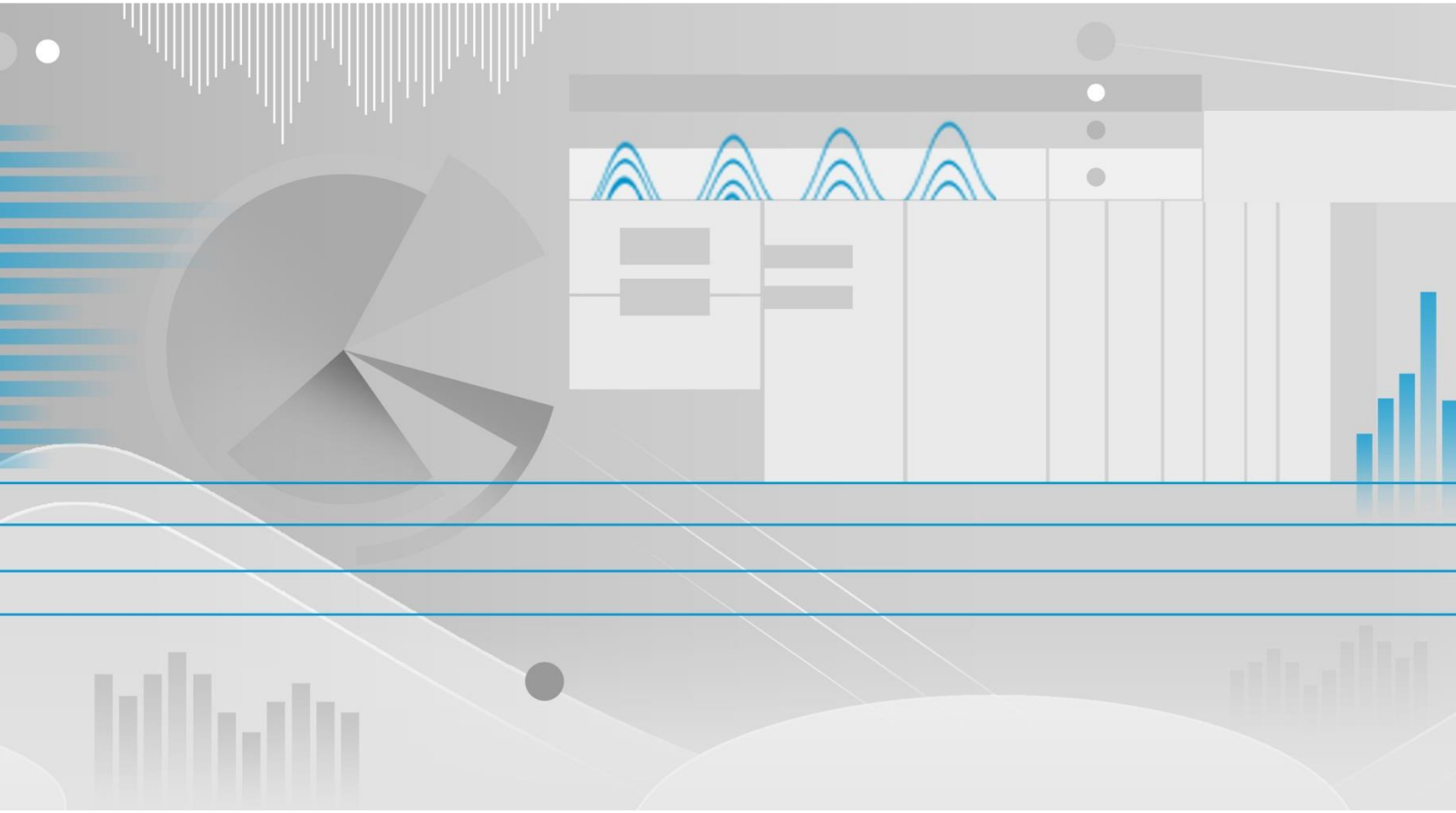
NEOpoint

USER GUIDE



IES
Intelligent Energy Systems

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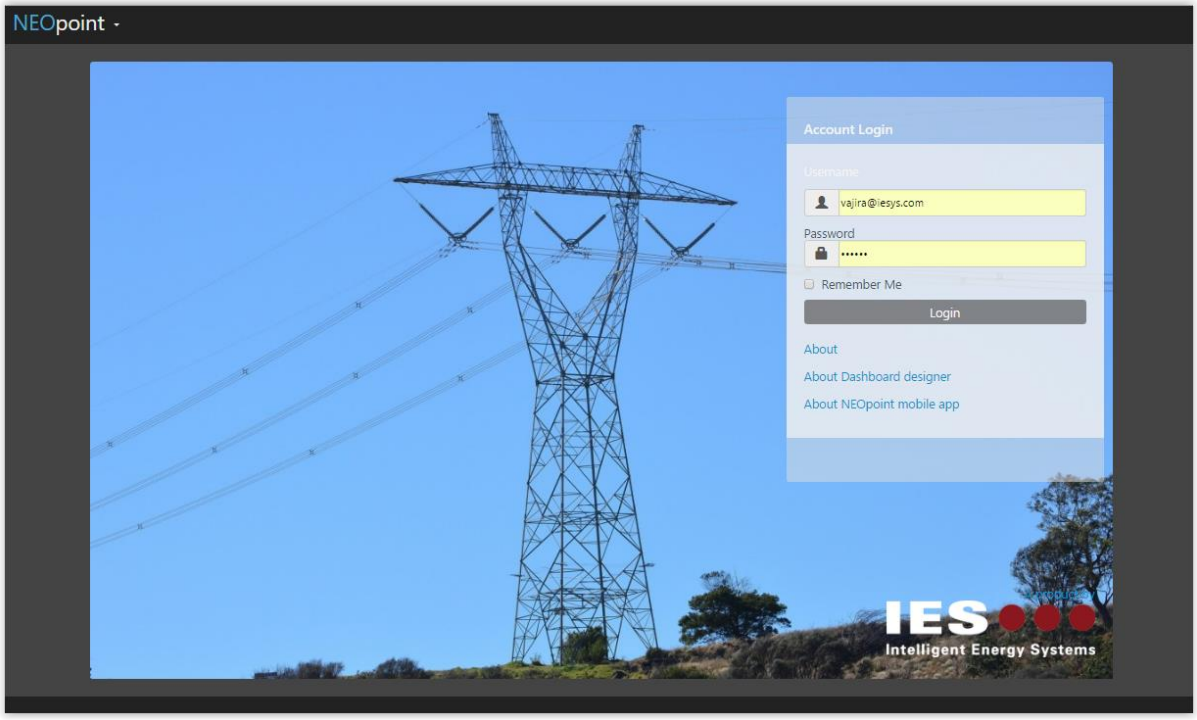
1 Login Page

The NEOpoint login page has two fields for enter ‘Username’ and ‘Password’.

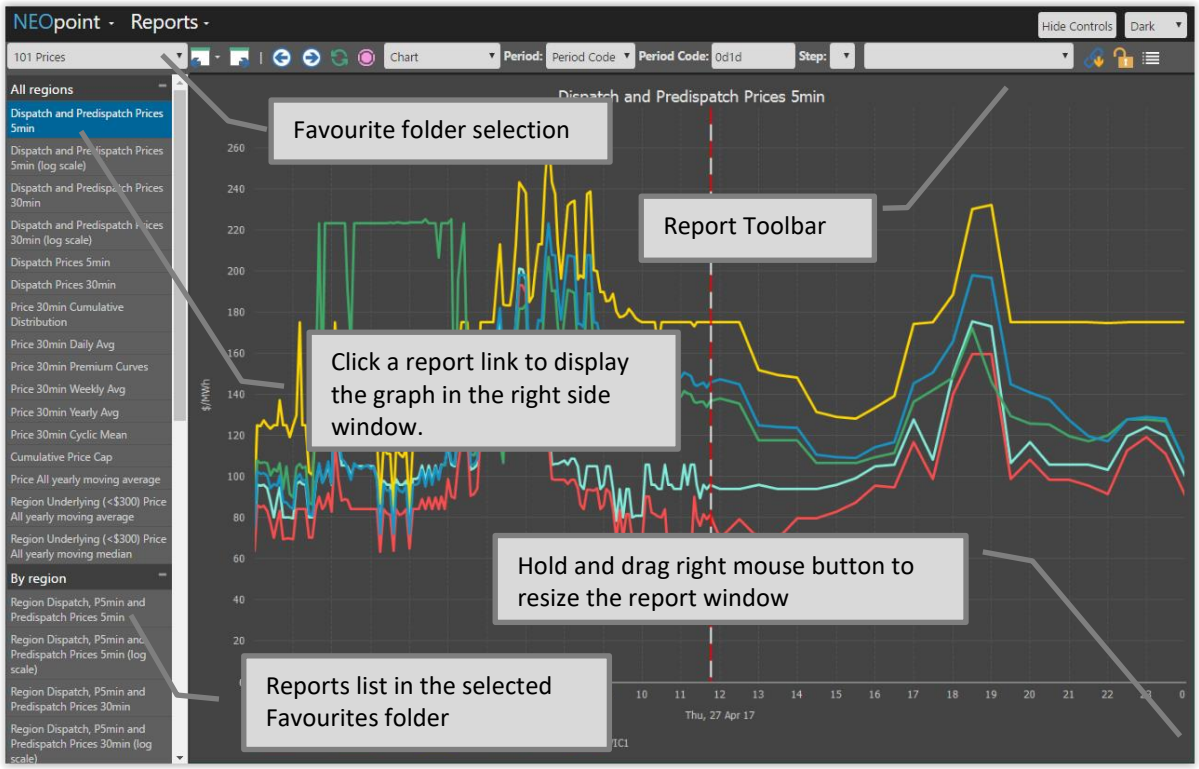
There is a ‘Remember Me’ checkbox, which remembers the user information in the browser.



	The NEOpoint login page display only when authentication mode is “Forms”. For Windows authentication, user login in using windows account.

2 Chart View

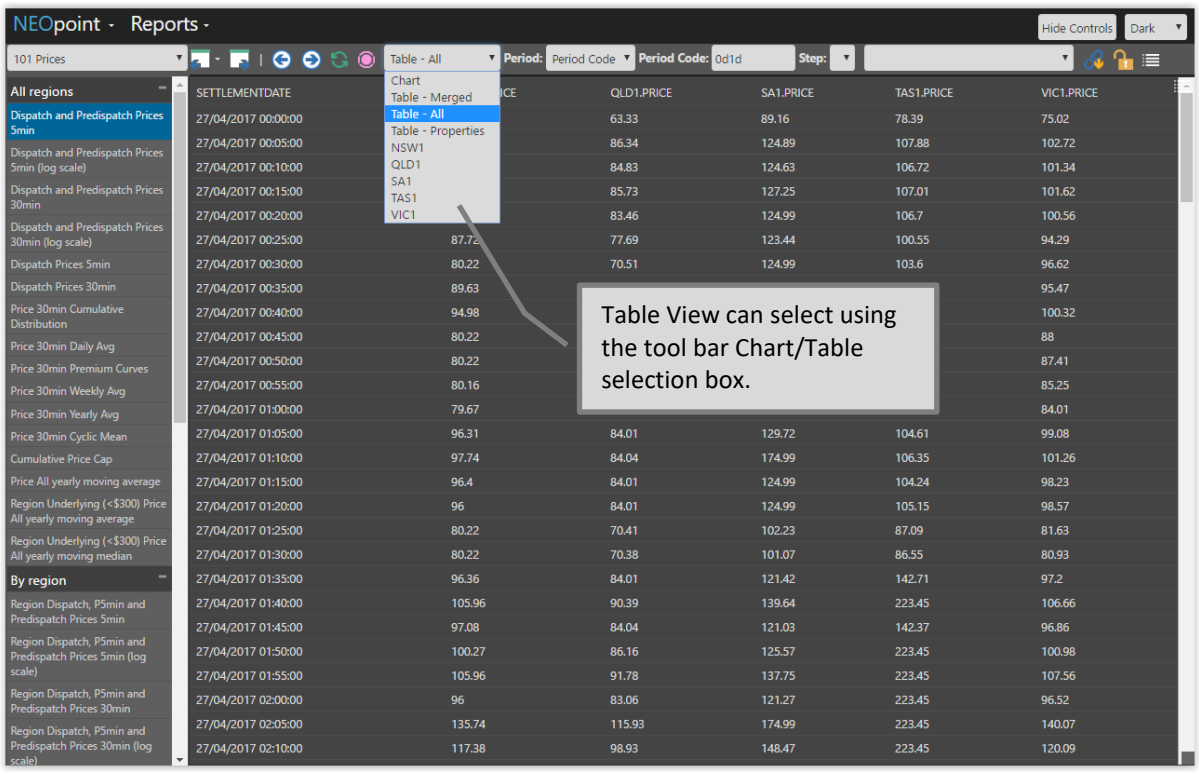
Reports Tab is the place where the user can select and view charts.



The toolbar at the top of the chart view has controls to set report start date, report period, step, instances (e.g. NSW1, QLD1), refresh, next, previous. In addition, there are back and forward buttons for history reports.

3 Table View

Table View is the place where the user can view report data.

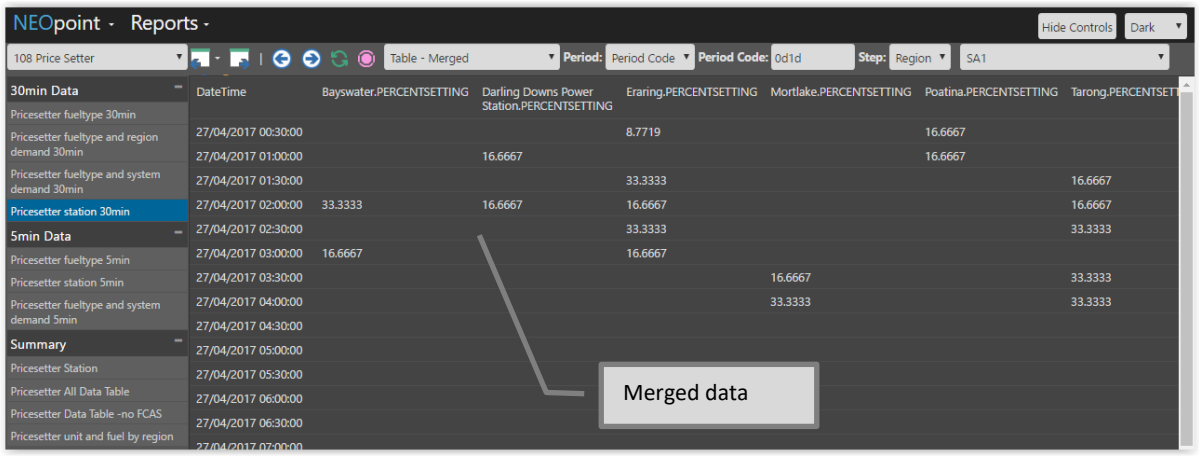


Report table view has several options to select:

Table – All	Display all the columns.
Table – Properties	Display properties of each data column.
Table – Merged	Display combining all the datetime values into a single datetime column.

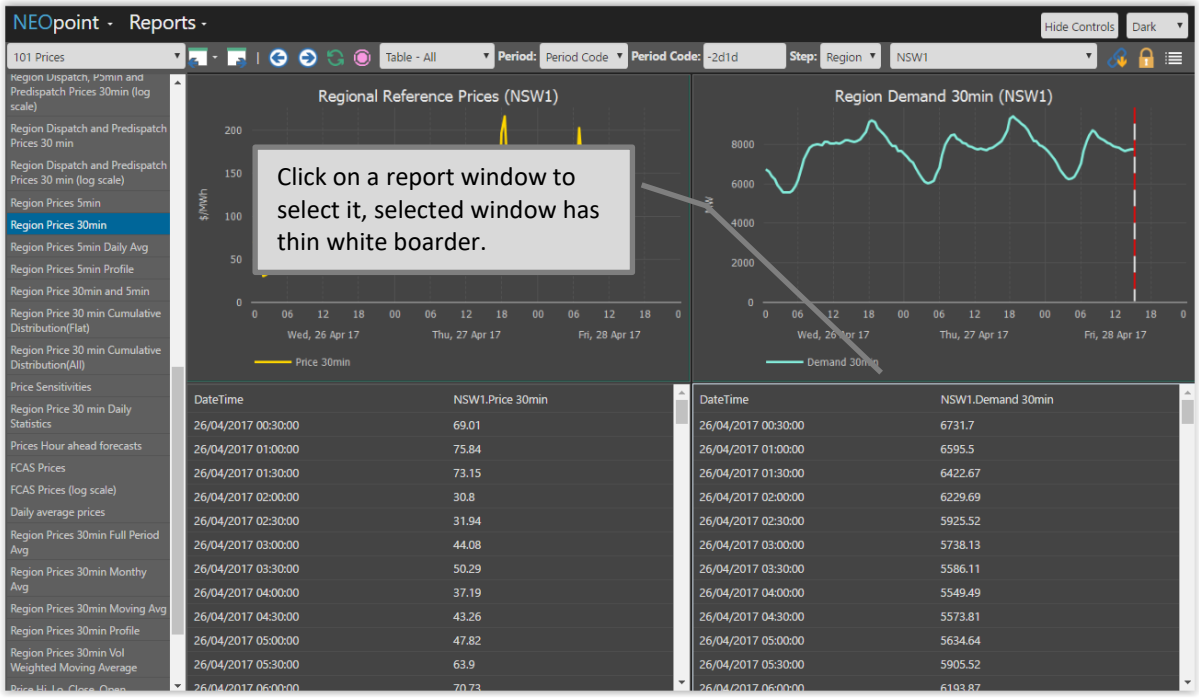
Table – Merged Option

This option displays data only when the first column is datetime.
The column name must remain as Datetime because it is combining the datetime columns of potentially many sections with different names.
The Datetime must always be in order. The reason is that each sections rows are scanned, the datetime is read and that section added to a single sorted dictionary of datetimes.



