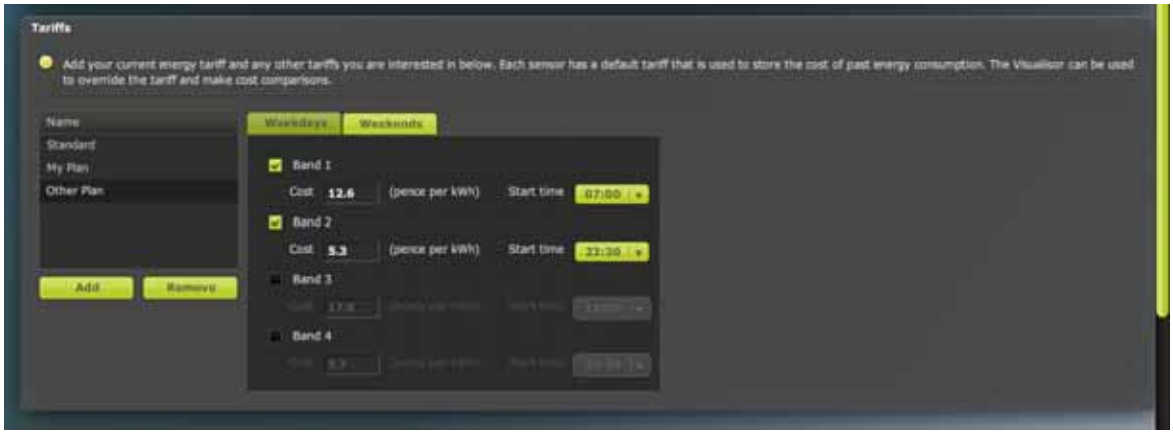
Select the “Weekends” tab either to set up specific weekend rates or to duplicate the weekday settings.



For Tariff plans that only have a single band then start time should be left set at 0:00.

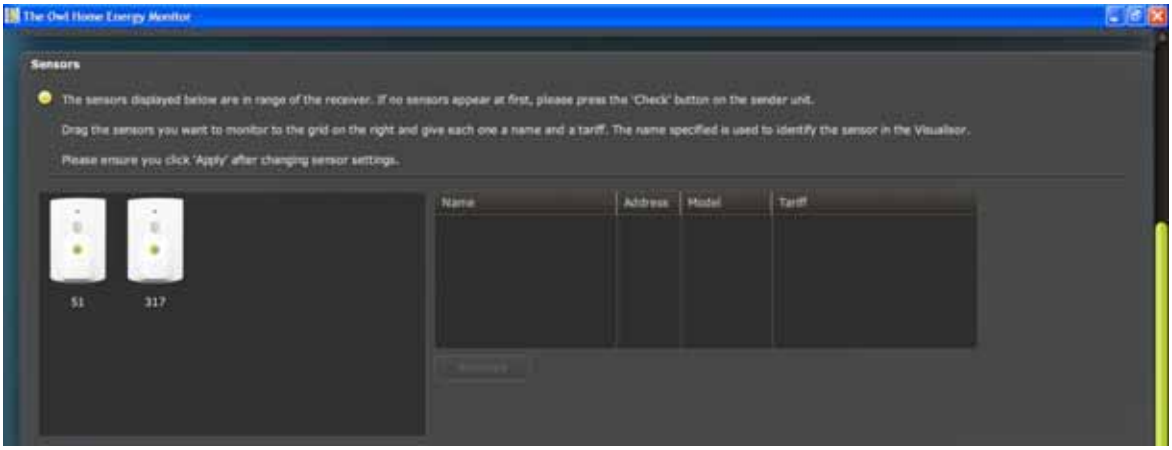
Repeat as required for other Tariff plans.



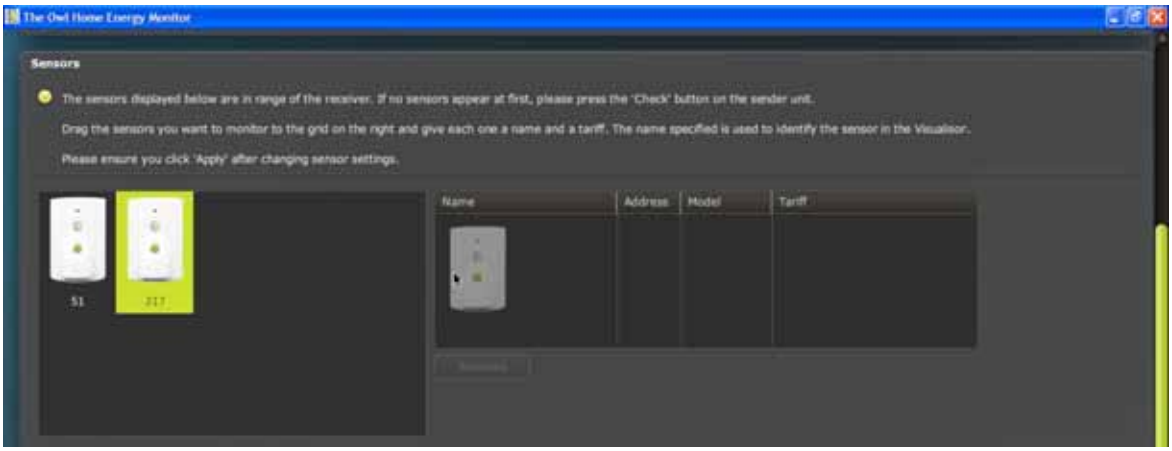


2.3.3 Sensors

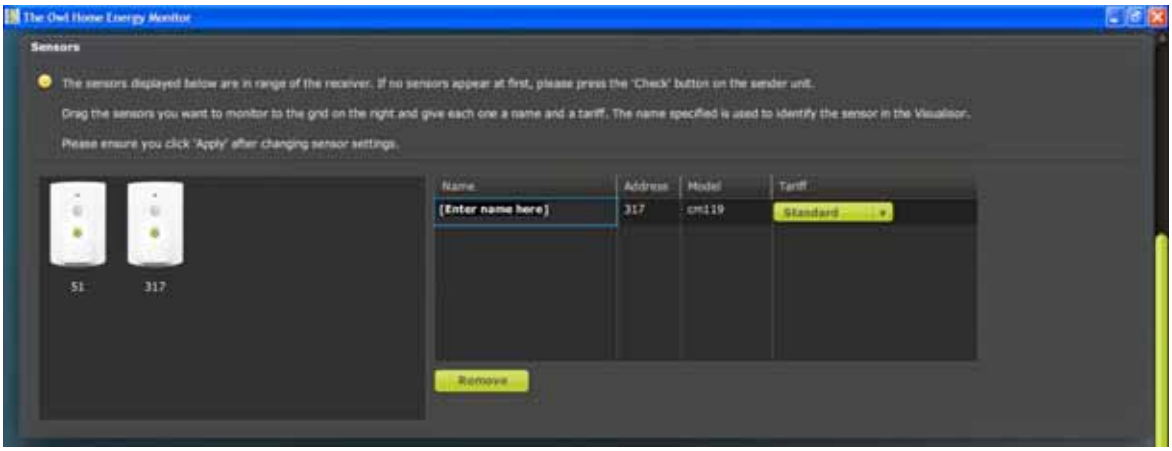
As the receiver detects sensors in range it will add them to the Sensors window and can identify up to 10.

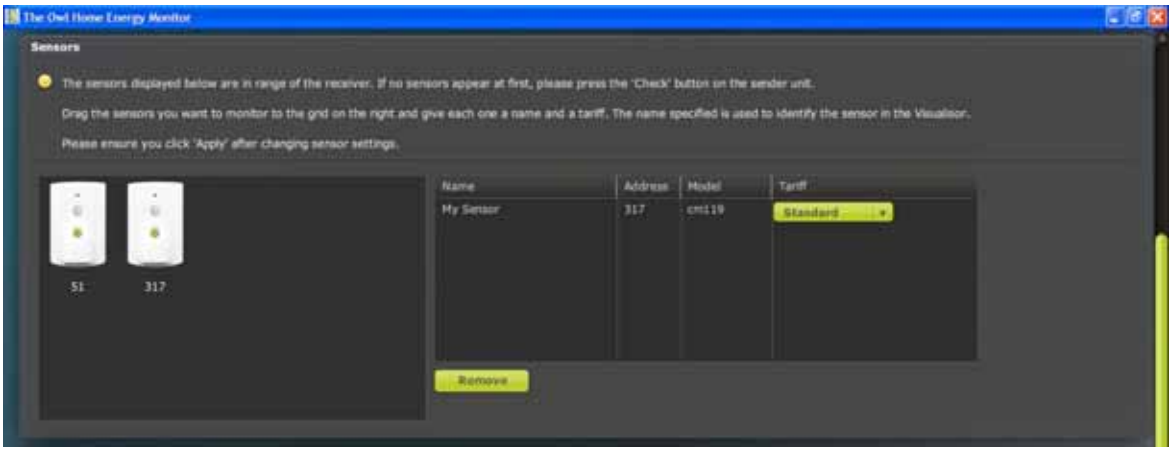


Drag and drop the sensor unit you wish to monitor into the table alongside the sensors found.