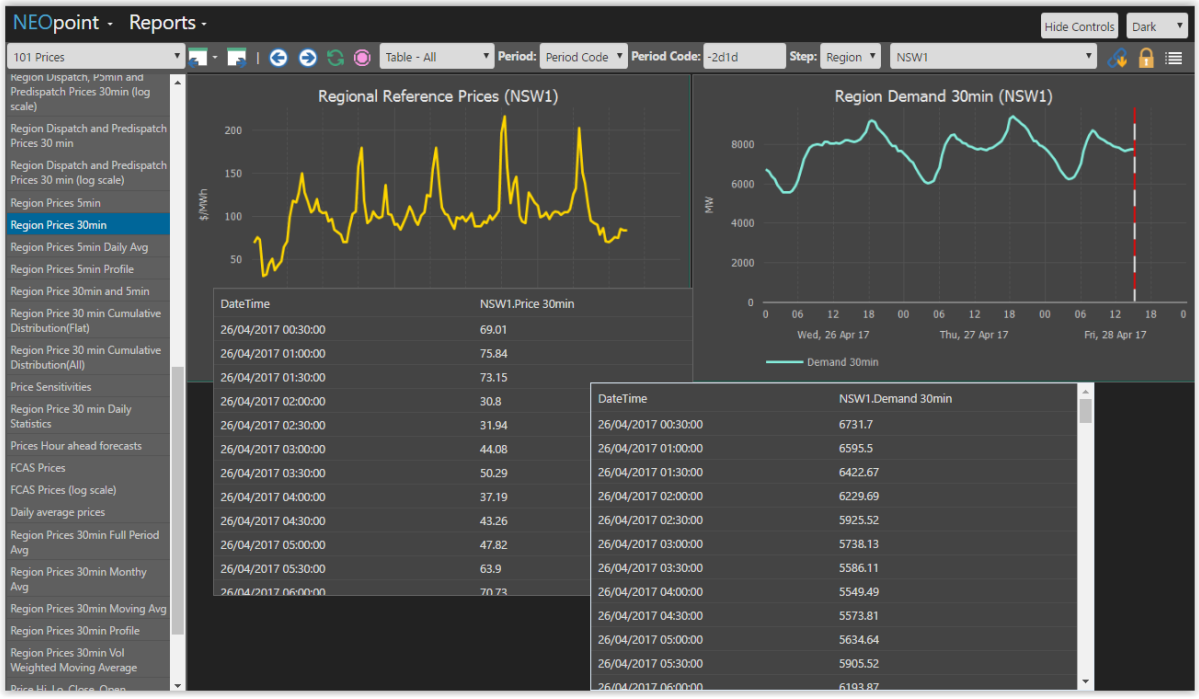
4 Multiple Reports Windows

NEO allows displaying more than one report windows. User can compare charts and data in the same screen.



While holding the mouse over the chart, the report window can shift in any direction. User can lock this report windows are shifting by clicking the 'Lock pane positions' toolbar option.

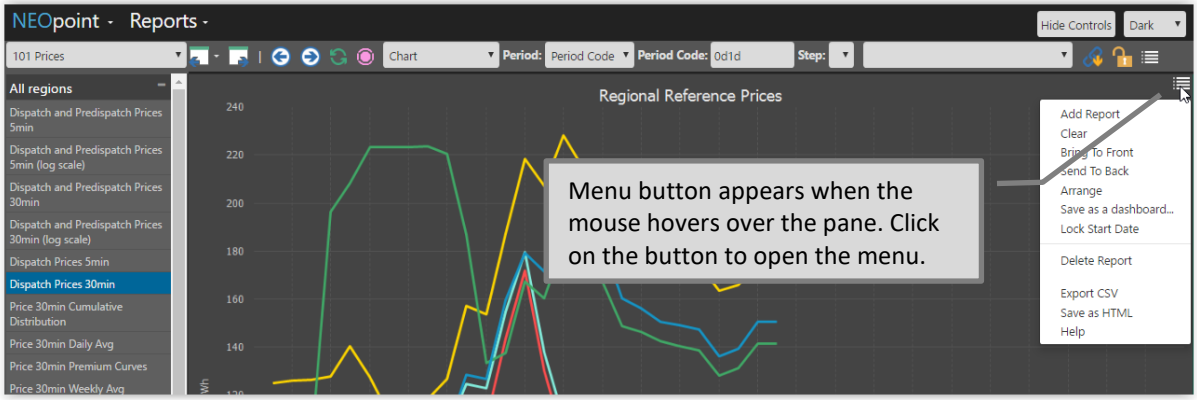
Lock pane positions toolbar icon toggle close to open image as in the image.



5 Report Menu Options

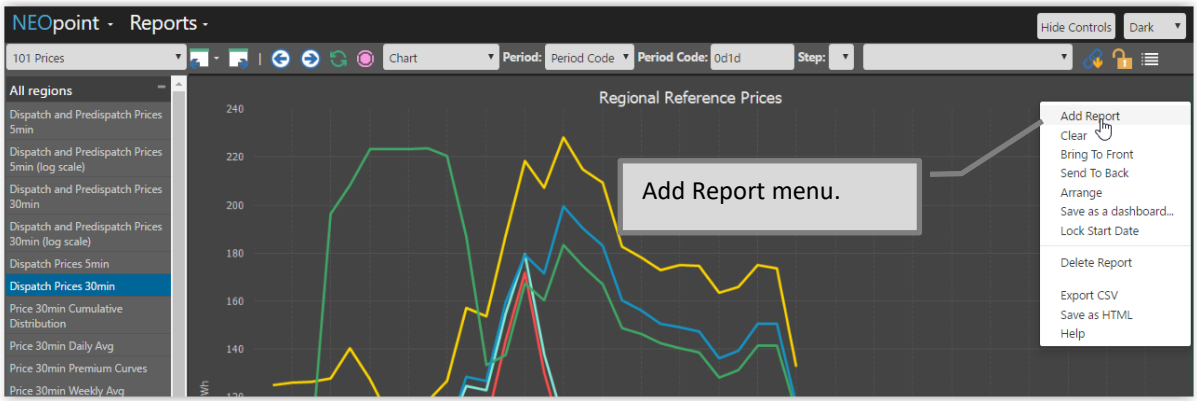
Report menu options are:

Add Report	add a new report window.
Clear	close all open report windows and clear the report view.
Bring To Front	selected report window bring to front.
Send To Back	selected report window send to back.
Arrange	allocate fixed amount of chart space as determined by the number of charts.
Save as a dashboard…	save open reports into a dashboard.
Lock Start Date	all open report windows lock to a same time.
Delete Report	delete selected report window.
Export CSV	report data export into a CSV file.
Save as HTML	arrange multiple reports and save as a HTML file.
Help	open help file.

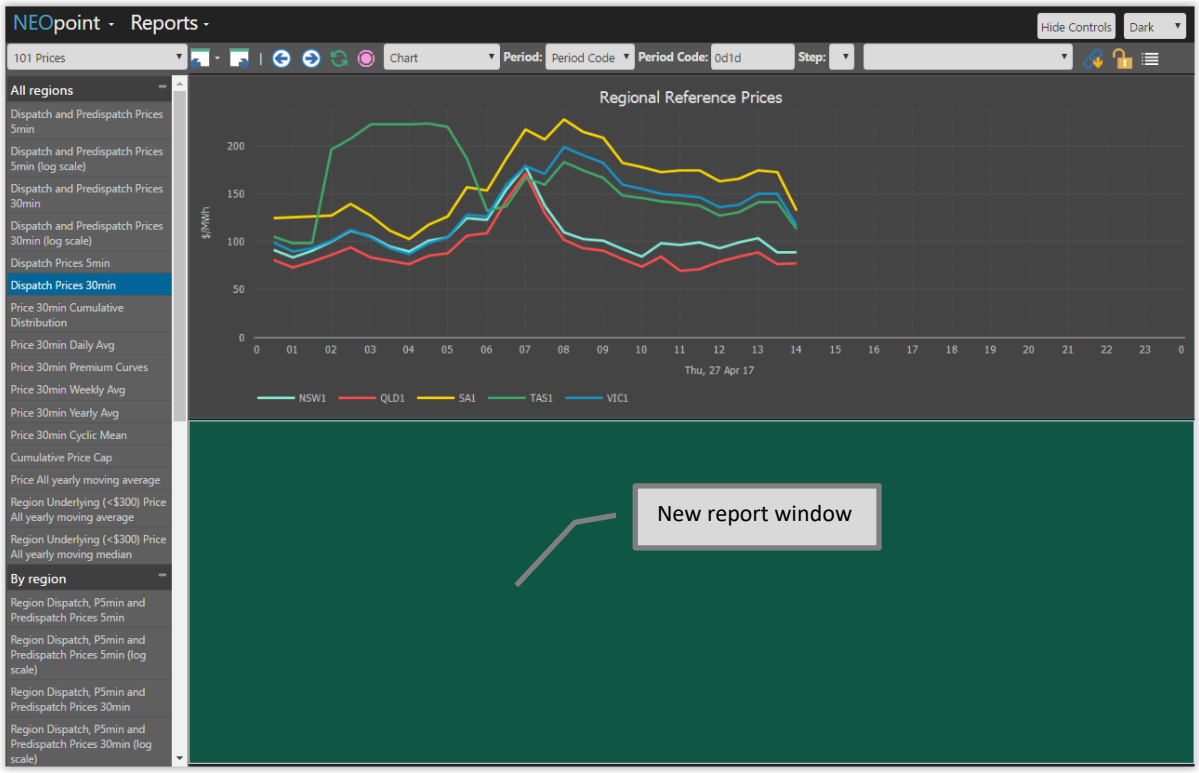


5.1 Add a new report window

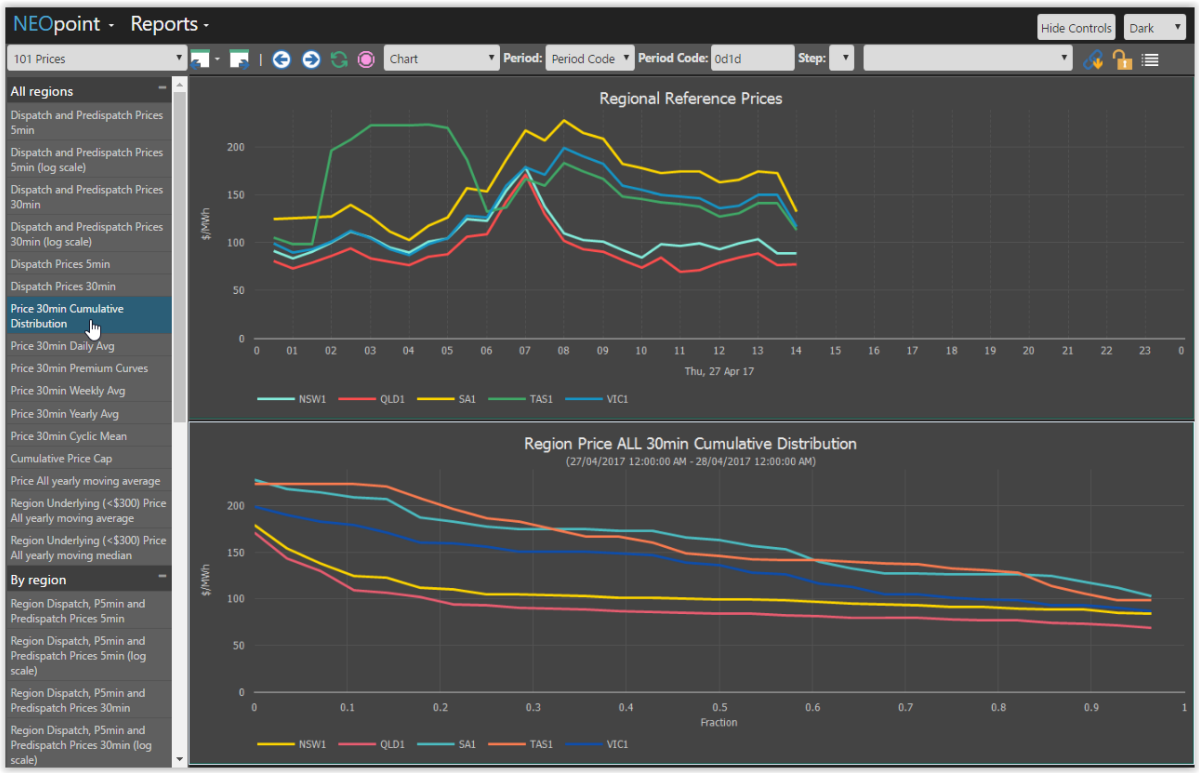
1. Select the *'Add Report'* menu option.