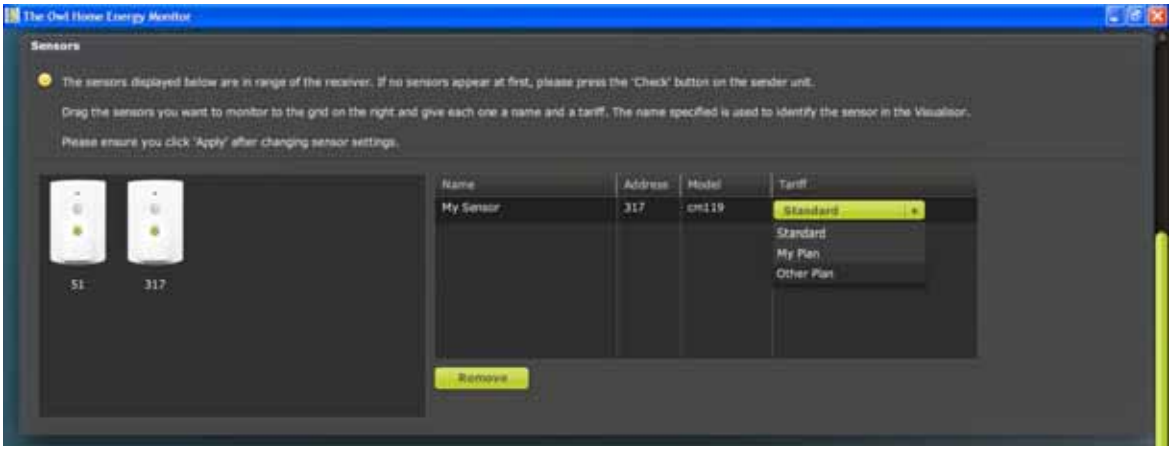


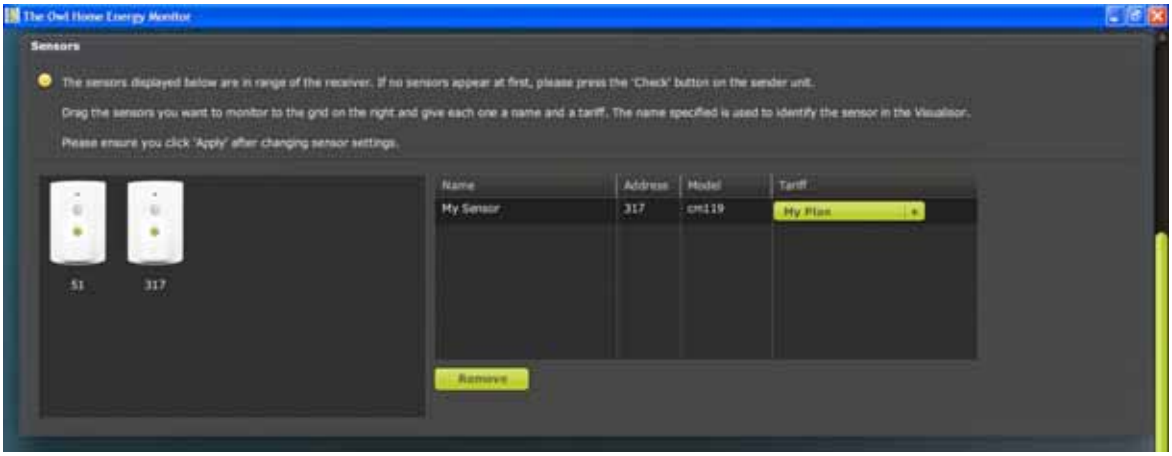
Insert a name to identify this sensor.





Select the appropriate plan to be associated to that sensor

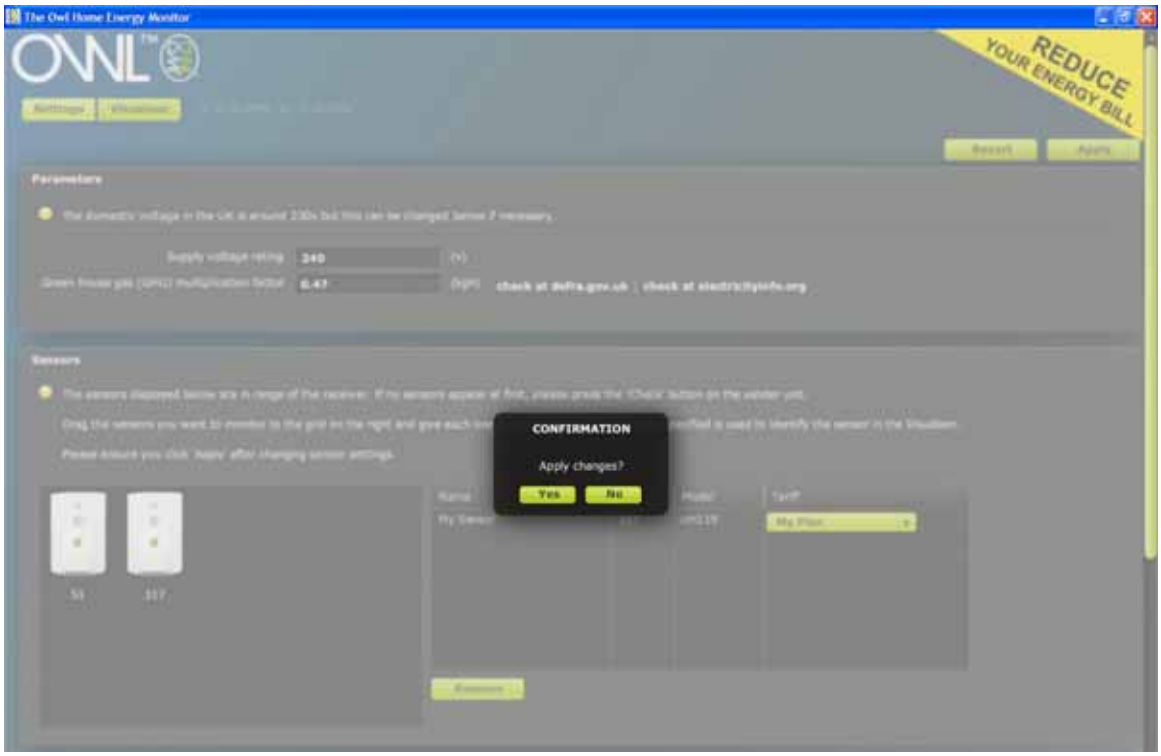




2.3.4 Applying Settings

The voltage, GHG Factor & tariff settings you have set needs to be applied for it to be carried through to the Visualisor for use within the charts.

Select the [Apply] button to apply changes made to settings.

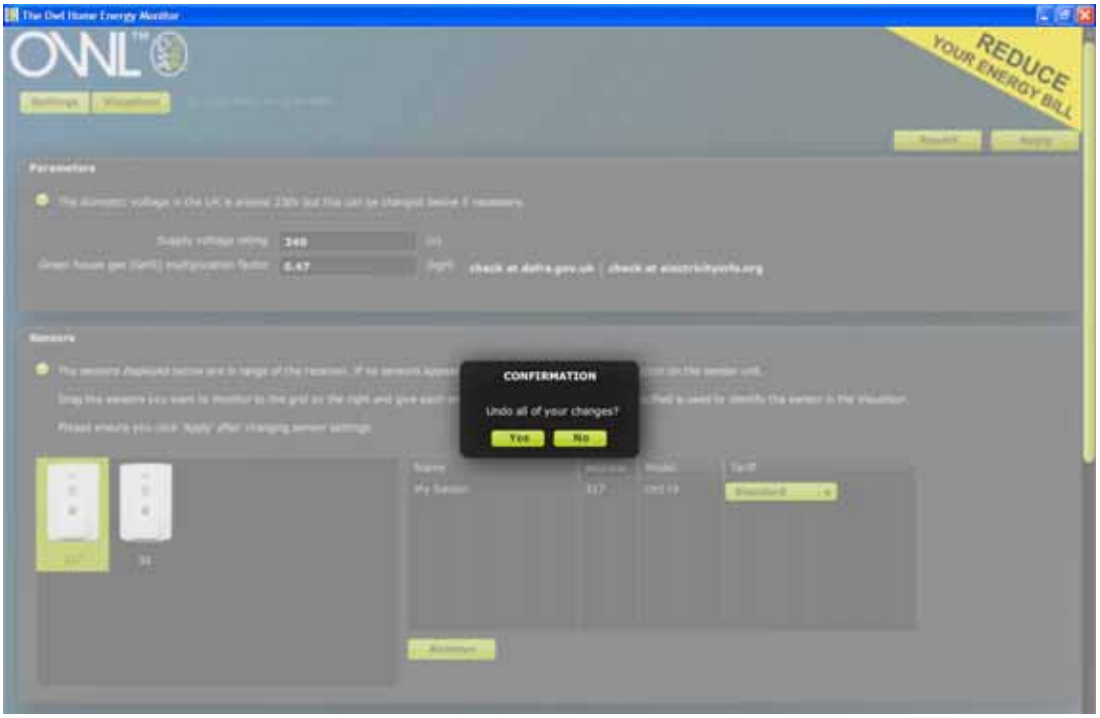


Confirm that you wish to apply changes made to settings by selecting the [Yes] button. All changes will be saved and used for charting purposes in the “Visualisor” window.

If you select [No] it will take you back to settings screen with your made changes, but will not have applied them for use in the “Visualisor” window.

2.3.5 Reverting Back to Previous Settings

By selecting the [Revert] button resets the voltage, GHG Factor & tariff settings to the previous settings last used.