2. New report window displays as in the image below.

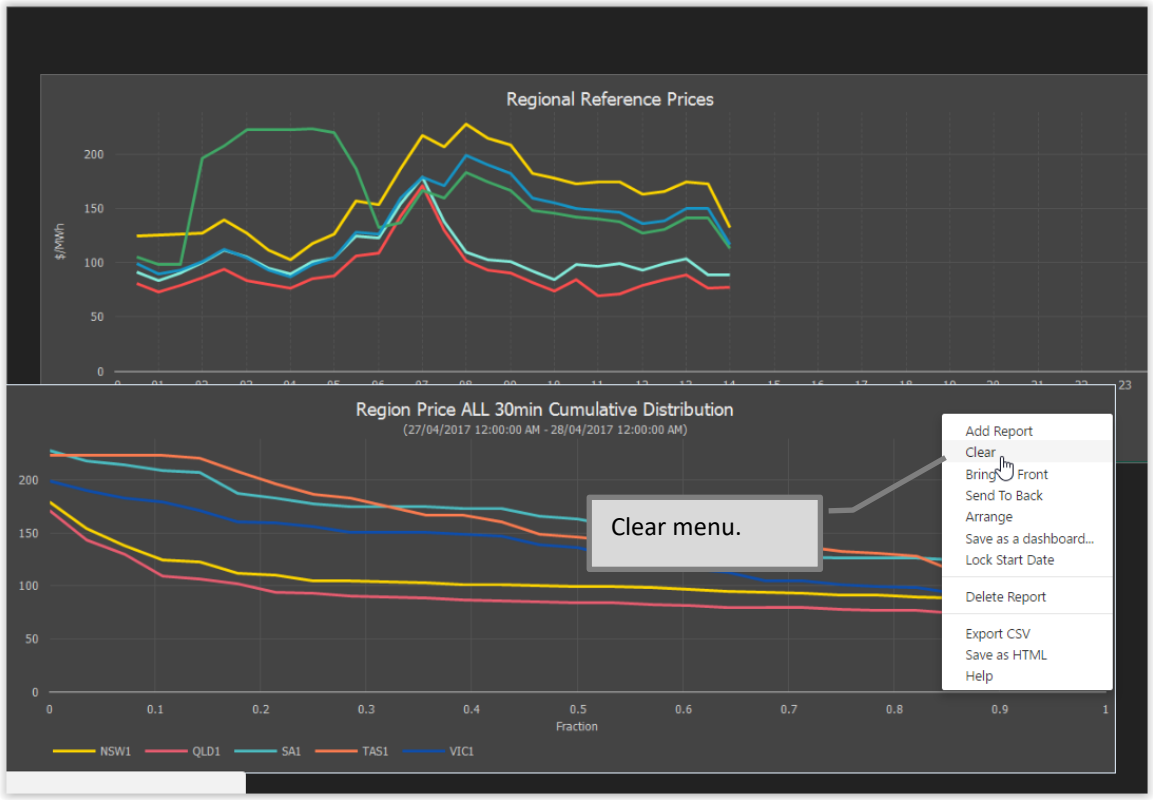


3. Select the new report window and click on a report link. The chart displays in the new report window.



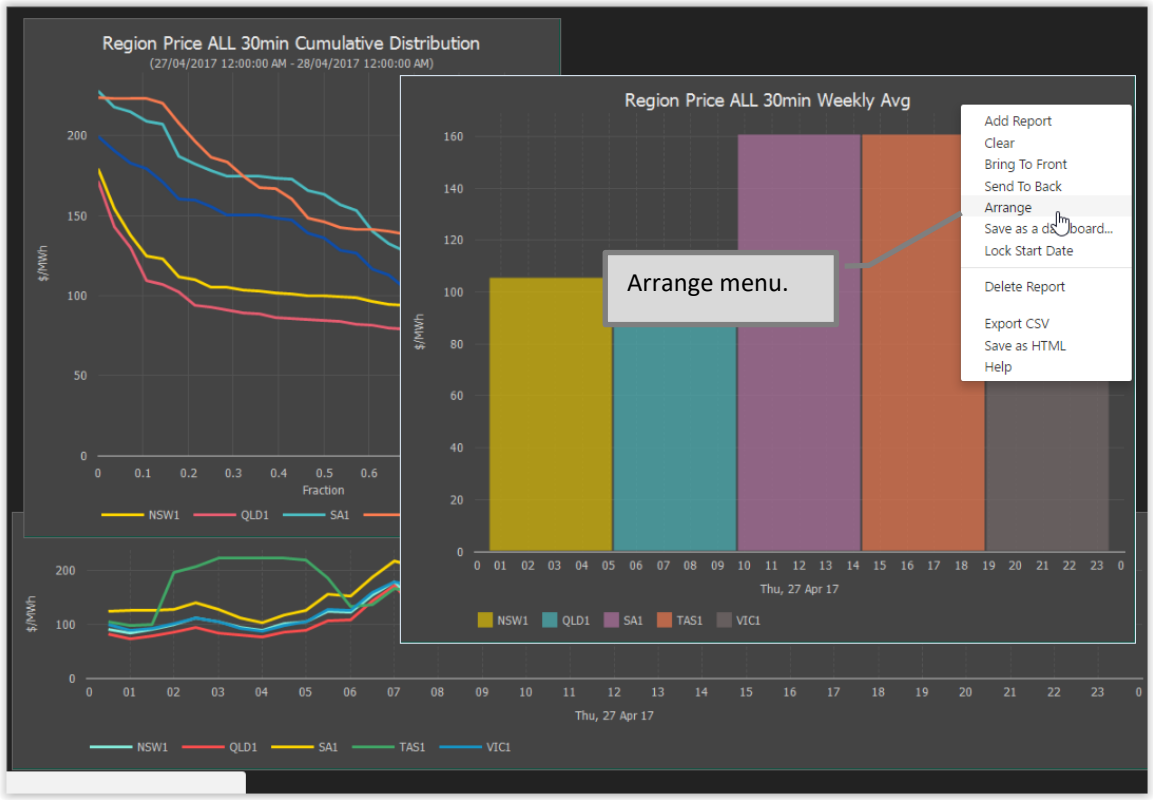
5.2 Clear all open reports

1. Select the *'Clear'* menu option and then display blank report window.

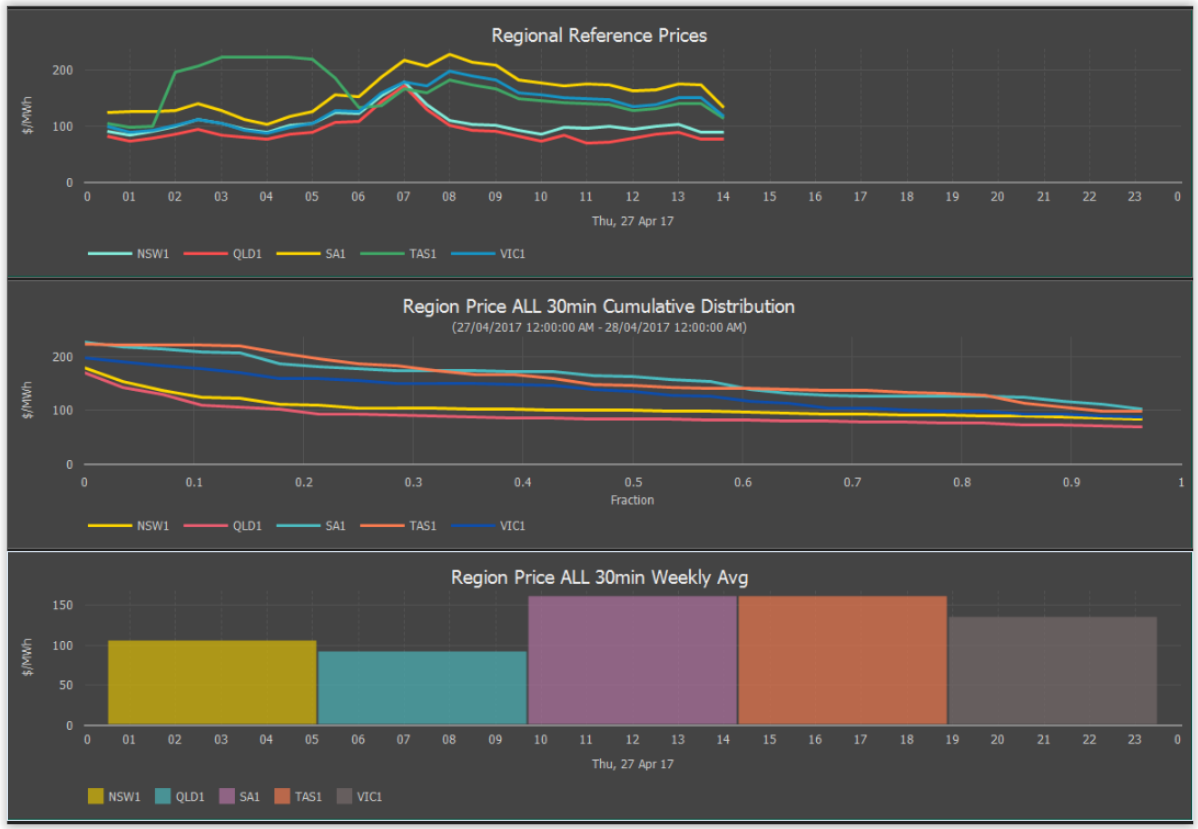


5.3 Arrange report windows

1. Select the *'Arrange'* menu option.

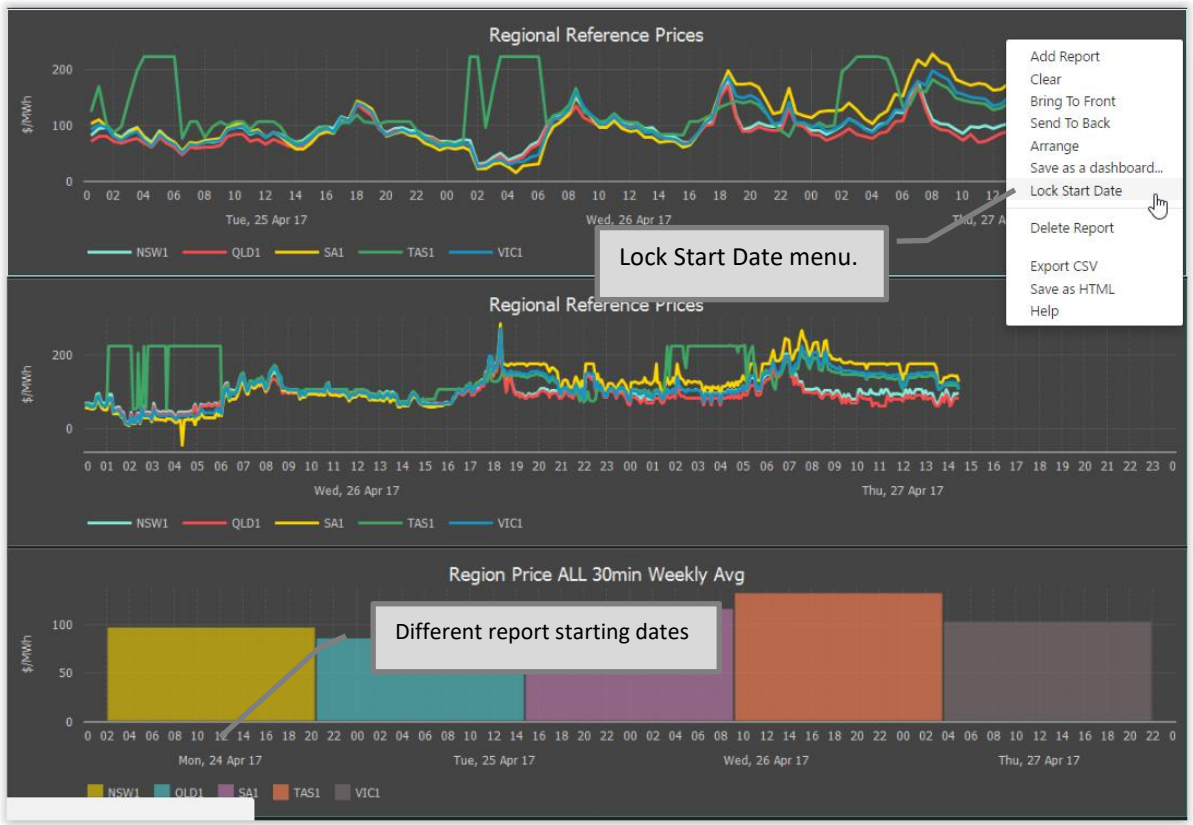


2. Reports arranged to the fixed amount of chart space as determined by the number of charts.

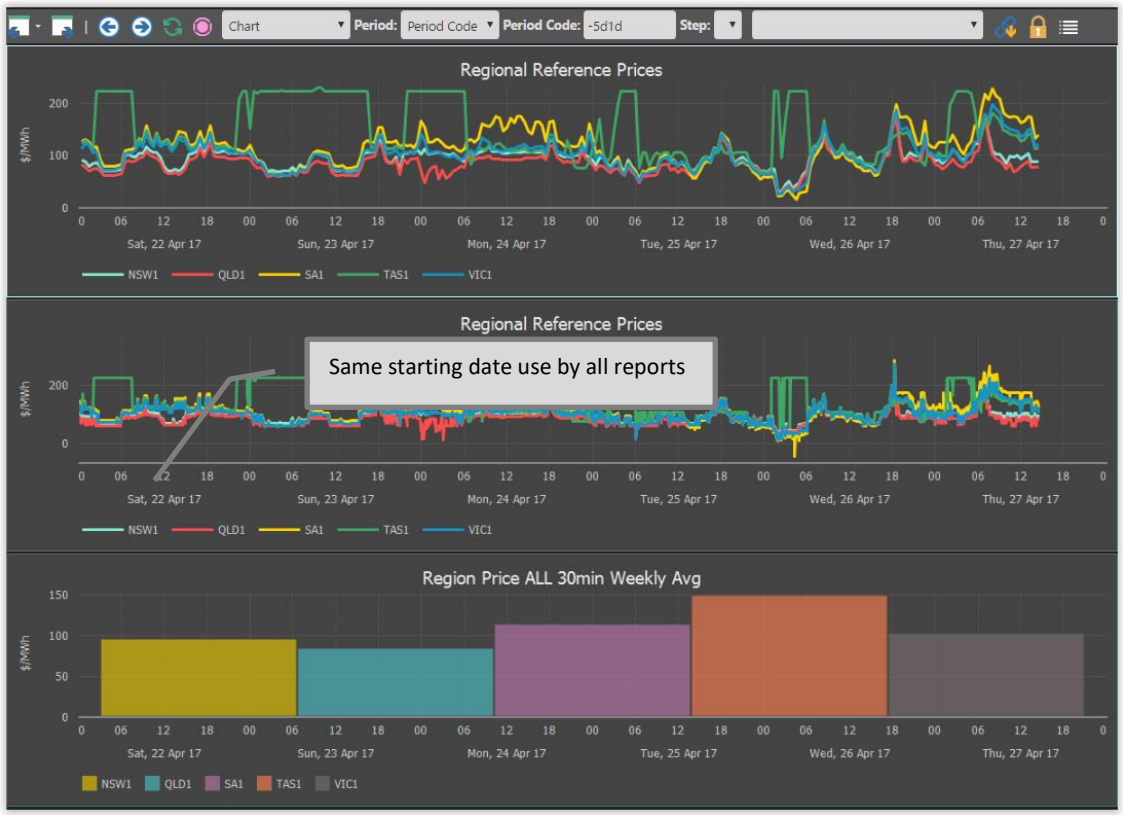


5.4 Lock start date for all reports

1. Select the *'Lock Start Date'* menu option.



2. Change the starting date and click on the Refresh button. All open reports refreshed and display the same starting date.



5.5 Delete a report

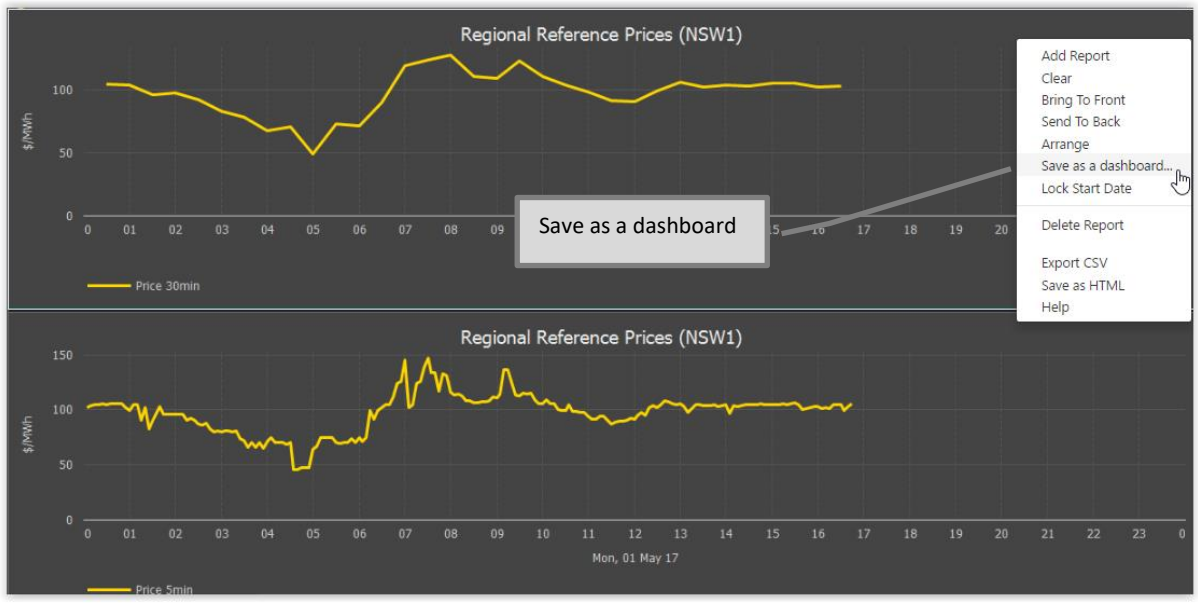
1. Select a report and click the *'Delete Report'* menu option.

5.6 Export report data into a CSV file

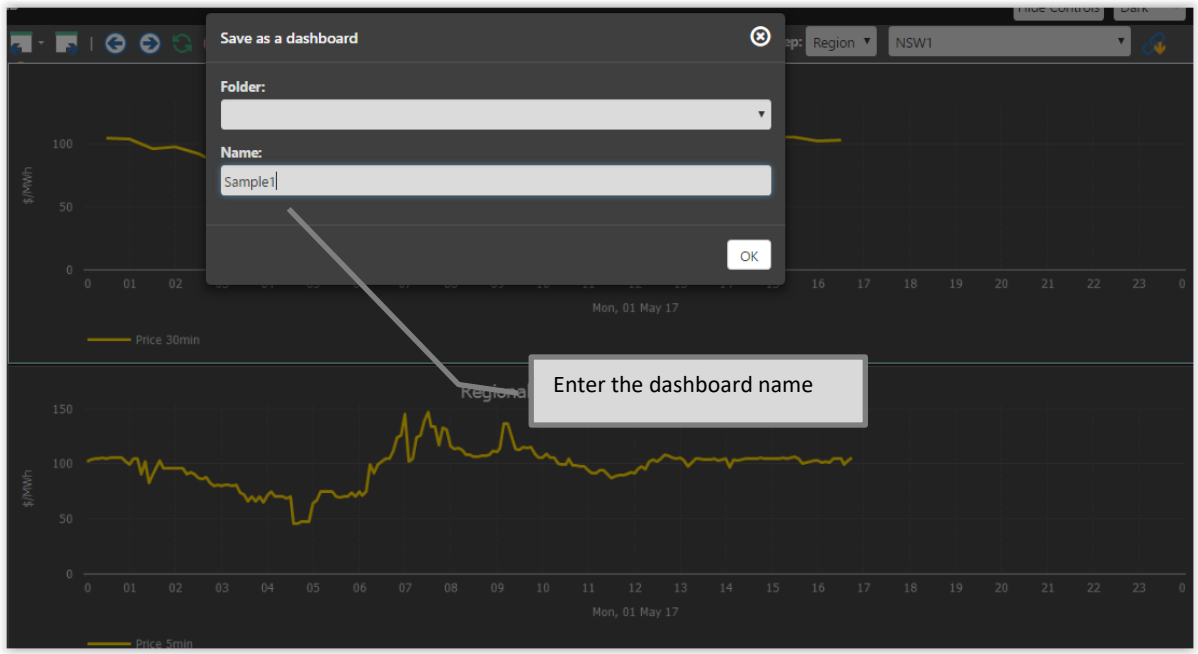
1. Select a report and click the *'Delete Report'* menu option.

5.7 Reports save as a Dashboard

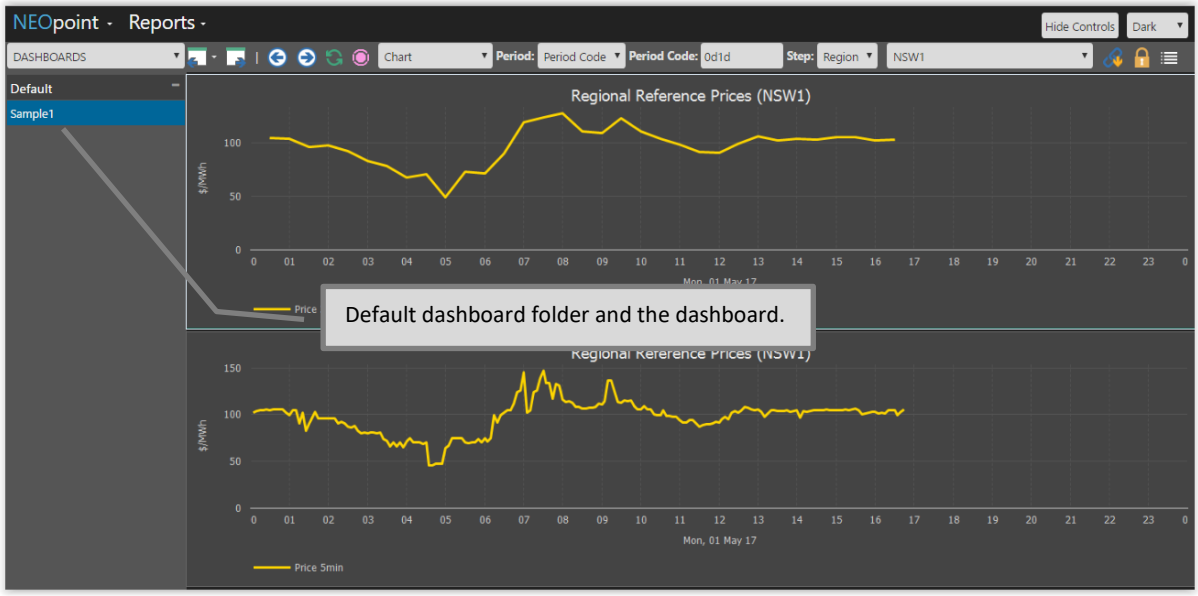
1. Arrange reports and select the *'Save as a dashboard'* menu option.