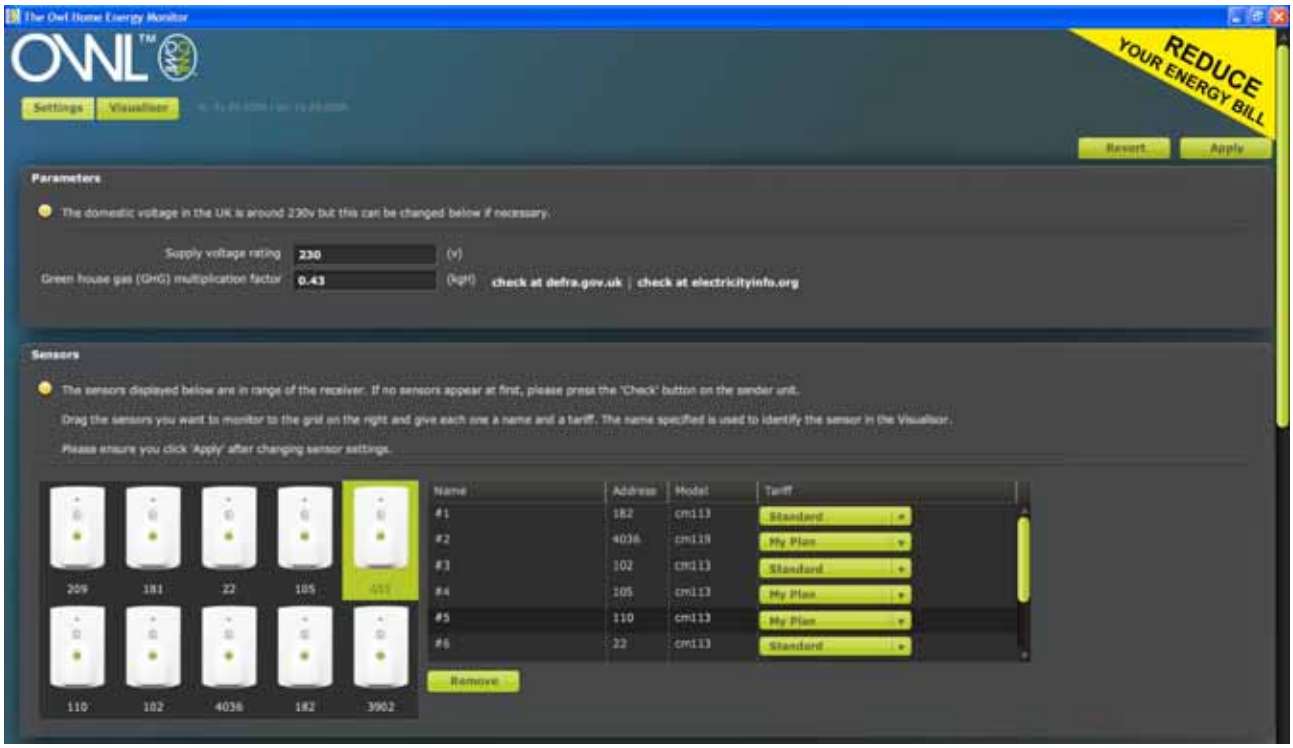


Confirm that you wish to revert back to previously saved settings by selecting the [Yes] button. All settings will revert back to previous applied settings and be used for charting purposes in the “Visualisor” window.

If you select [No] it will return to previous screen.

2.3.6 Monitoring Multiple Sensors

Up to 10 Sensors can be received by the USB Connect at any one time.



2.4 VISUALISOR

Use charts to visualise the data collected by the USB Connect from your sensors.

The chart view options are split into Simple and Advanced.

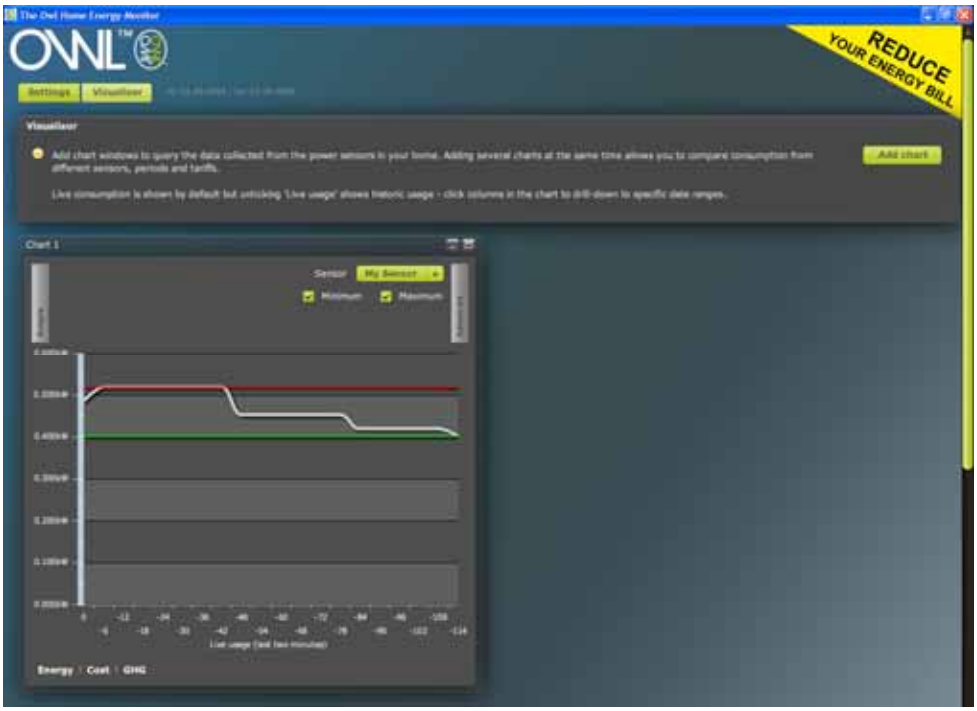
The simple view enables the sensor to be monitored to be selected from the sensors added in the Settings page and to enable Min/Max markers.

The advanced view enables different data to be reviewed ➔

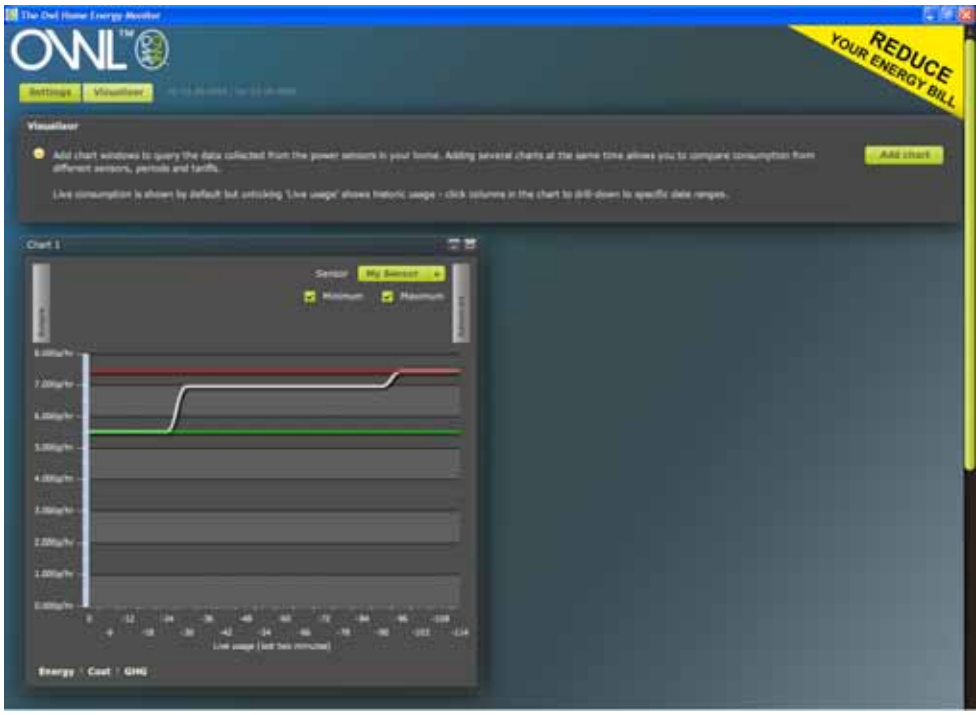
- Live Data ➔ Line Chart or Numerical Display
- Historical Data ➔ Bar Charts that you can drill down into to show information on a Year, Month, Day & Minute timeline
- Predicted Data➔ Bar Charts that take the historical data and based on usage to date that month or year and predict what your usage could be.

2.4.1 Live Data Charts

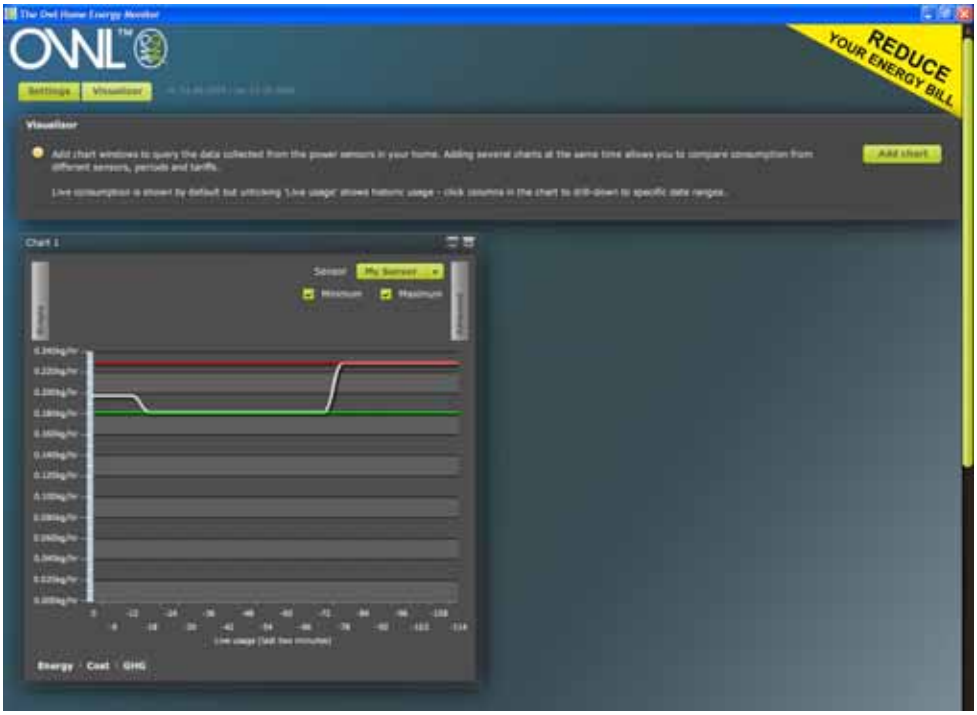
See the electricity as it is being consumed displayed in chart form showing it as cost, power and CO2 emissions.



- Energy Chart ➔ Shows the electricity in use in kW, calculated from the voltage setting you have used within the settings page and the electrical current reported by the sensor.



- Cost Chart➔ Shows the cost of electricity as it is being used, calculated from the tariff setting you have set up for the sensor within the settings page and the calculated electricity in use (kW).



- GHG Chart➔ Shows the calculated CO2 emissions for generating the electricity you are currently using based upon the GHG Conversion Factor you have used within the settings page..

2.4.2 Numeric Live Data

The live data for a sensor can be viewed numerically by selecting "Numeric" within the advanced function of the chart.

To revert back to the chart select "Chart".

2.4.3 Historical Data Charts

The collected data for a sensor can be viewed by un-checking the live usage box within the advanced function of the chart.

This will take you into the top level of the data shown as data used on a yearly timeline.

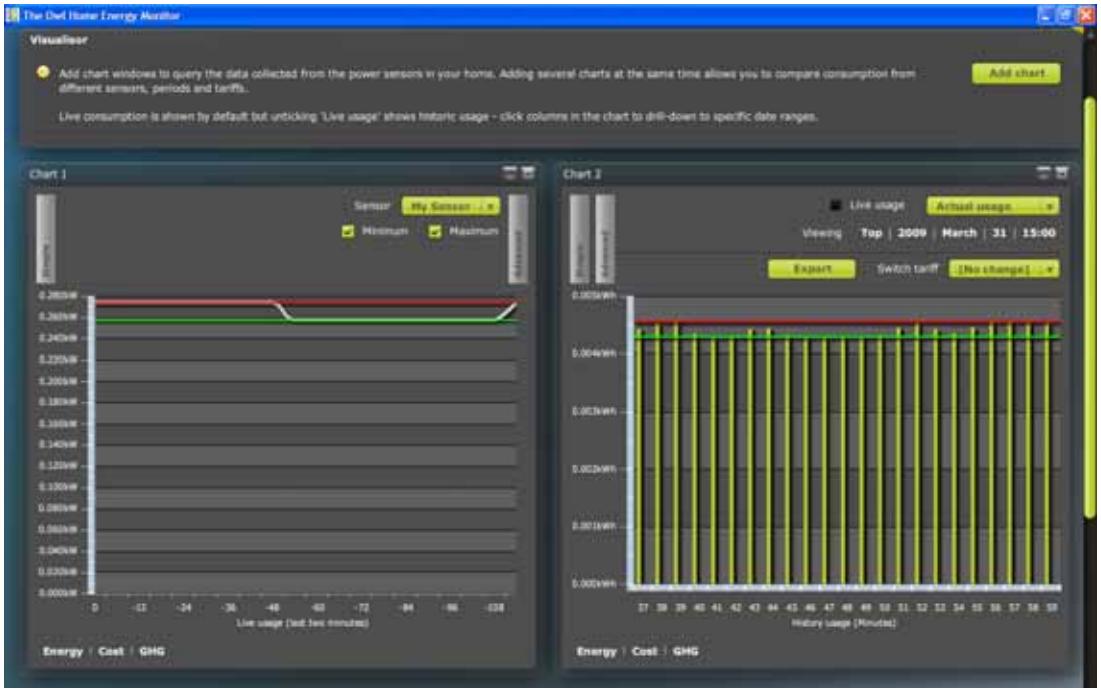
Drill down into the data by placing the cursor over the data bar you want to look at in more detail, select that the data bar by clicking your mouse key to then see the data on a monthly basis. To view on a daily, hourly and per minute repeat steps above.

Monthly

Daily

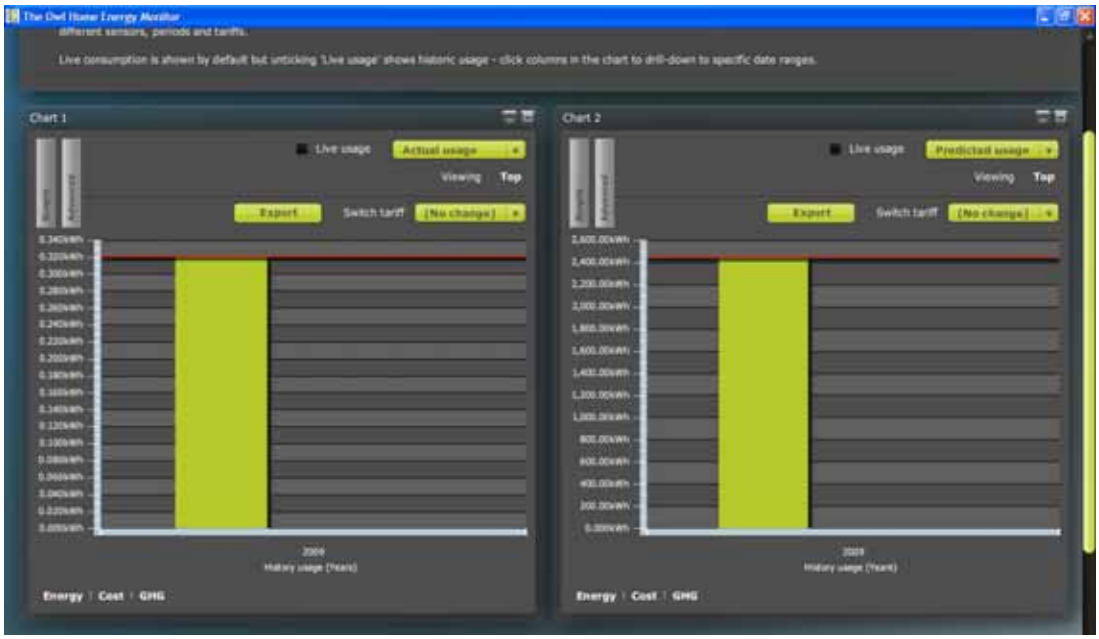
Hourly

Per Minute

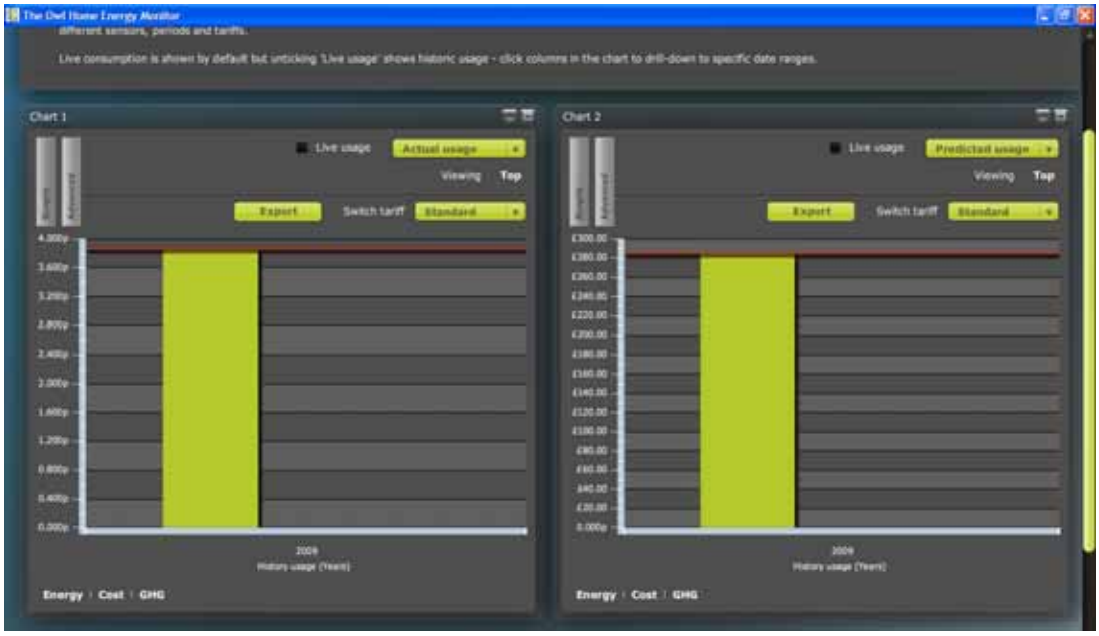


2.4.4 Predictive Charts

Based on the Historical Usage to date use the Predicted usage function to predict how much you would use or could cost using current tariff plan.