2. Enter a dashboard name. Click OK button. A dashboard must create inside a folder. Default dashboard folder automatically create for you.

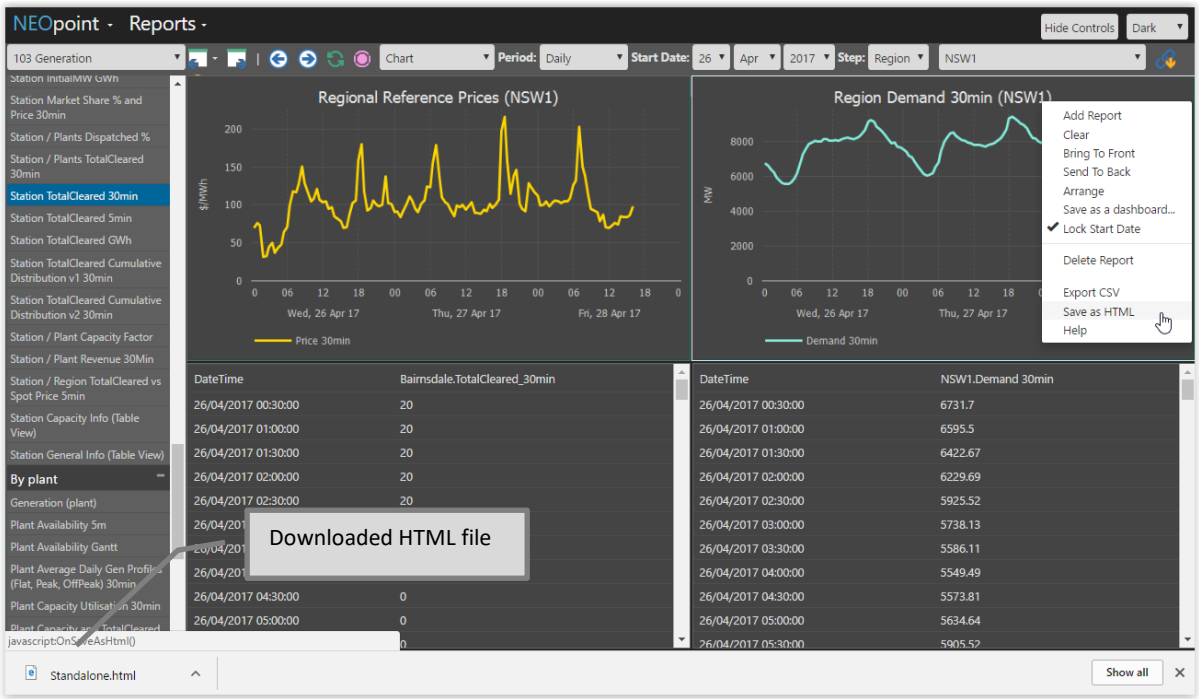


3. Go to the DASHBOARD folder and select the saved dashboard to view.

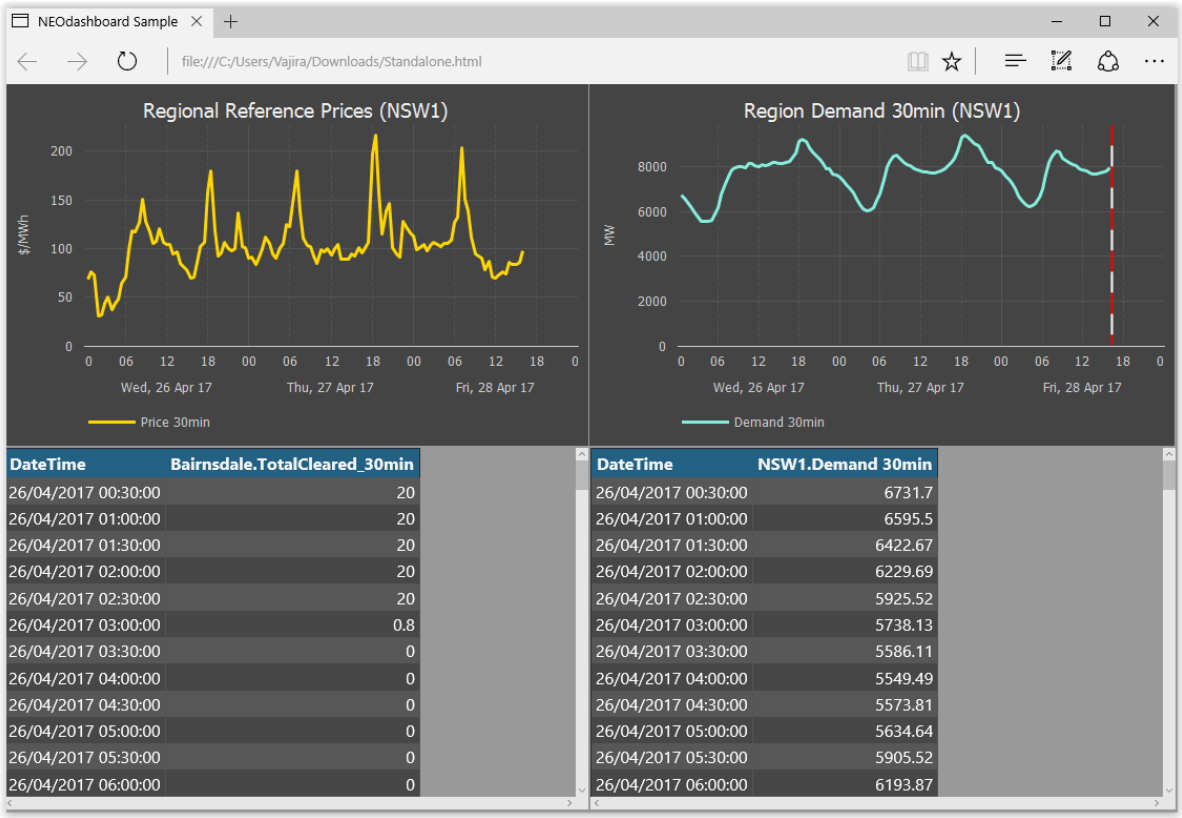


5.8 Save as HTML

1. Open multiple reports. All reports must have 'Period Code' selected as report period.
2. Select the *'Save as HTML'* menu option.
3. Reports save as standalone HTML page and automatically download the HTML file.



4. Open the HTML file using any browser.

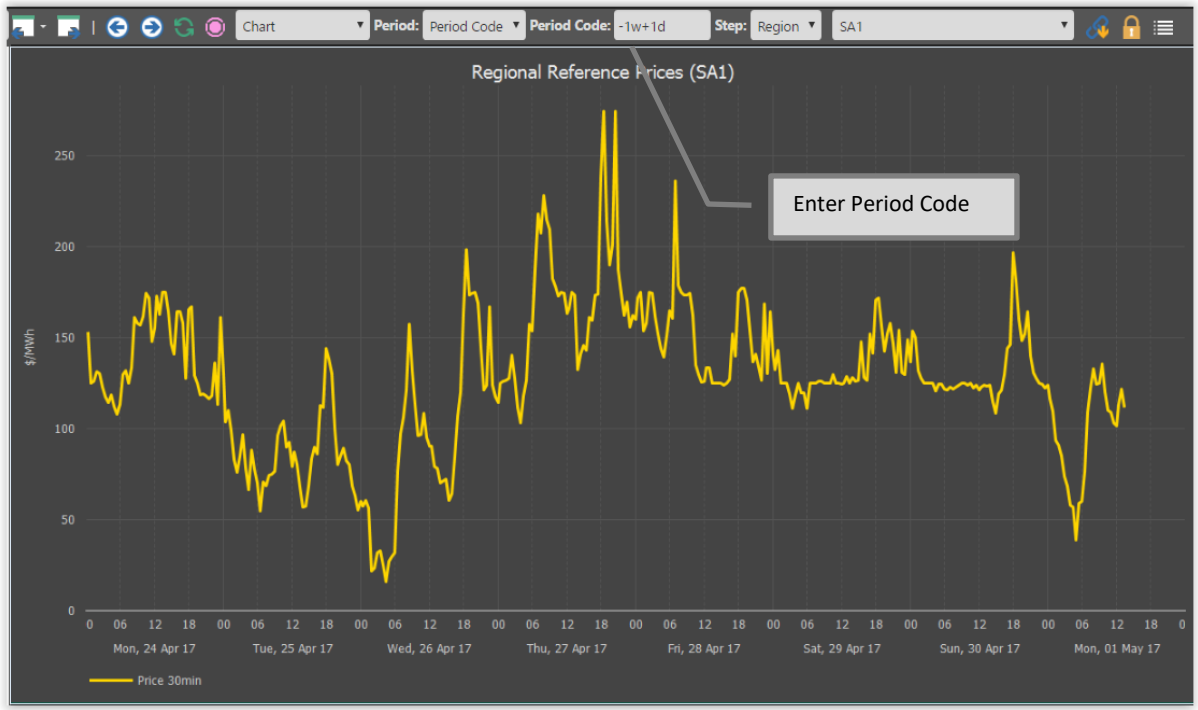


DateTime	Bairnsdale.TotalCleared_30min
26/04/2017 00:30:00	20
26/04/2017 01:00:00	20
26/04/2017 01:30:00	20
26/04/2017 02:00:00	20
26/04/2017 02:30:00	20
26/04/2017 03:00:00	0.8
26/04/2017 03:30:00	0
26/04/2017 04:00:00	0
26/04/2017 04:30:00	0
26/04/2017 05:00:00	0
26/04/2017 05:30:00	0
26/04/2017 06:00:00	0

DateTime	NSW1.Demand 30min
26/04/2017 00:30:00	6731.7
26/04/2017 01:00:00	6595.5
26/04/2017 01:30:00	6422.67
26/04/2017 02:00:00	6229.69
26/04/2017 02:30:00	5925.52
26/04/2017 03:00:00	5738.13
26/04/2017 03:30:00	5586.11
26/04/2017 04:00:00	5549.49
26/04/2017 04:30:00	5573.81
26/04/2017 05:00:00	5634.64
26/04/2017 05:30:00	5905.52
26/04/2017 06:00:00	6193.87

6 Use Period Code

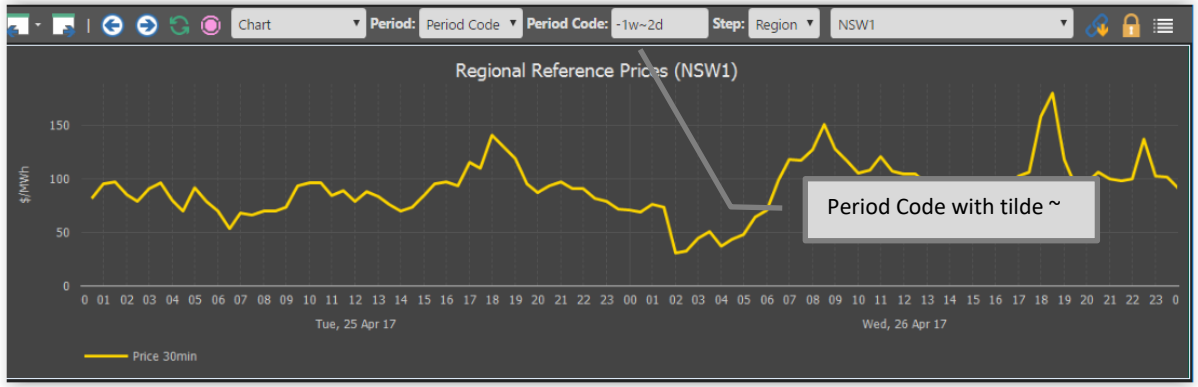
Select the 'Period Code' option from the **Period** drop-down list. This will cause the **Start Date** selectors to hide and the **Period Code** text box to appear.
As an example type -1w+1d (-1w1d) in the **Period Code** text box and refresh the report. Report data display for last 8 days including current date.



Period codes:

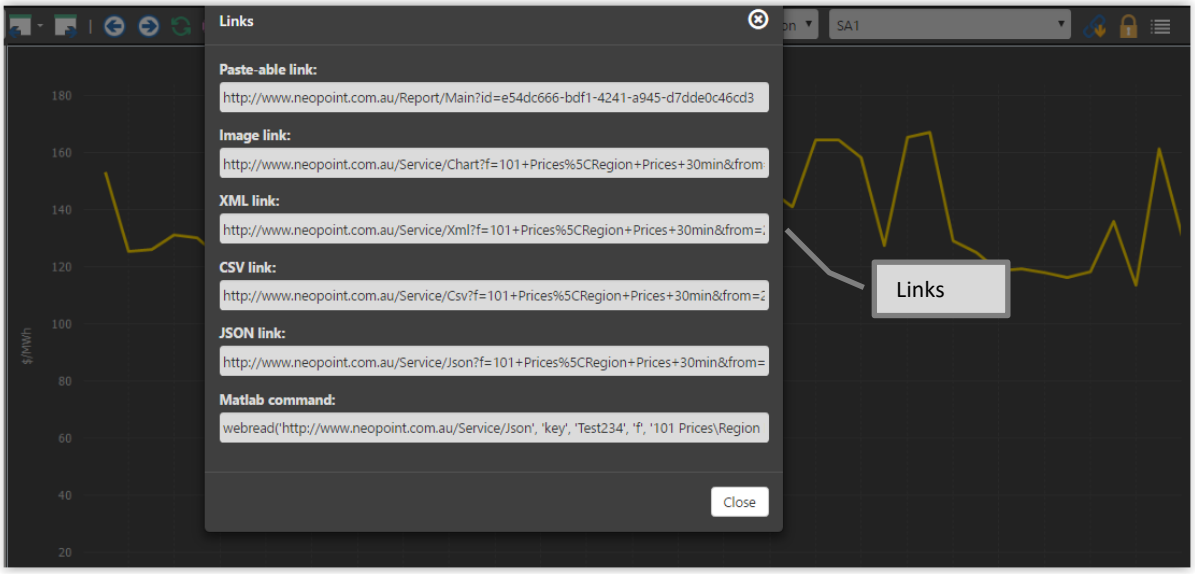
- y = year(s)
- m = month(s)
- w = week(s)
- d = calendar day(s)
- h = hour(s)
- I = minute(s)
- g = 6am offset (-1gd+1gd)
- t = 4am offset (-1td+1td)

You can also use tilde (~) to calculate the report to date based on how many periods from the report from date, i.e. -1w~1d means the report from date is 1 week before the start of current day and the report to date is 1 day after the report from date.

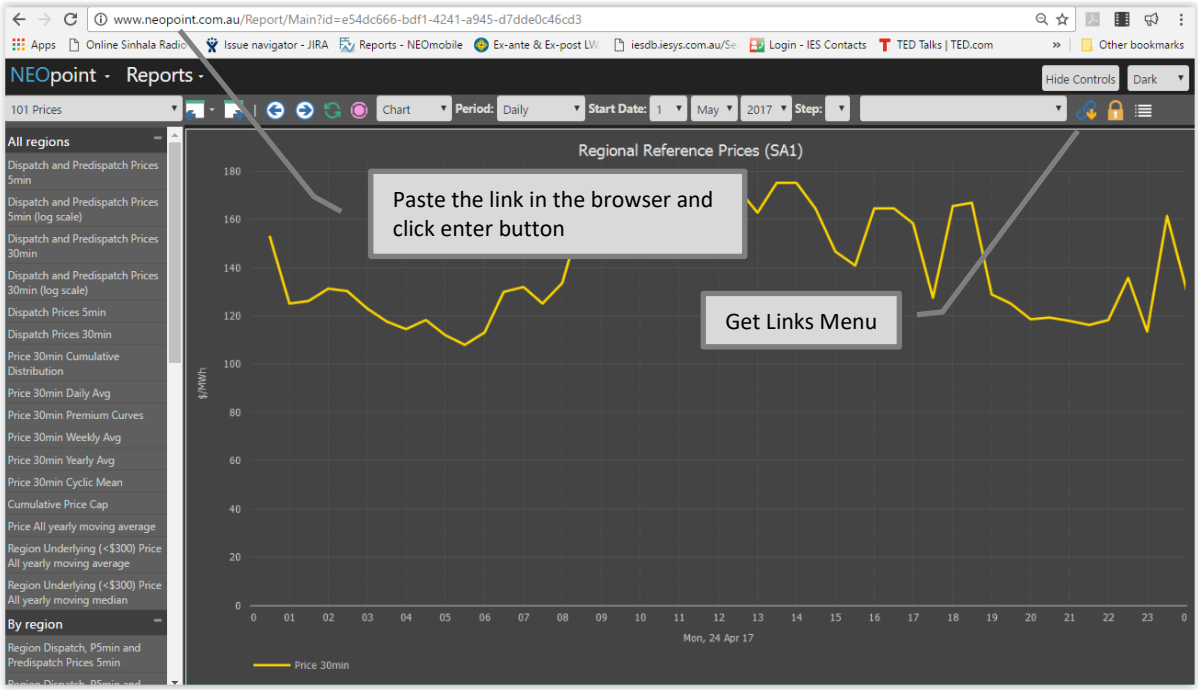


7 Get Links

Links dialog box open when selecting the Get Links menu option in the tool bar. As an example, select, copy the paste-able link.



Paste the above-copied link into a new browser window.

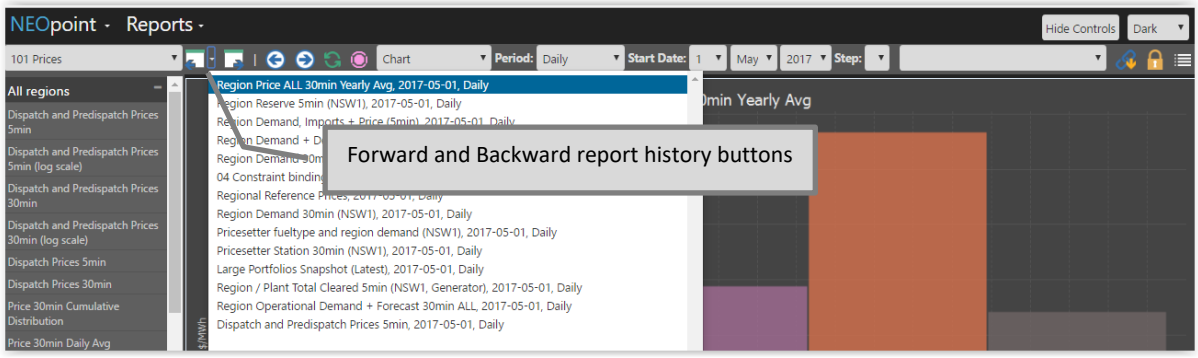


The CSV download link by default is for the merged view so it only shows sections that have datetime in the first column but when a report has no sections with datetime then nothing will be displayed in the download file.
There are two ways around this:

- Modify the link so section=0 instead of -1; or
- Click on the menu button on the pane and select “Export CSV”.

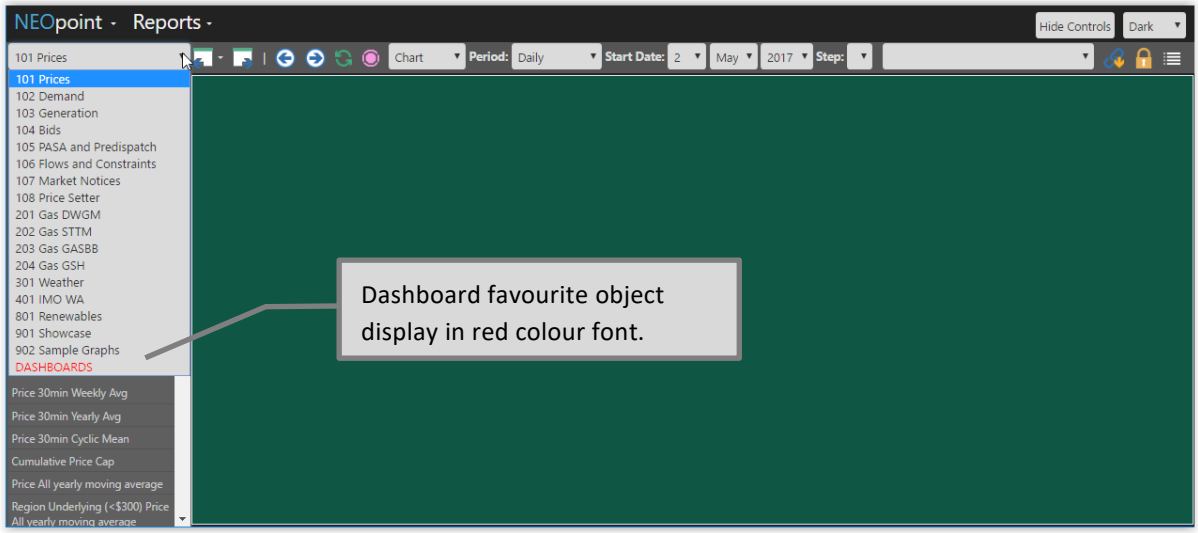
8 View Reports History

Back and Forward buttons to go through and view history reports.

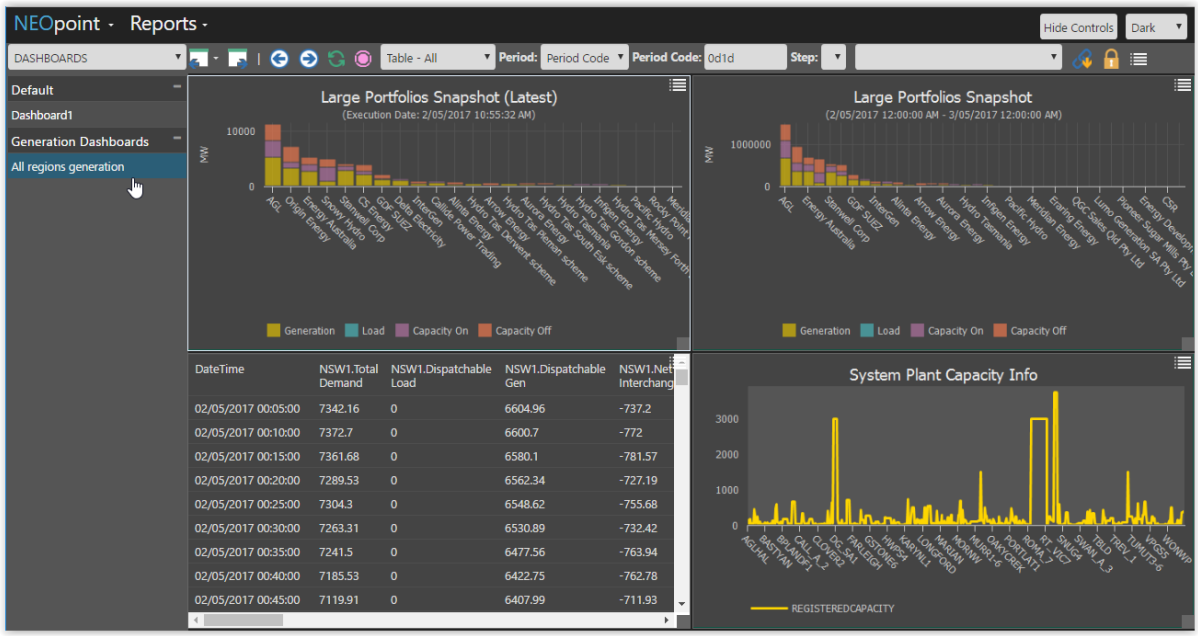


9 Dashboards

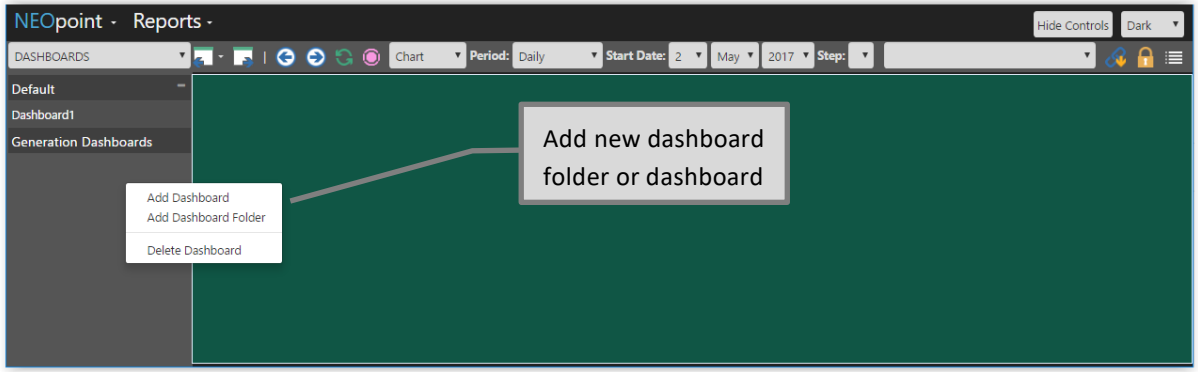
The Dashboard page select using the DASHBOARD favourites.



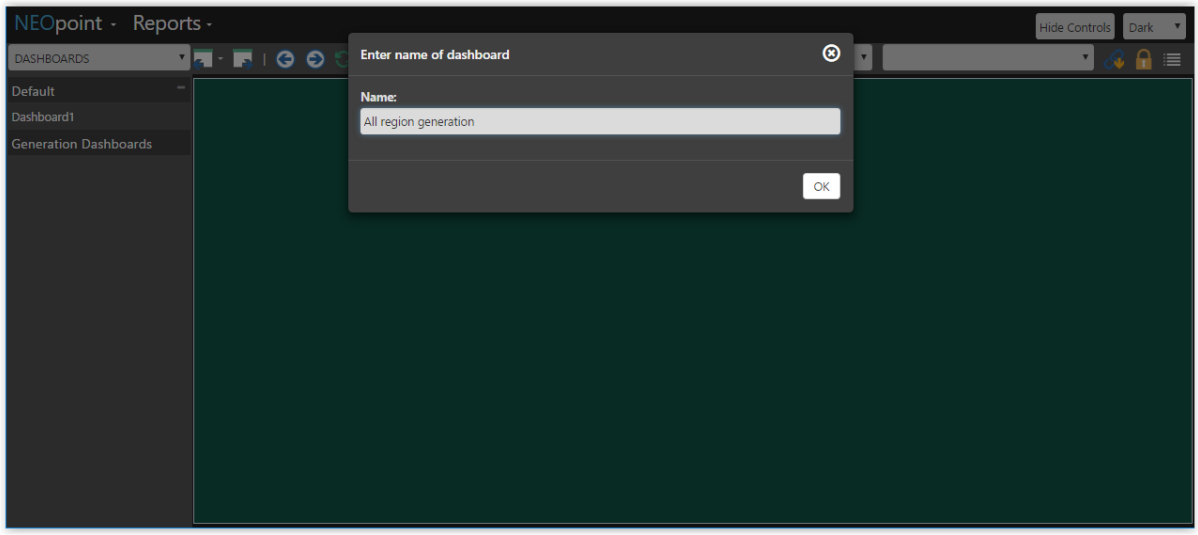
Dashboards page lists all the dashboards that have been created.



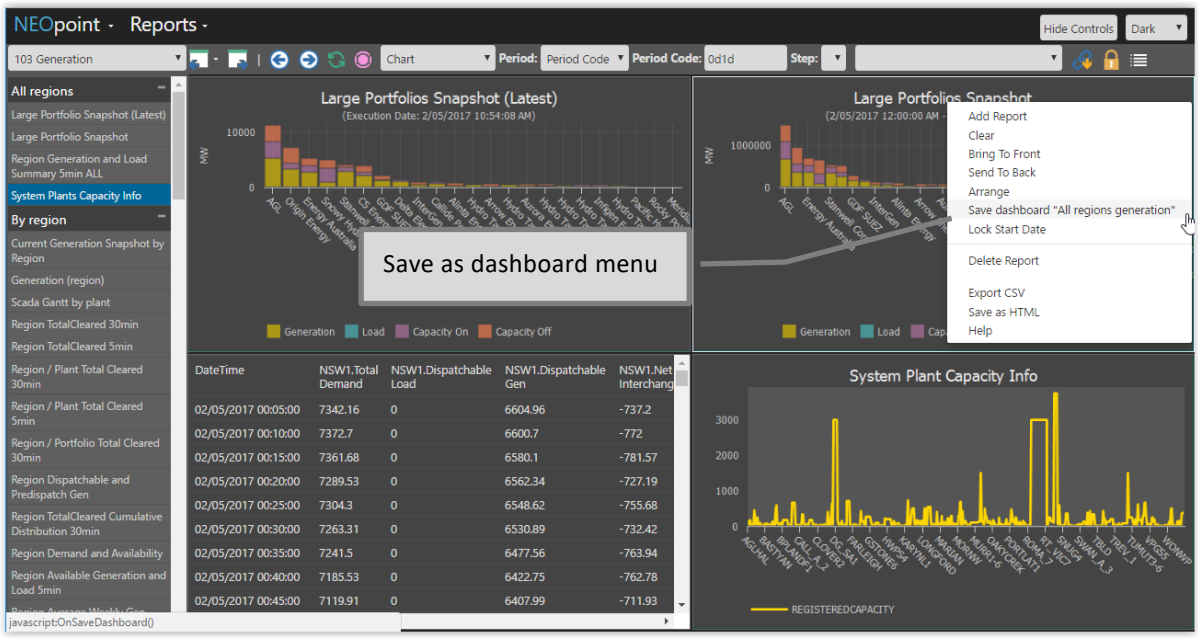
Right click on the right side panel and select ADD DASHBOARD FOLDER menu option to add a new folder.



Enter the dashboard name, click OK button, and newly created dashboard display under the dashboard favourite object.

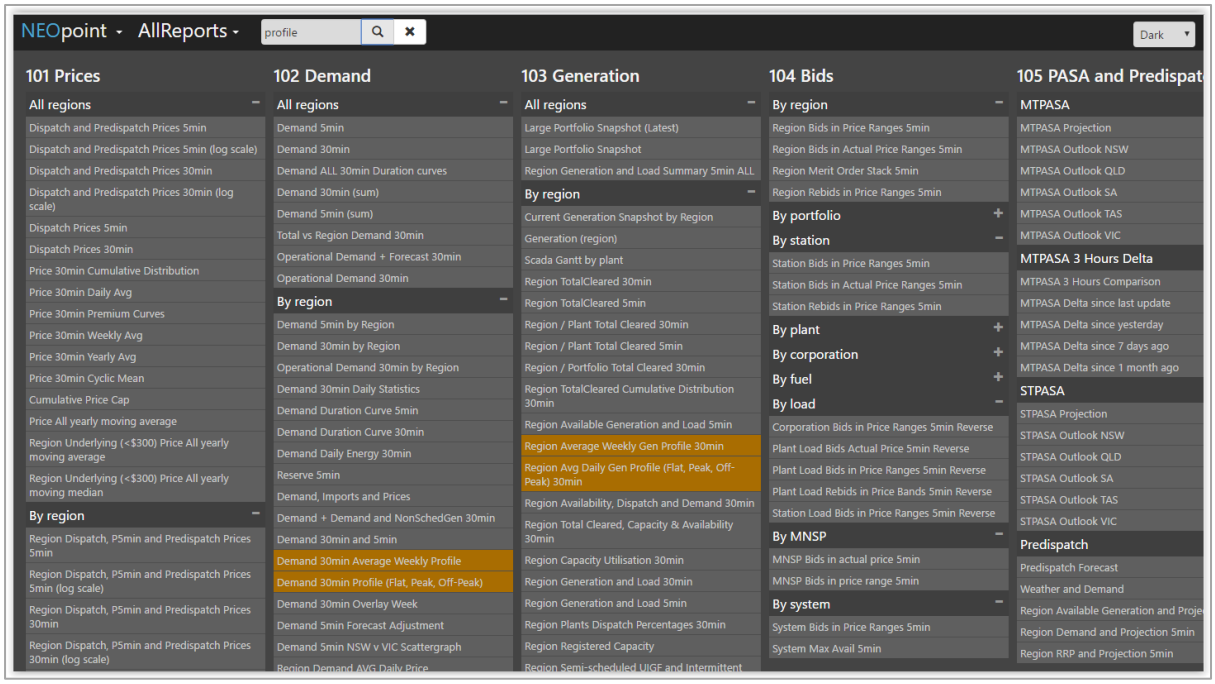


Select reports, arrange and save as a dashboard.



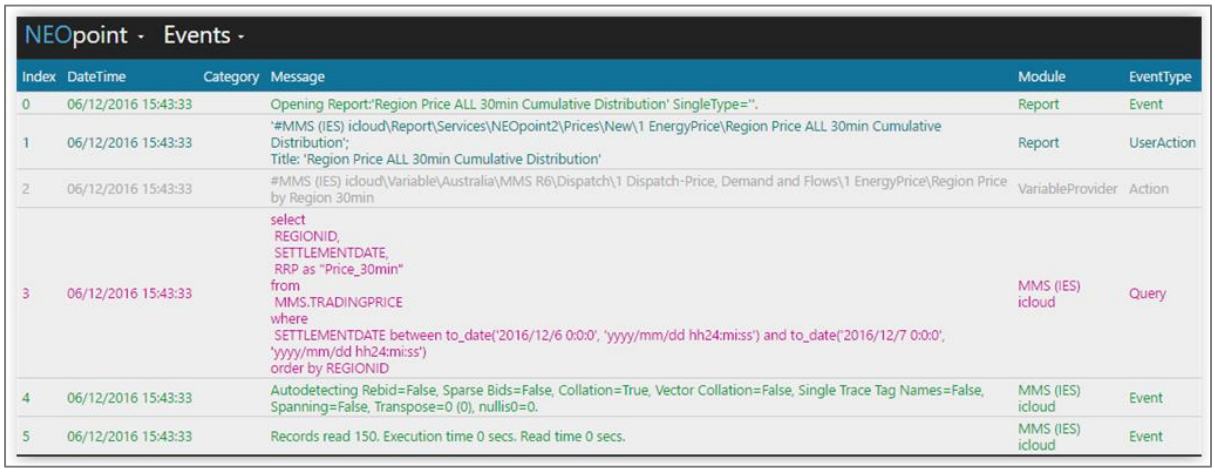
10 All Reports

This page list down all reports use in NEOpoint. User allows expanding and collapsing list of reports under the heading section in the list. Search text box is located top of the page. Enter search string and click the SEARCH button to highlight report names with the search string.