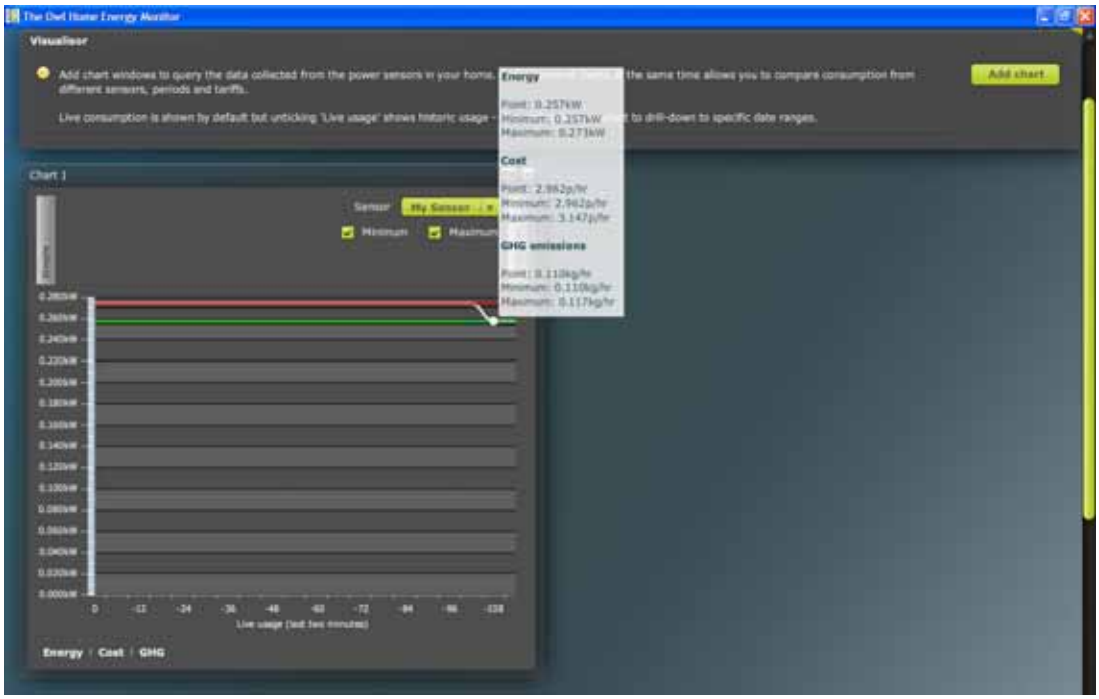
Predicted energy that would be used in 2009, based on energy used to date in 2009.



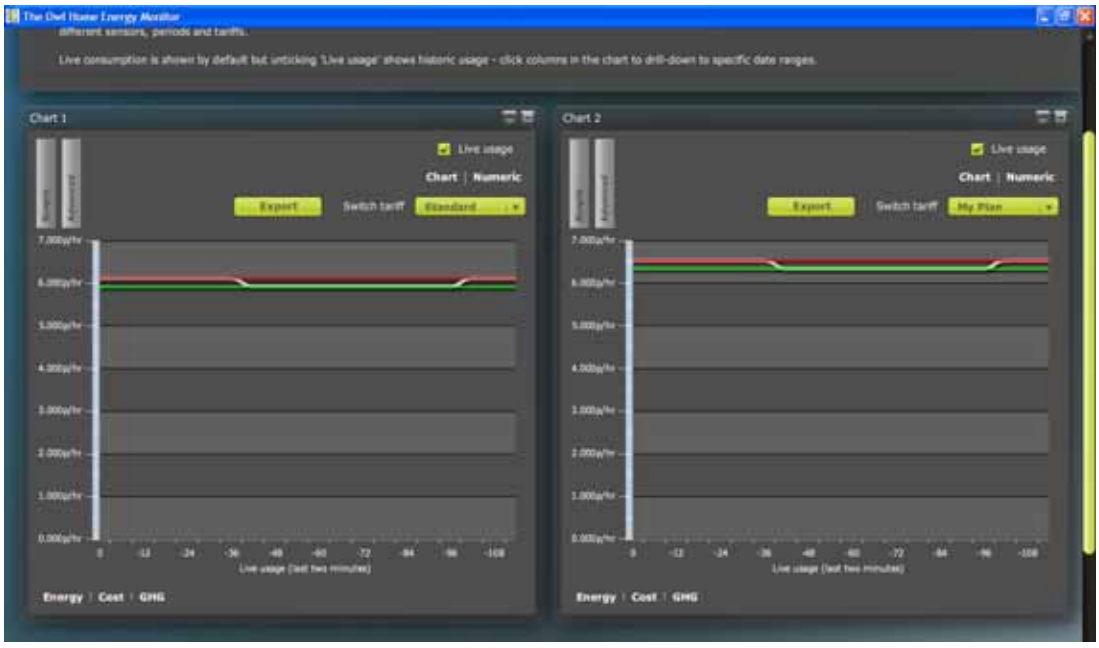
Predicted cost that would be used in 2009, based on energy used to date in 2009 and using current tariff plan.

2.4.5 Data Point Values

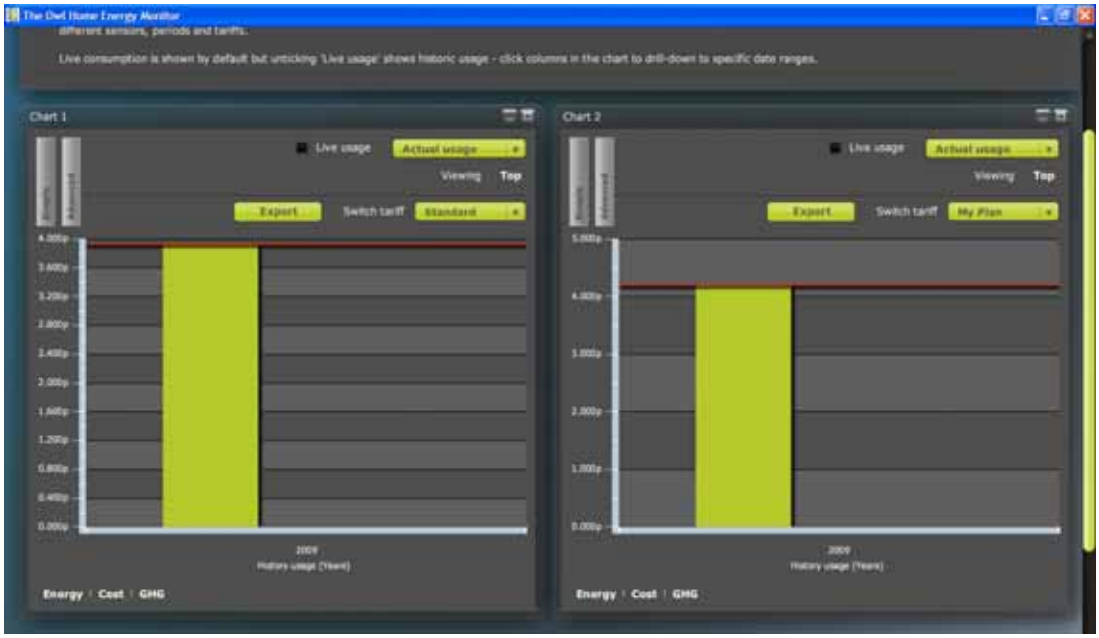
By passing the cursor over a data point in a Live Usage, Actual Usage or Predictive Usage chart will open a pop up window displaying the Energy, Cost and GHG Emission data point values and the associated Min/Max values.



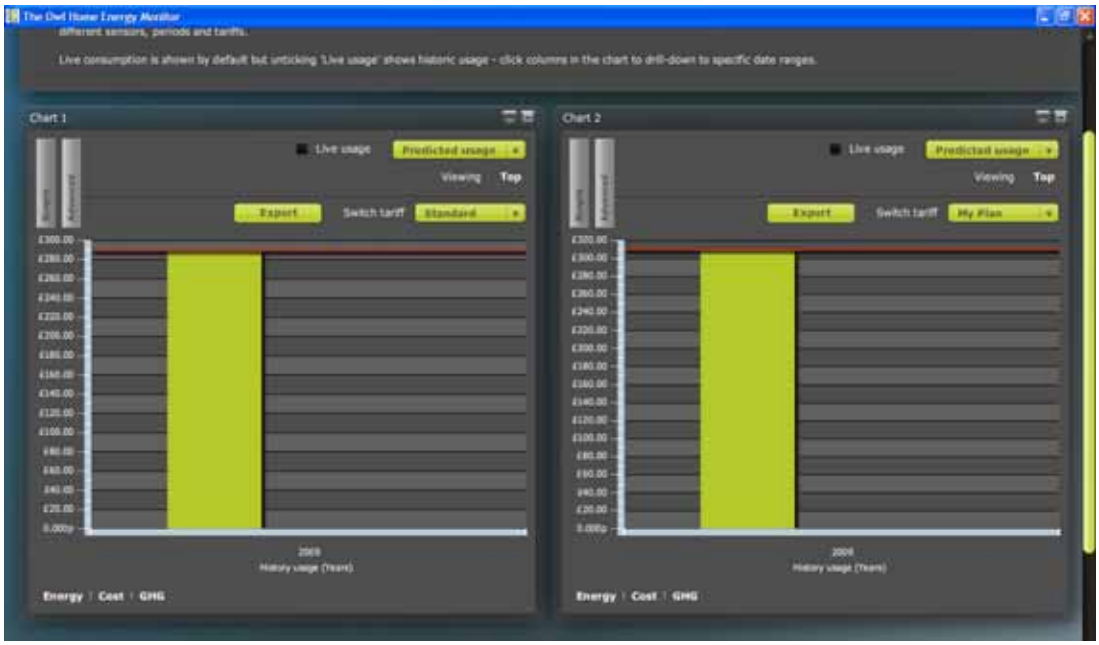
2.4.6 Tariff Plan Comparison



Comparing tariff plans using Live data.



Comparing tariff plans using Actual data.