11 Events Page

Recently run report events, including error messages display in the Event View.



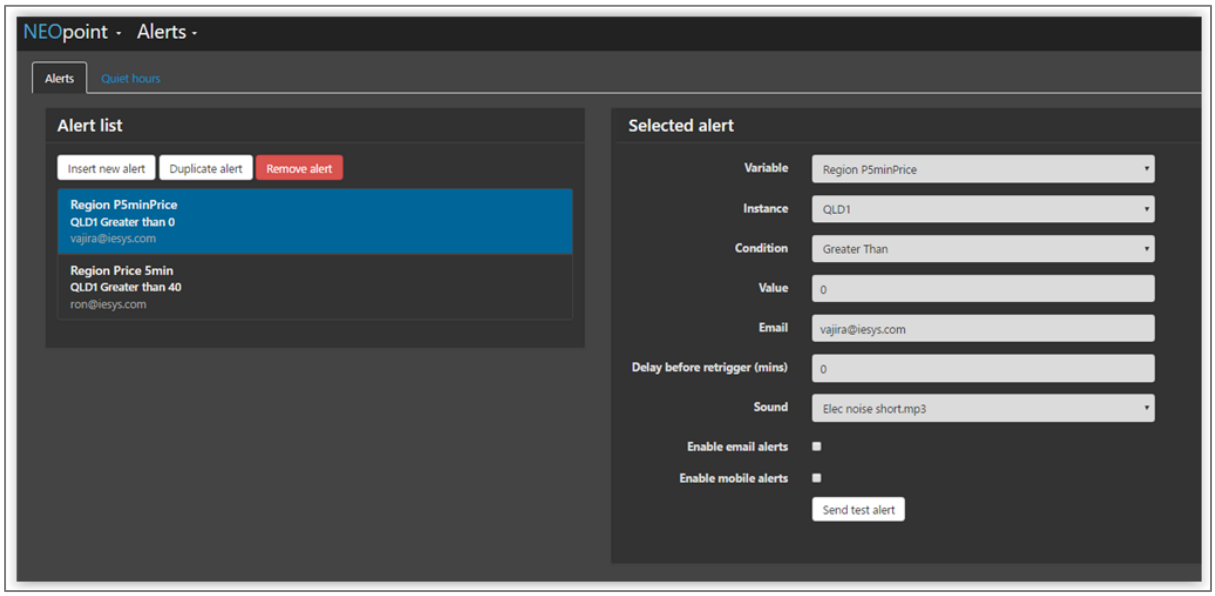
NEOpoint - Events -

Index	DateTime	Category	Message	Module	EventType
0	06/12/2016 15:43:33		Opening Report:'Region Price ALL 30min Cumulative Distribution' SingleType=''.	Report	Event
1	06/12/2016 15:43:33		'#MMS (IES) icloud\Report\Services\NEOpoint2\Prices\New\1 EnergyPrice\Region Price ALL 30min Cumulative Distribution'; Title: 'Region Price ALL 30min Cumulative Distribution'	Report	UserAction
2	06/12/2016 15:43:33		#MMS (IES) icloud\Variable\Australia\MMS R6\Dispatch\1 Dispatch-Price, Demand and Flows\1 EnergyPrice\Region Price by Region 30min	VariableProvider	Action
3	06/12/2016 15:43:33		select REGIONID, SETTLEMENTDATE, RRP as "Price_30min" from MMS.TRADINGPRICE where SETTLEMENTDATE between to_date('2016/12/6 0:0:0', 'yyyy/mm/dd hh24:mi:ss') and to_date('2016/12/7 0:0:0', 'yyyy/mm/dd hh24:mi:ss') order by REGIONID	MMS (IES) icloud	Query
4	06/12/2016 15:43:33		Autodetecting Rebid=False, Sparse Bids=False, Collation=True, Vector Collation=False, Single Trace Tag Names=False, Spanning=False, Transpose=0 (0), nullis0=0.	MMS (IES) icloud	Event
5	06/12/2016 15:43:33		Records read 150. Execution time 0 secs. Read time 0 secs.	MMS (IES) icloud	Event

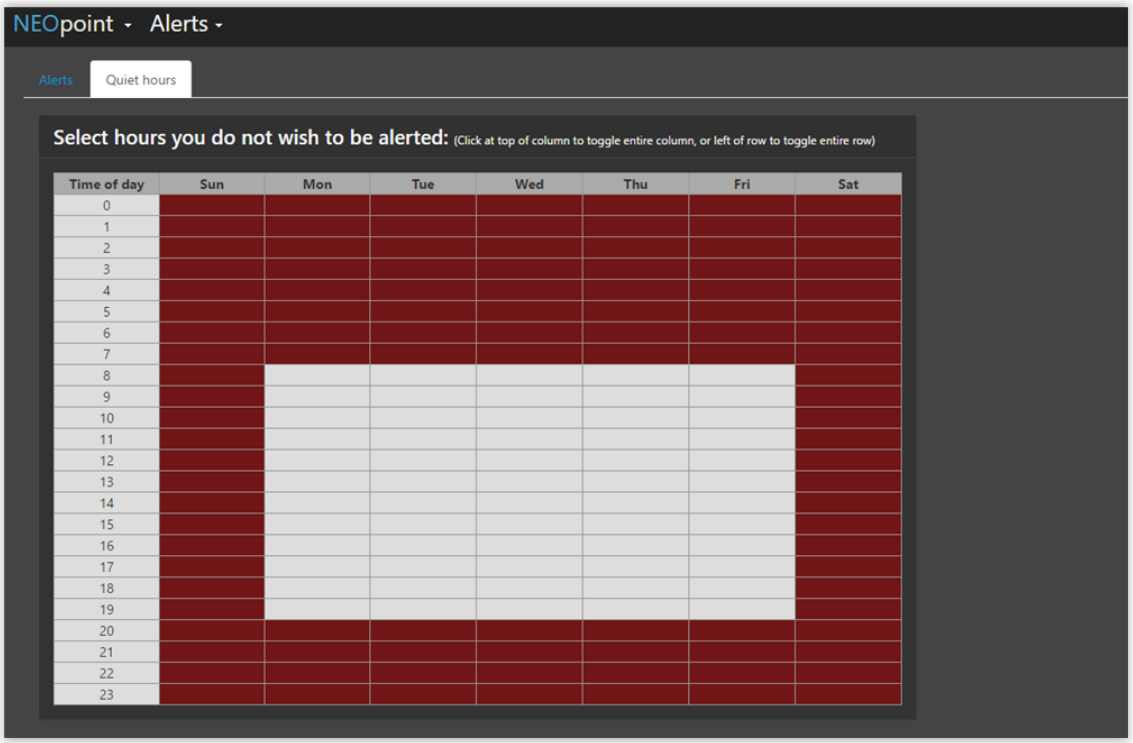
12 Alerts Page

The Alerts page list all the alerts that belong to the current account. It allows you to Insert, Duplicate and Remove alerts.
When user click on the Send test alert button, it will immediately trigger alert and send the test email.

	User must tick one of the checkboxes to enable alerts notifications.



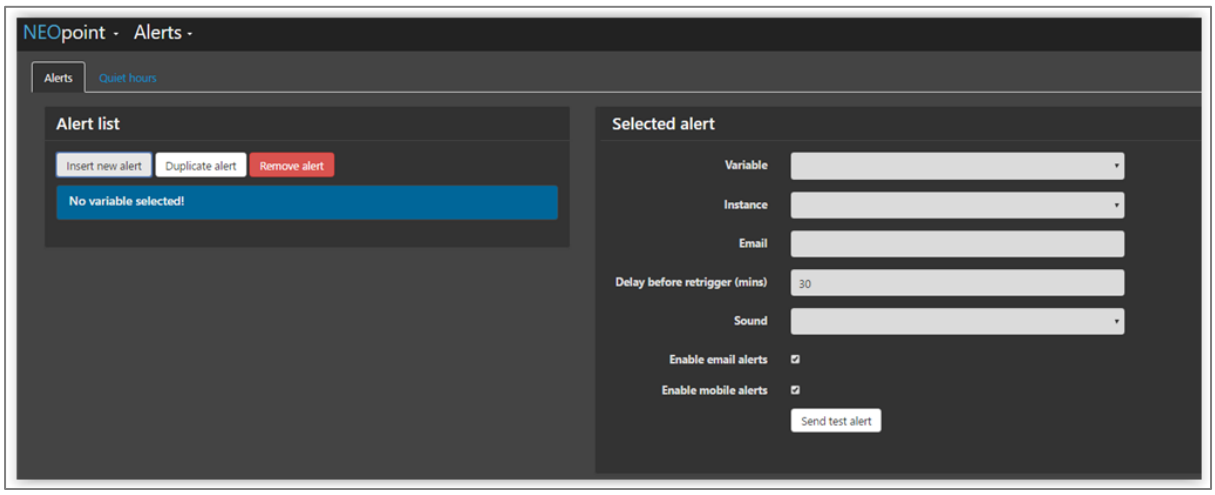
The Quiet hours tab is the place user can select hours that they are not wish to get alert notifications.



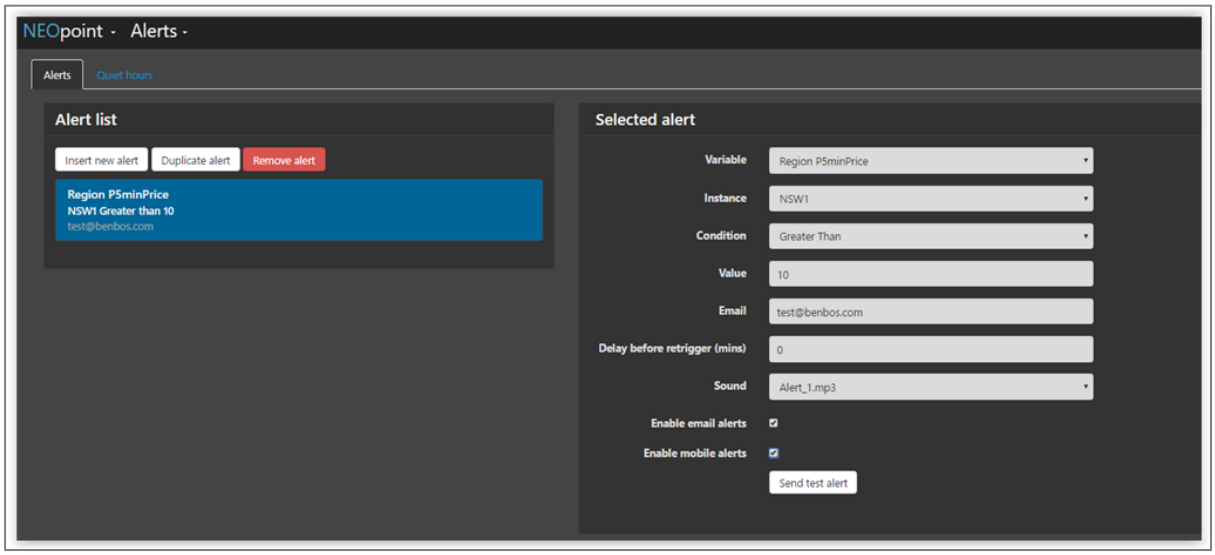
12.1 Create an Alert

1. Select the Alerts menu option from the menu list.
2. Click on the INSERT NEW ALERT button.

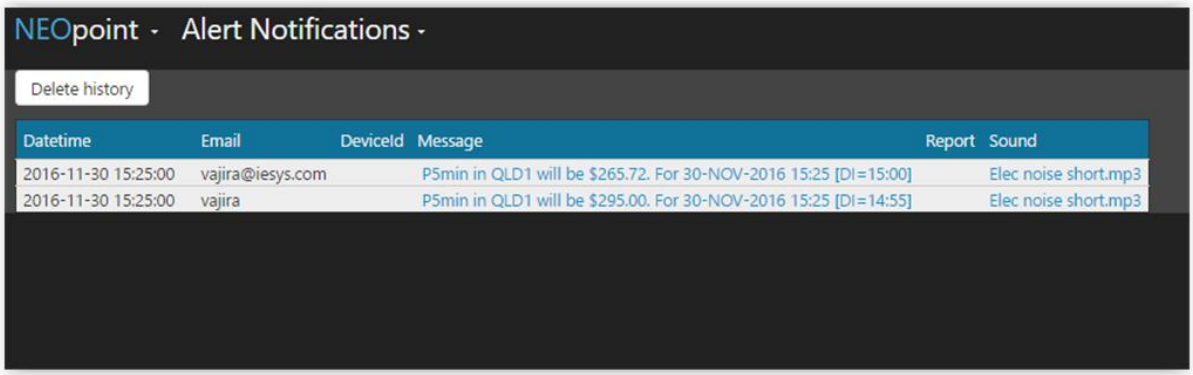
3. Select a variable. DUPLICATE ALERT button duplicates the selected alert and REMOVE ALERT button deletes the selected alert.



4. Select data fields appropriately. Enter the email address and tick the Enable email alerts check box to activate the Alert.

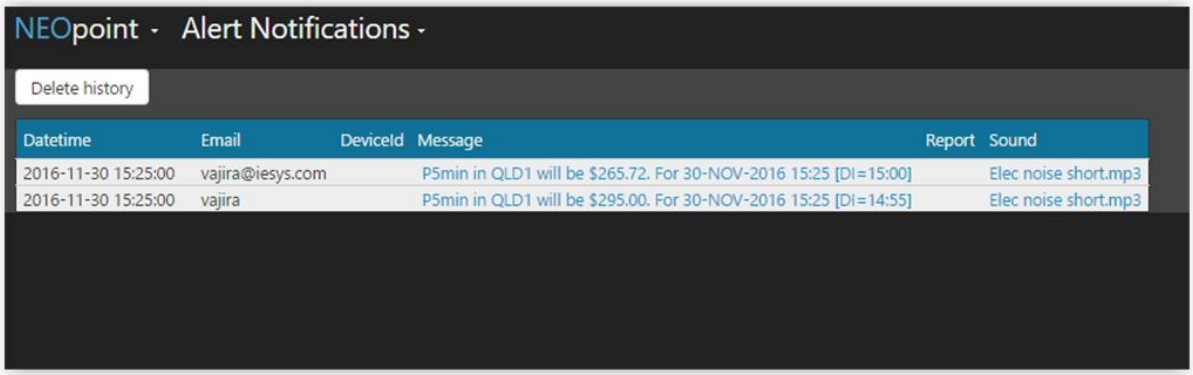


5. Click the SEND TEST ALERT button to test the created alert. This will sent an email and a record will be displayed in the Alert Notification page.


NEOpoint
Alert Notifications
Delete history
Datetime
Email
DeviceId
Message
Report
Sound
2016-11-30 15:25:00
vajira@iesys.com
P5min in QLD1 will be $265.72. For 30-NOV-2016 15:25 [DI=15:00]
Elec noise short.mp3
2016-11-30 15:25:00
vajira
P5min in QLD1 will be $295.00. For 30-NOV-2016 15:25 [DI=14:55]
Elec noise short.mp3

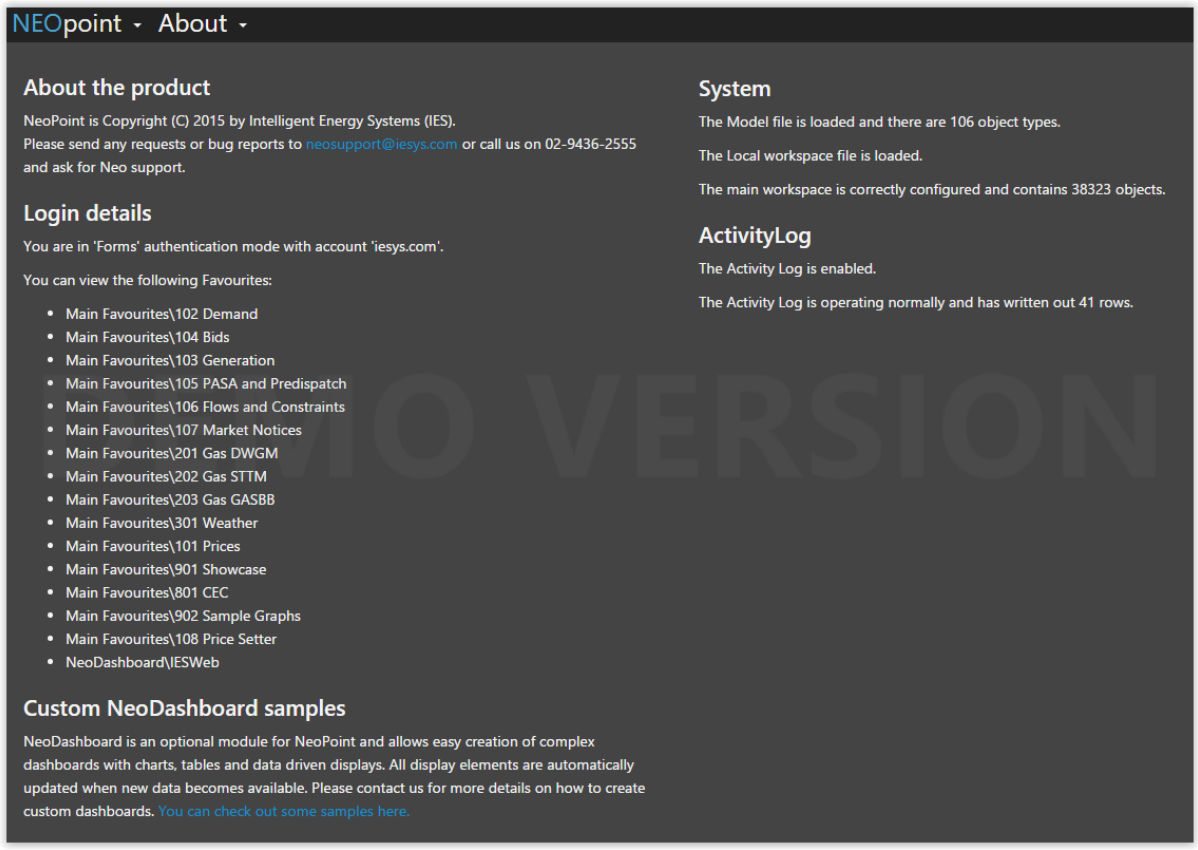
13 Alert Notifications Page

Alert Notifications page display all executed Alerts. When you click on the Message link, it will open related Alert.