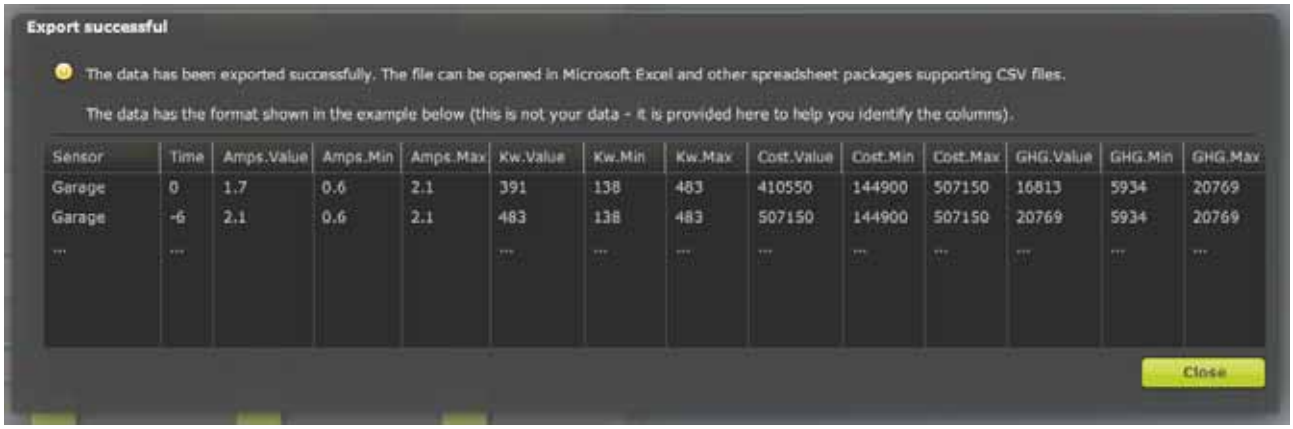


Comparing tariff plans using Predicted data.

2.5 EXPORTING DATA

The live and collected data can be exported to a .csv file that can be opened up with spreadsheet type applications.

The exported data is downloaded in columns under the following headings in the following order:-

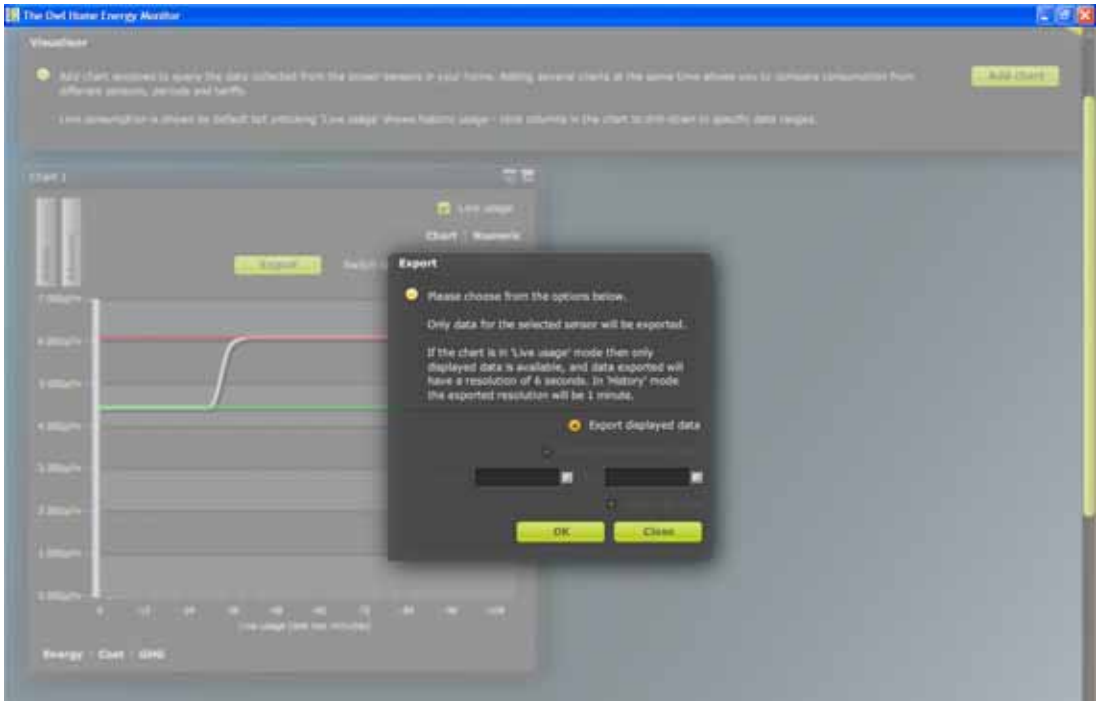


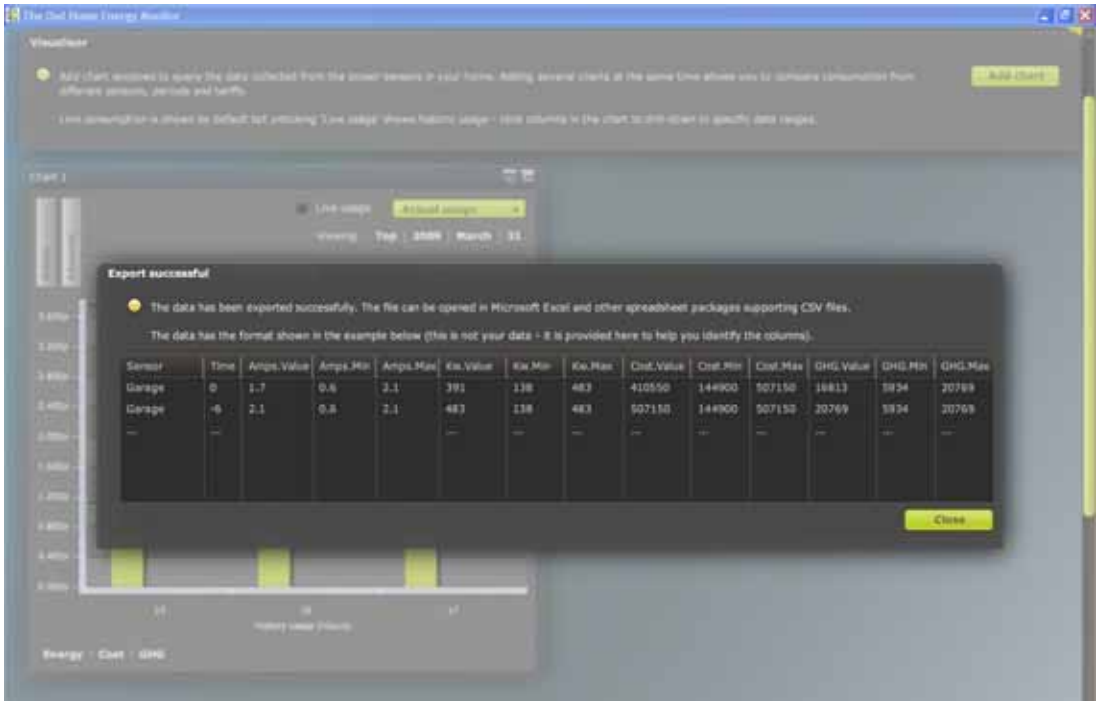
Sensor	Sensor identification associated with exported data.
Time	Timestamp of when data was recorded.
Amps value	Average current in Amps measured by the sensor
Amps min	Average current in Amps measured by the sensor – Minimum value. Used to generate min/max markers
Amps max	Average current in Amps measured by the sensor - Maximum value.Used to generate min/max markers
kW value	Average kW value recorded during the period between this and previous time stamp, using applied voltage setting.
kW min	Average kW value recorded – Minimum value. Used to generate min/max markers
kW max	Average kW value recorded - Maximum value. Used to generate min/max markers
Cost value	Average calculated cost using applied tariff during the period between this and previous time stamp.
Cost min	Average calculated cost – Minimum value. Used to generate min/max markers
Cost max	Average calculated cost – Maximum value. Used to generate min/max markers
GHG value	Average calculated weight of Carbon Dioxide emissions using applied conversion factor during the period between this and previous time stamp.
GHG min	Average calculated weight of Carbon Dioxide emissions – Minimum value. Used to generate min/max markers
GHG max	Average calculated weight of Carbon Dioxide emissions – Maximum value. Used to generate min/max markers

An Excel spreadsheet with the column headings is available on the CD.

2.5.1 Exporting Live Chart Data

Using the export function when viewing live data will download the current data as shown in the 2 minute live usage chart.

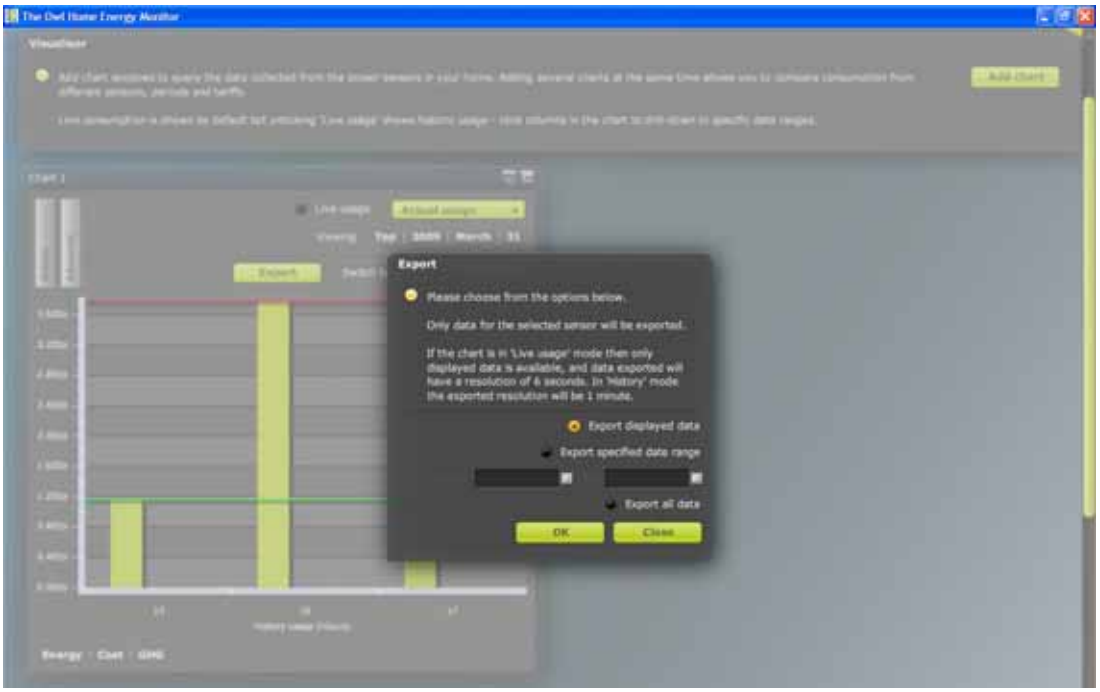


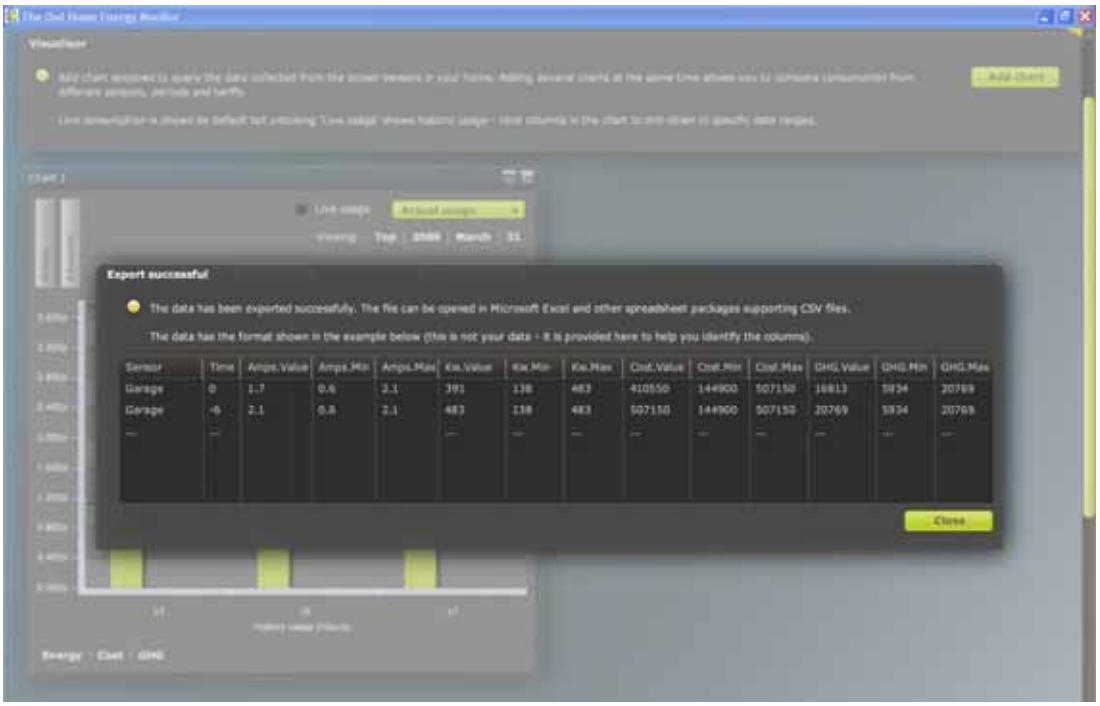


2.5.2 Exporting Historical Chart Data

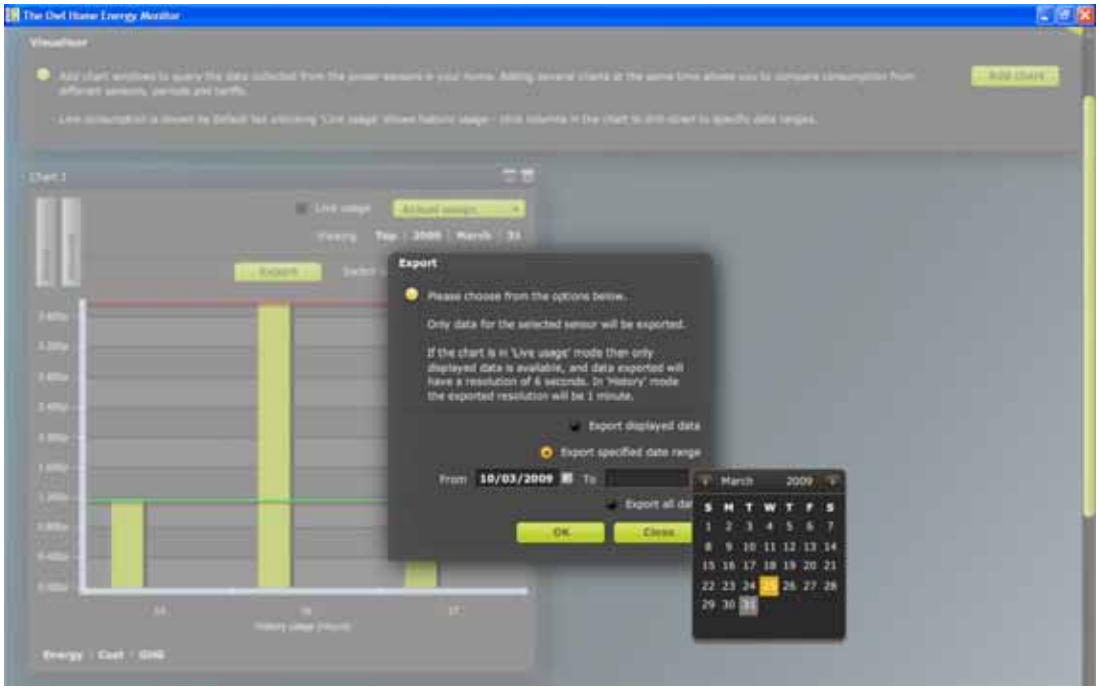
Using the export function when viewing collected data will download the data depending upon option selected:-

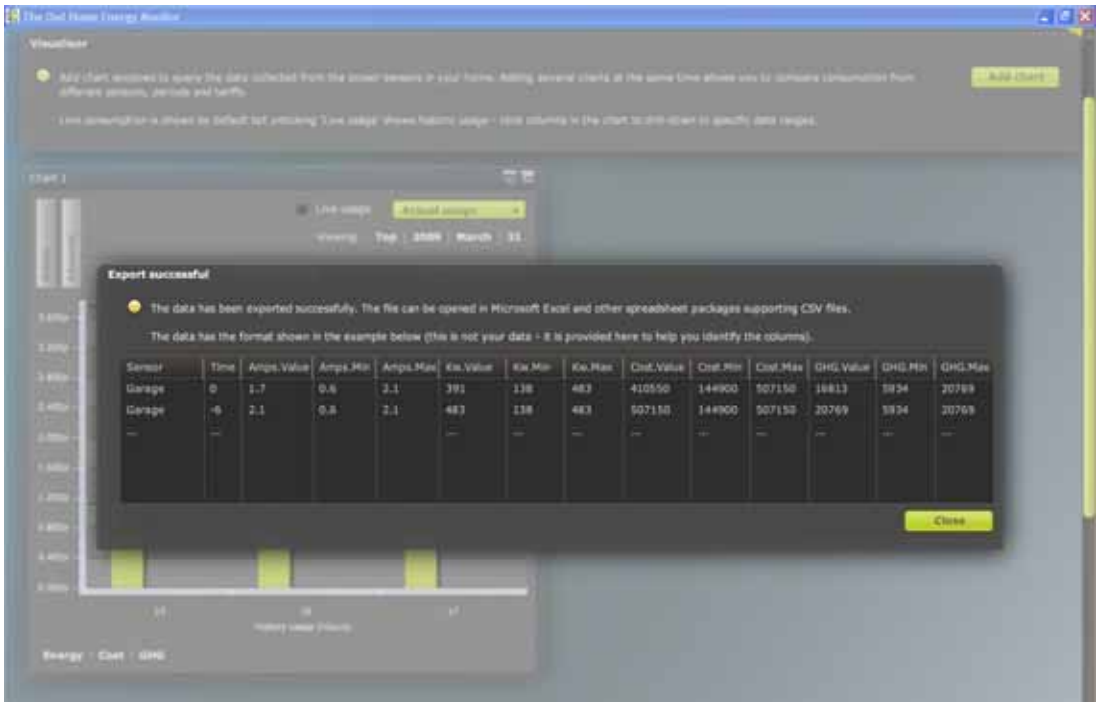
- Data from current chart being displayed.