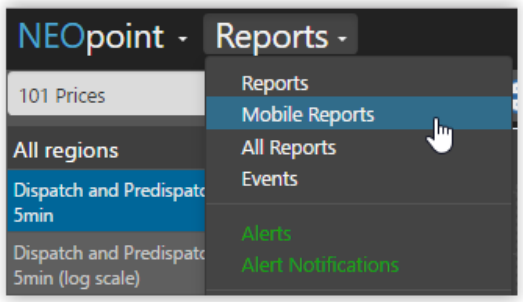
14 About Page

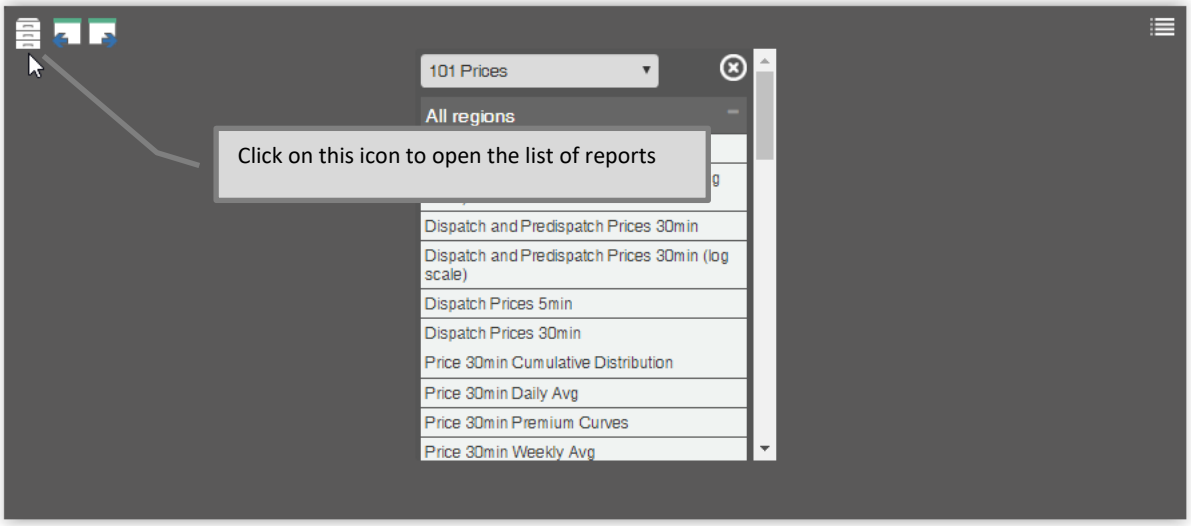
The About page display important NEOpoint information such as authentication mode, user account name, lists of favourites that user can view, version number and list of errors for NEOpoint.

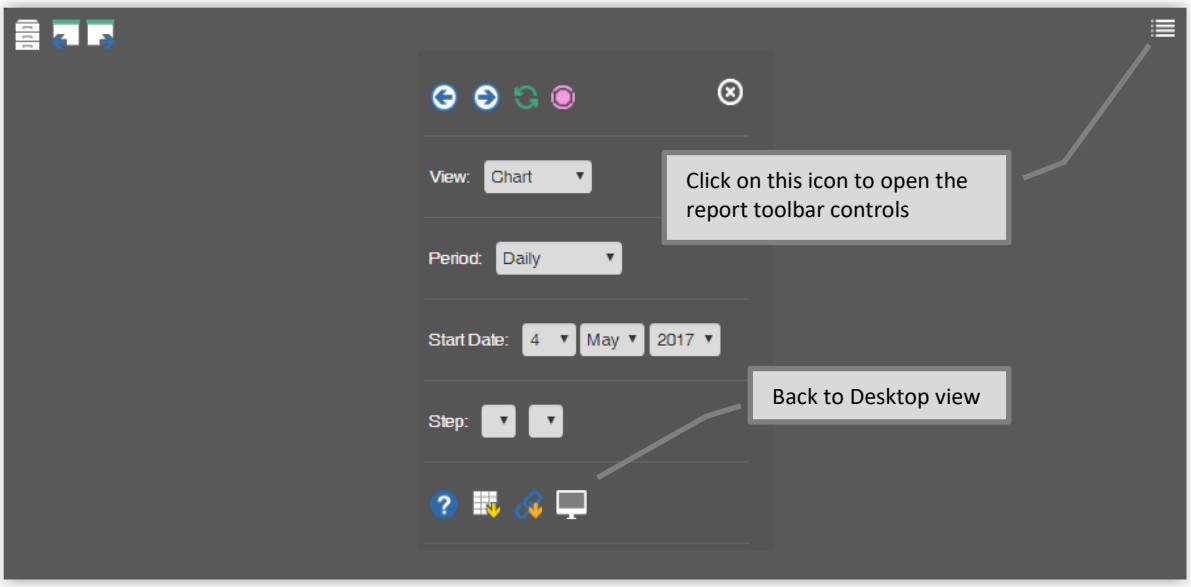


15 NEOpoint Mobile View

Use NEOpoint mobile view for tablets and smartphones. Select the Mobile Reports menu option to open the mobile view as in the image below.

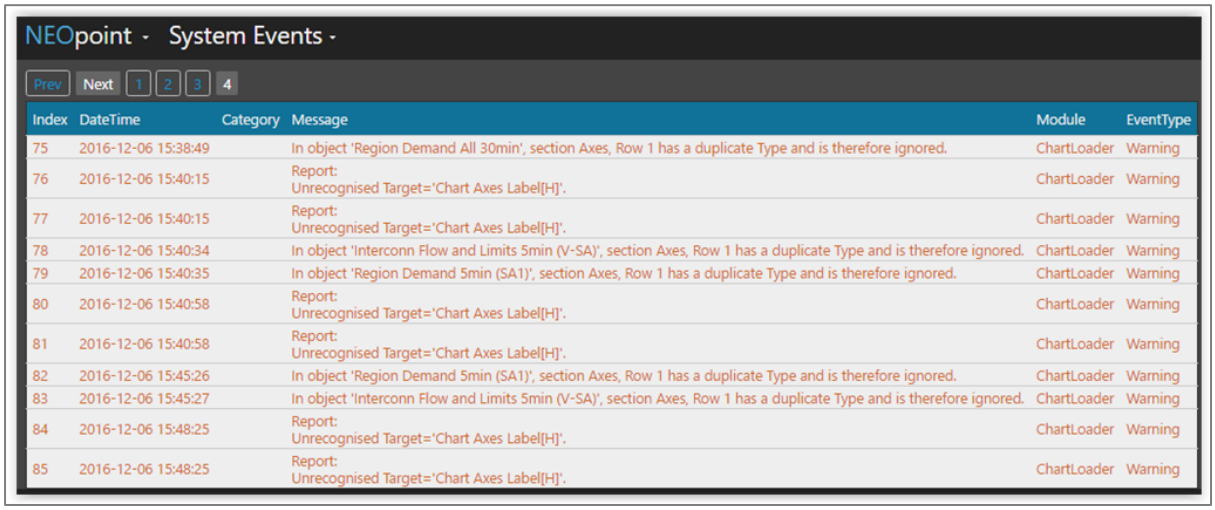






16 System Events Page

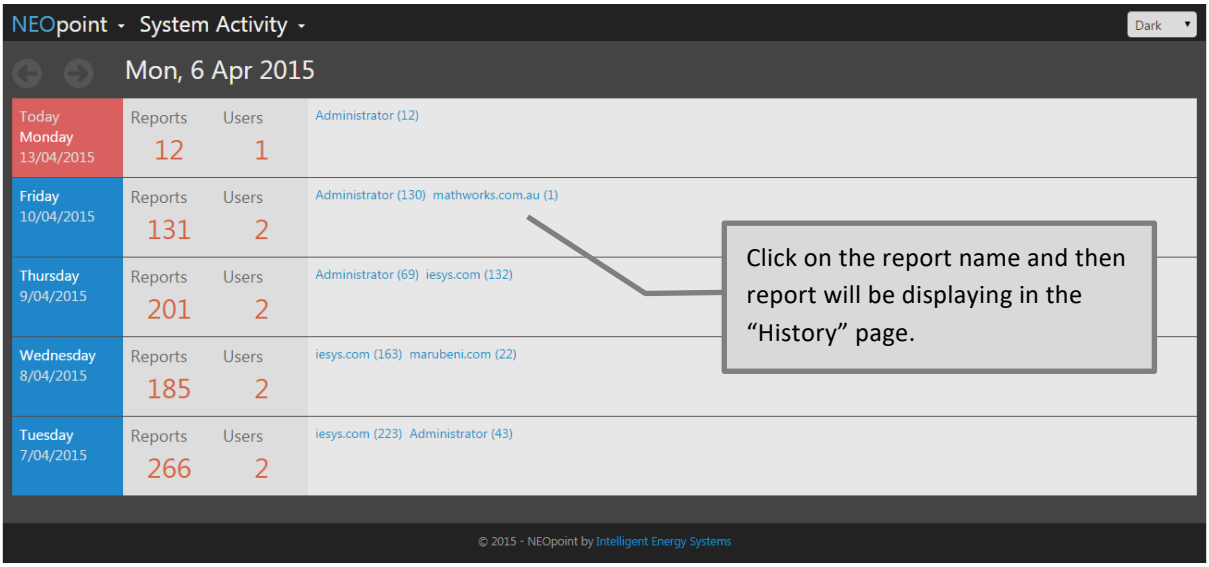
The System Events page allows viewing all the events related to NEOpoint system start up. Some of the displayed events are system initialisation, authentication mode, load favourites related to the authentication mode and errors.



Index	DateTime	Category	Message	Module	EventType
75	2016-12-06 15:38:49		In object 'Region Demand All 30min', section Axes, Row 1 has a duplicate Type and is therefore ignored.	ChartLoader	Warning
76	2016-12-06 15:40:15		Report: Unrecognised Target='Chart Axes Label[H]'.	ChartLoader	Warning
77	2016-12-06 15:40:15		Report: Unrecognised Target='Chart Axes Label[H]'.	ChartLoader	Warning
78	2016-12-06 15:40:34		In object 'Interconn Flow and Limits 5min (V-SA)', section Axes, Row 1 has a duplicate Type and is therefore ignored.	ChartLoader	Warning
79	2016-12-06 15:40:35		In object 'Region Demand 5min (SA1)', section Axes, Row 1 has a duplicate Type and is therefore ignored.	ChartLoader	Warning
80	2016-12-06 15:40:58		Report: Unrecognised Target='Chart Axes Label[H]'.	ChartLoader	Warning
81	2016-12-06 15:40:58		Report: Unrecognised Target='Chart Axes Label[H]'.	ChartLoader	Warning
82	2016-12-06 15:45:26		In object 'Region Demand 5min (SA1)', section Axes, Row 1 has a duplicate Type and is therefore ignored.	ChartLoader	Warning
83	2016-12-06 15:45:27		In object 'Interconn Flow and Limits 5min (V-SA)', section Axes, Row 1 has a duplicate Type and is therefore ignored.	ChartLoader	Warning
84	2016-12-06 15:48:25		Report: Unrecognised Target='Chart Axes Label[H]'.	ChartLoader	Warning
85	2016-12-06 15:48:25		Report: Unrecognised Target='Chart Axes Label[H]'.	ChartLoader	Warning

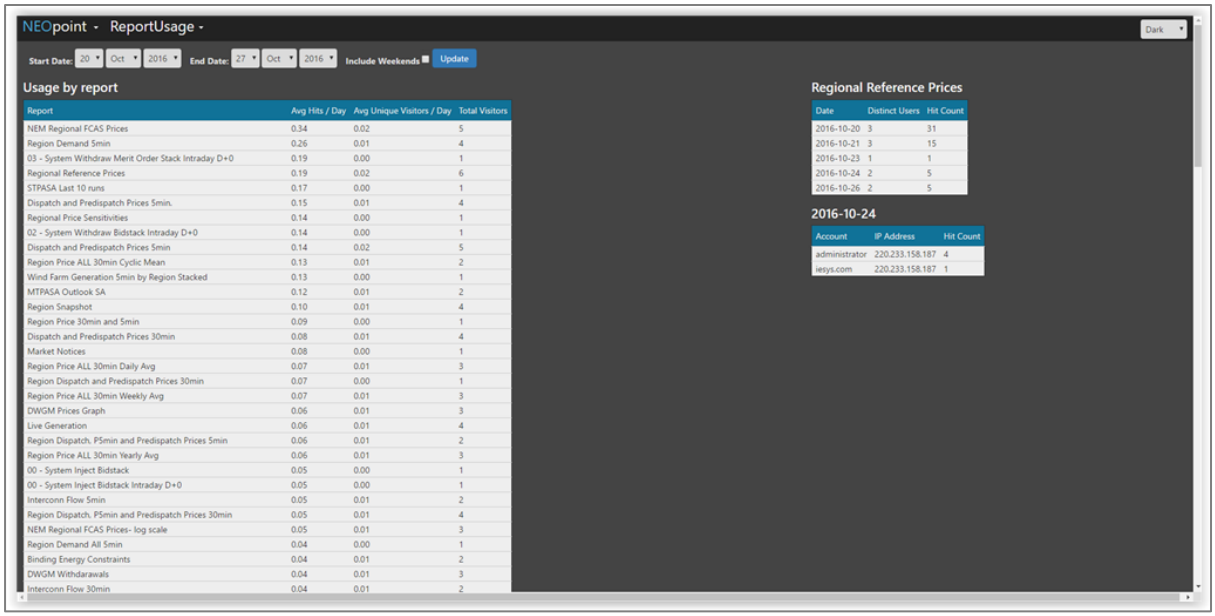
17 System Activity Page

A site Administrator can view seven days of system activities at one time including number of reports run and number of logins. Forward and backward buttons allow viewing previous or next week's data. User names are clickable and allow viewing each user's activities in the **User Activity** page.



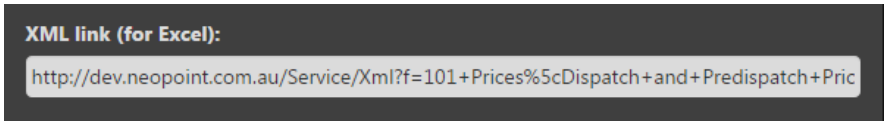
18 Report Usage Page

Administrator can view report usage for selected date period including/excluding weekends. Select a start date and an end date and then click on UPDATE button. Usage by report details will be displayed. Select a report name in the list and then date, distinct users and hit count details display for the selected report.

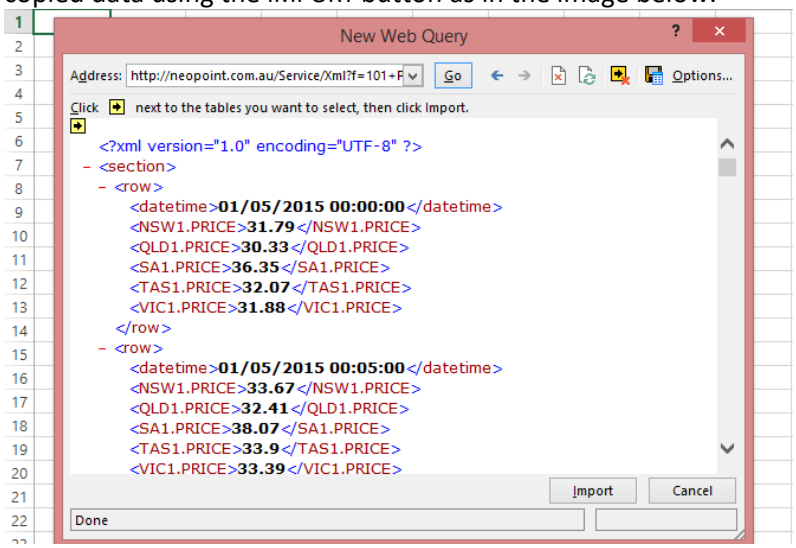


19 Import data from NEOpoint to Excel

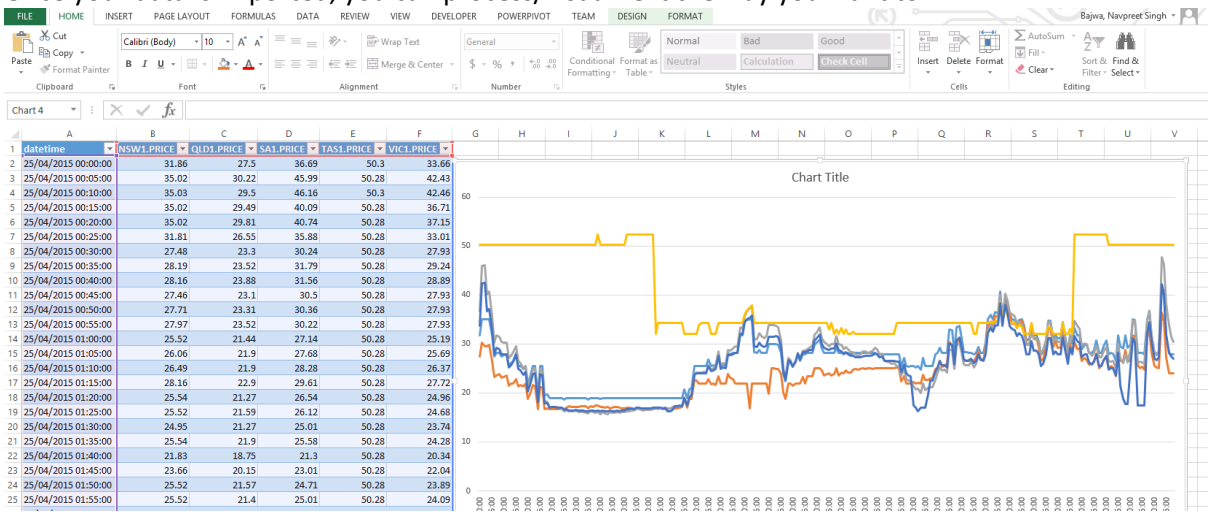
Run a report in NEOpoint and click on the “Get links” icon in the report tool bar to grab the XML link for the report data you wish to export.



In Excel, go to the Data Tab. Click on the “From Web” menu option and paste the copied link. Import copied data using the IMPORT button as in the image below.

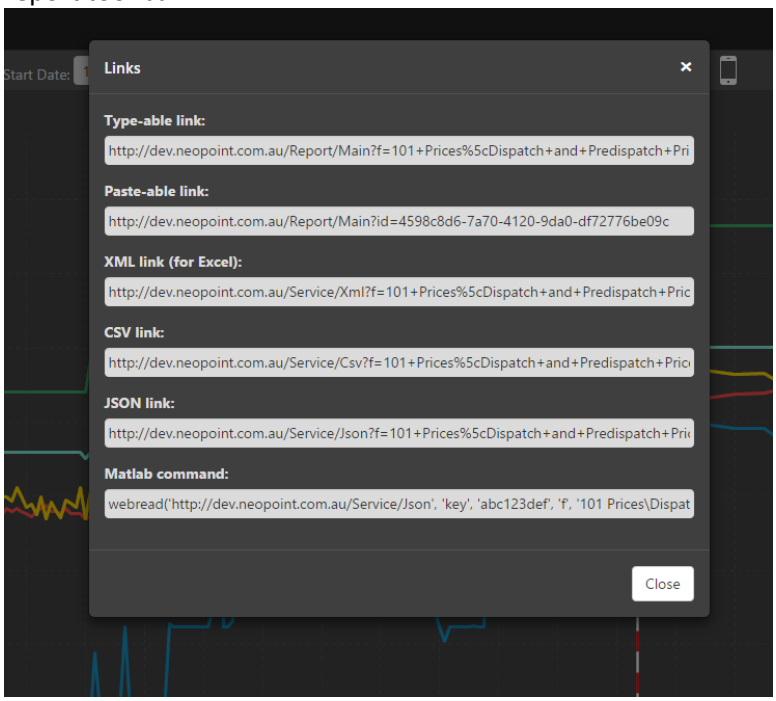


Once your data is imported, you can process/visualize it the way you want to.



20 Import data from NEOpoint to Matlab

Run the report that you want to import in NEOpoint and then click on the “Get links” icon in the report tool bar.



Copy the Matlab command from the list of links and do the next steps in Matlab.
In Matlab, paste the command and get the output into a variable of name ‘data’

```
Trial>> data = webread('http://neopoint.com.au/Service/Json', 'key', 'abc123def', 'f', '101 Prices\Dispatch and Predispatch Prices
5min', 'from', '8/05/2015 12:00:00 AM', 'period', 'Daily', 'pc', '', 'instances', '', 'section', '-1');
Trial>> data

data =

190x1 struct array with fields:

    DateTime
    NSW1_PRICE
    QLD1_PRICE
    SA1_PRICE
    TAS1_PRICE
    VIC1_PRICE
```

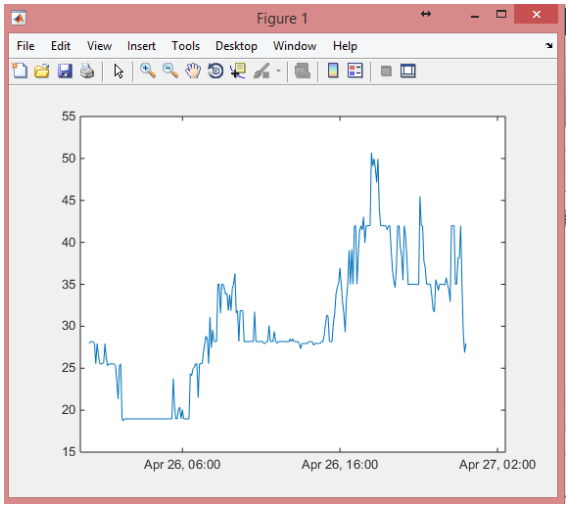
For example `webread('http://dev.neopoint.com.au/Service/Json', 'key', 'abc123def', 'f', '101 Prices\Region Dispatch, P5min and Predispatch Prices 5min', 'from', '26/04/2015 12:00:00 AM', 'period', 'Daily', 'pc', '', 'instances', 'NSW1', 'section', '-1')`

Press Enter to run the command, this should import the data for the report into Matlab in variable ‘Data’

Now, to plot this data, use the following command

```
X = {data.DateTime}';
X = datetime(X,'InputFormat','yyyy-MM-dd HH:mm:ss');
Y = [data.NSW1_RRP]';

plot(X,Y)
```



20.1 Getting timeout error

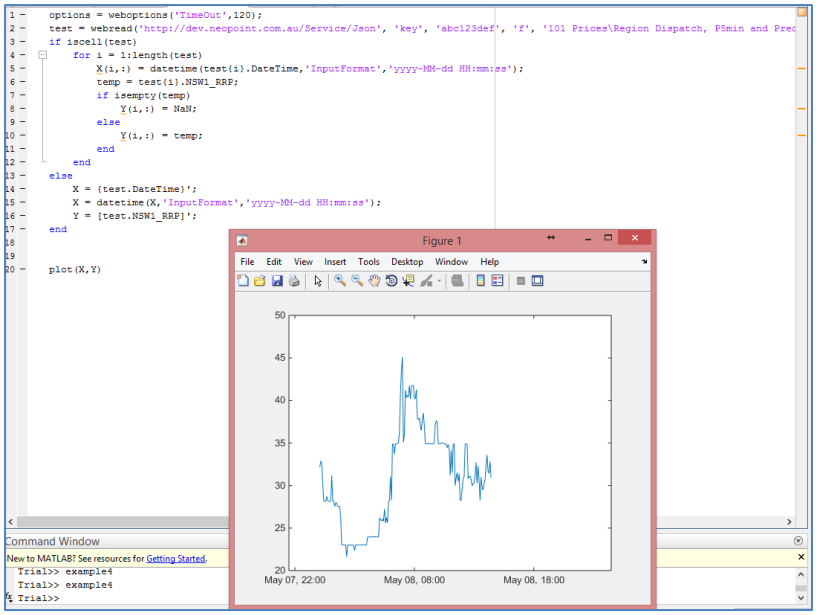
If you are getting Timeout error for large size of data, create weboptions and set timeout to a larger value.
For example: options = weboptions('TimeOut',120);
And use the options as last argument in webread command.
For example:
data = webread('http://neopoint.com.au/Service/Json', 'key', 'abc123def', 'f', '101 Prices\Dispatch and Predispatch Prices 5min', 'from', '8/05/2015 12:00:00 AM', 'period', 'Daily', 'pc', '', 'instances', '', 'section', '-1', options);

20.2 How to handle missing data

To handle empty or null values as in case of some reports, using the following commands

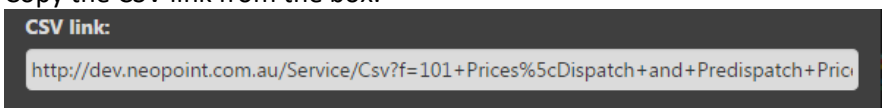
```
options = weboptions('TimeOut',120);
test = webread('http://dev.neopoint.com.au/Service/Json', 'key',
'abc123def', 'f', '101 Prices\Region Dispatch, P5min and Predispatch
Prices 5min', 'from', '08/05/2015 12:00:00 AM', 'period', 'Daily', 'pc',
'', 'instances', 'NSW1', 'section', '-1',options);
if iscell(test)
    for i = 1:length(test)
        X(i,:) = datetime(test{i}.DateTime,'InputFormat','yyyy-MM-dd
HH:mm:ss');
        temp = test{i}.NSW1_RRP;
        if isempty(temp)
            Y(i,:) = NaN;
        else
            Y(i,:) = temp;
        end
    end
else
    X = {test.DateTime}';
    X = datetime(X,'InputFormat','yyyy-MM-dd HH:mm:ss');
    Y = [test.NSW1_RRP]';
end

plot(X,Y)
```


options = weboptions('TimeOut',120);
test = webread('http://dev.neopoint.com.au/Service/Json', 'key', 'abc123def', 'f', '101 Prices\Region Dispatch, P5min and Pred
if iscell(test)
for i = 1:length(test)
X(i,:) = datetime(test{i}.DateTime,'InputFormat','yyyy-MM-dd HH:mm:ss');
temp = test{i}.NSW1_RRP;
if isempty(temp)
Y(i,:) = NaN;
else
Y(i,:) = temp;
end
end
else
X = {test.DateTime}';
X = datetime(X,'InputFormat','yyyy-MM-dd HH:mm:ss');
Y = [test.NSW1_RRP]';
end
plot(X,Y)
Figure 1
File Edit View Insert Tools Desktop Window Help
50
45
40
35
30
25
20
May 07, 22:00
May 08, 08:00
May 08, 18:00
Command Window
New to MATLAB? See resources for Getting Started.
Trial>> example4
Trial>> example4
Trial>>

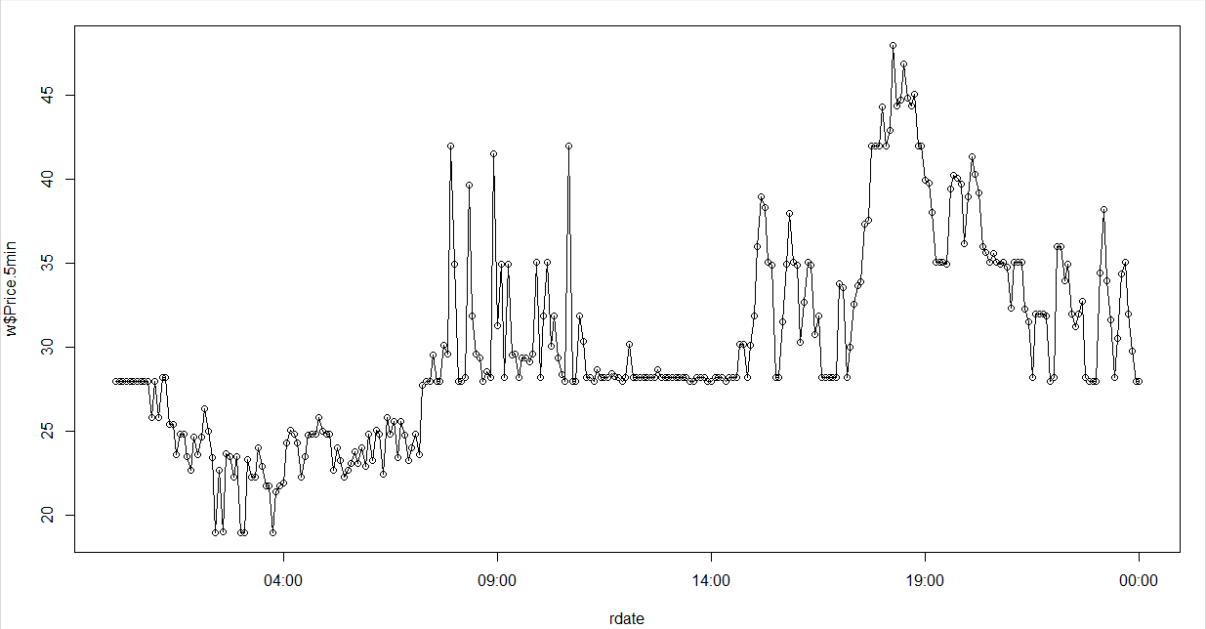
21 Import data from NEOpoint to R

R is a very popular open source language based on the S language and used for statistical data analysis. Simplest way to read is via CSV format.
To get CSV link, run the report that you wish to import and on the “Get links” icon in the report tool bar.
Copy the CSV link from the box.



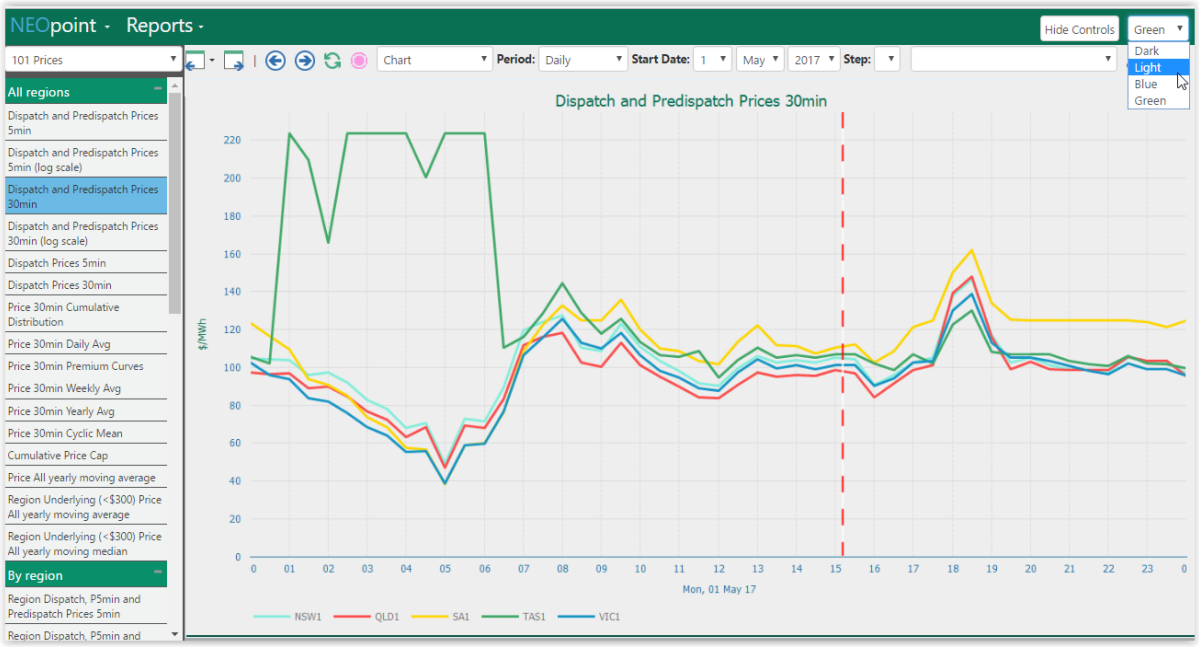
To read the data into R, use the read.csv command and paste the URL link
Read.csv(file=”URL”)
Following lines of code shows how to plot a chart using the loaded data.
Added more lines to convert the first column from string to datetime and plot it again.

```
> w=read.csv(file="http://localhost:52419/Service/Cs
>
> plot(w$DateTime, w$Price.5min)
> lines(w$DateTime, w$Price.5min)
> rdate<-strptime(w$DateTime, "%Y-%m-%d %H:%M:%S")
> plot(rdate, w$Price.5min)
> lines(rdate, w$Price.5min)
>
```



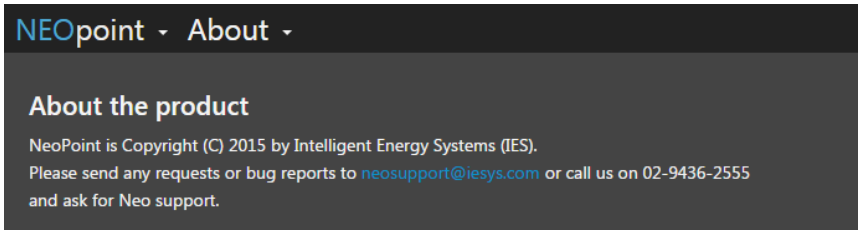
22 Change NEOpoint Screen Themes

To change theme, use the dropdown on the top right hand corner. Currently, NEOpoint has 4 different themes as Dark, Light, Blue and Green that affects the page scheme and reports as well. Reports are styled in NEO for those themes.



23 Contact NEOpoint support

NEO Support contact details are also available on the **About** page:



E-mail: NEOsupport@iesys.com
Phone: +61 2 9436 2555
Fax: +61 2 9436 1218