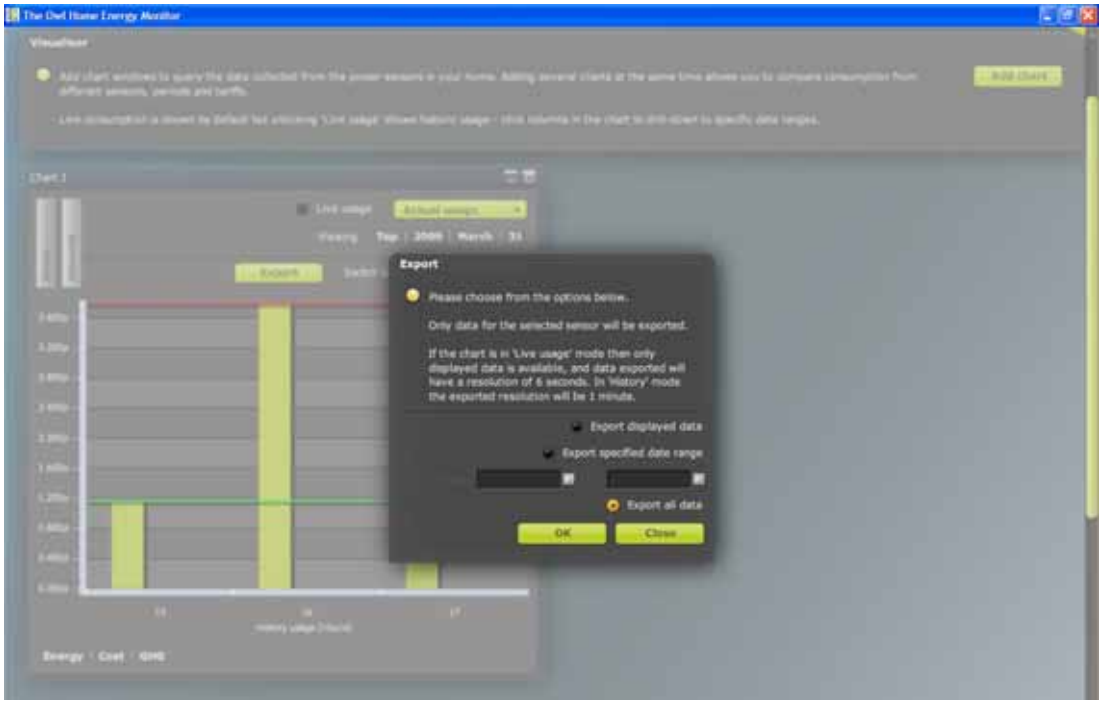


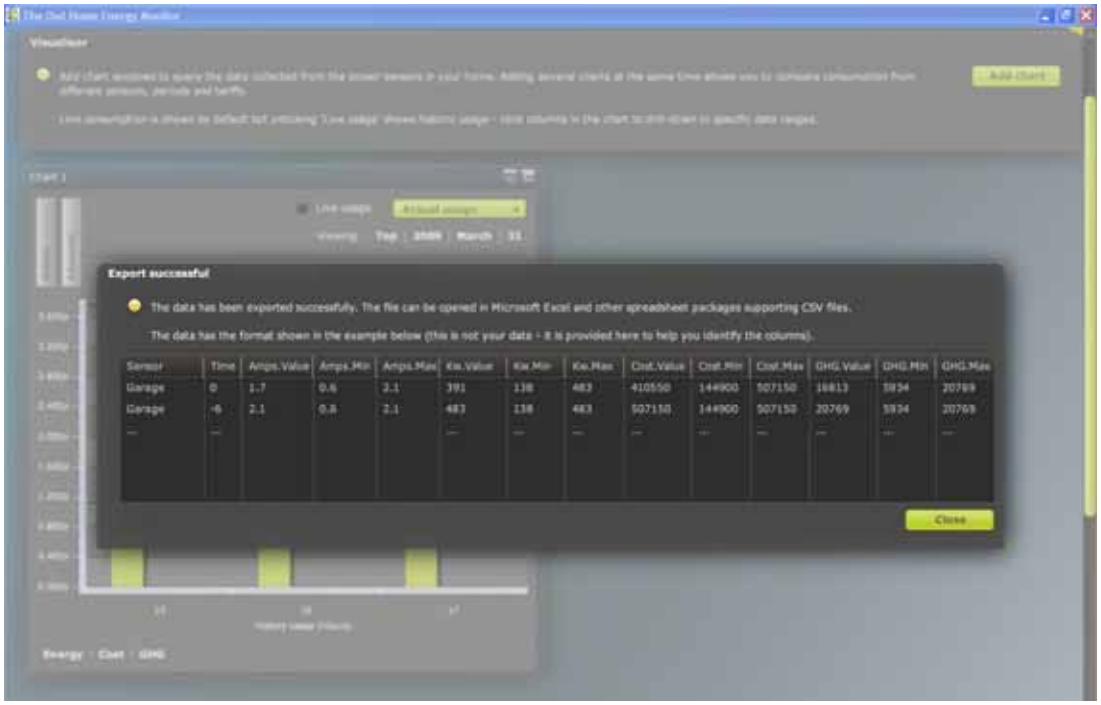
- All data collected between 2 dates for sensor in current chart.





- All data collected for sensor in current chart.





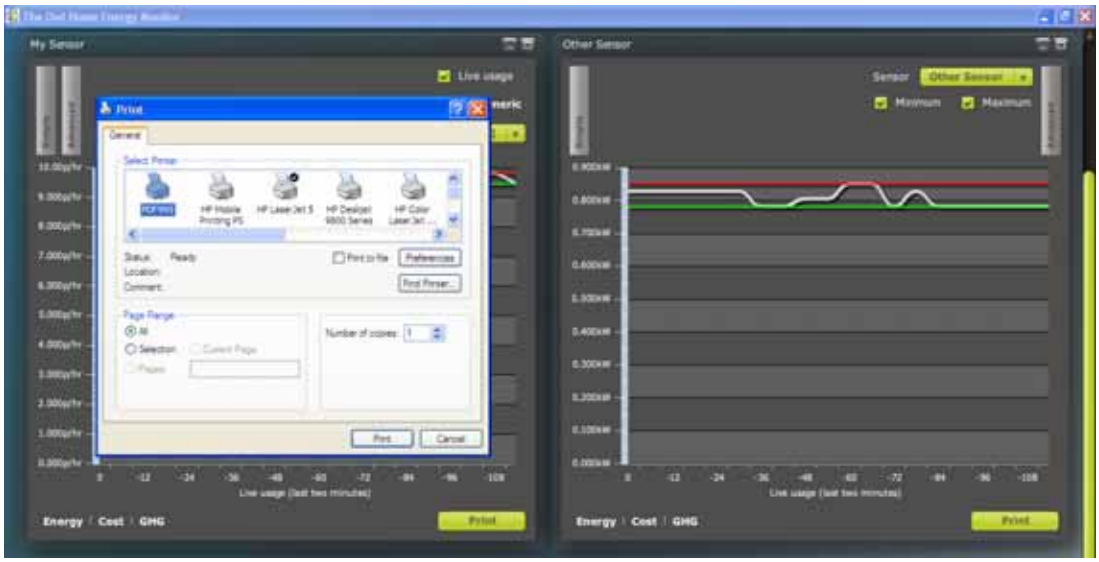
2.5.3 How to convert exported data?

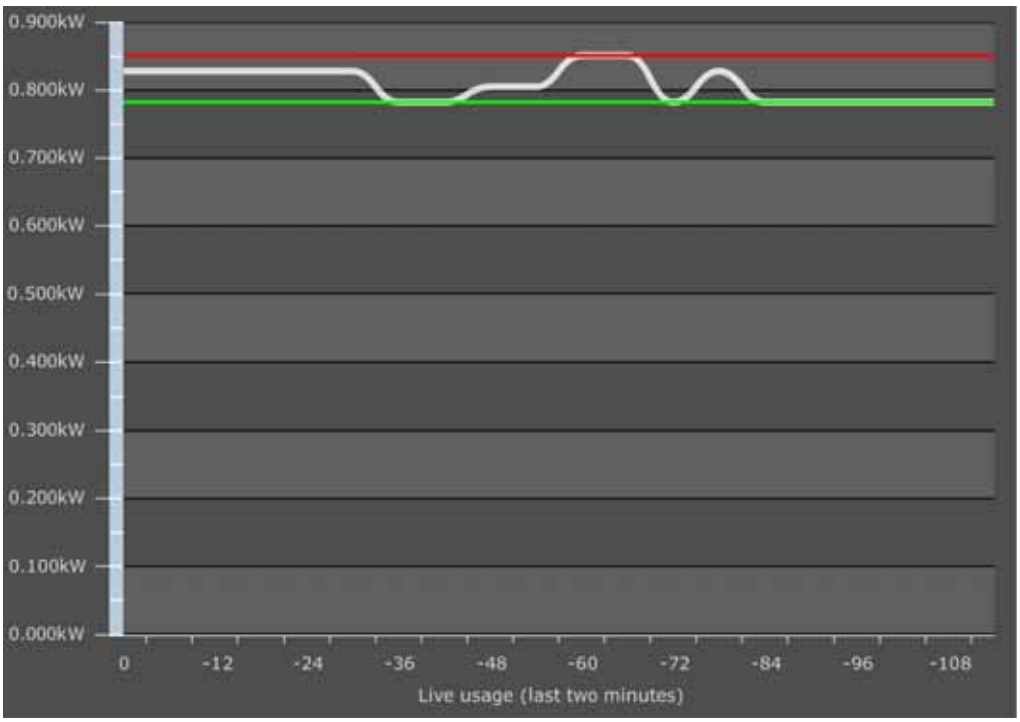
- Calculations to convert Exported data are as follows:-
  - Current (Amps)
    - Amps Value ÷ 1
    - ie: 0.19 ÷ 1 = 0.19Amps
  - Energy (kW)
    - kW value ÷ 1,000
    - ie: 4.4 ÷ 1,000 = 0.0044kW (or 4.4W)
  - Cost (£)
    - Cost value ÷ 10,000,000
    - ie: 520000 ÷ 10,000,000 = £0.052 (or 5.2pence)
  - GHG (kg)
    - GHG value ÷ 100,000
    - ie: 7100 ÷ 100,000 = 0.071kg (or 71g)

2.6 CHART PRINTING

A simple version of the charts can be printed by selecting the [Print] button at the bottom right hand corner of the chart.

2.6.1 Live Data





2.6.2 Historical Data