Gill IT Utopia Power Manager

User Guide

Contents

Utopia Power Manager

Introduction

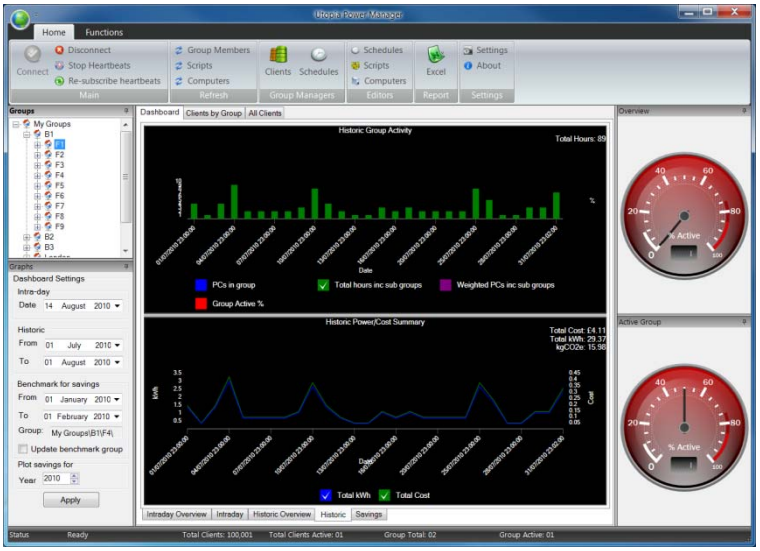
This user guide will introduce all the key components to ensure you can quickly get the most from this application.

In order to accurately capture savings it is advised Utopia Power Manager is run in a monitor mode for a period of time. This period can be used as the benchmark to calculate savings. This is covered in more detail in the savings section.

GUI Overview

The following screenshot highlights the key components of the GUI.

The following screen shot shows a different dashboard view illustrating the captured historic analytics.



Utopia Power Manager Ribbons

The ribbon toolbar has been split into the following:

- Home – Access to all Managers and Editors
- Functions – Execute all Power Management functions

Home

The Home ribbon toolbar is used for key tasks such as connecting to the server managing clients and schedules.

Functions

The Functions ribbon toolbar will enable you to execute various functions for the currently selected clients immediately.

Utopia Power Manager Setup overview

The following steps are required to deploy Utopia Power Manager:

1. Create Groups to reflect your organisation using “Clients” Manager
2. Add Clients to the Groups
3. Create Schedules to reflect your power management policies and administrative tasks using the “Schedules” Editor
4. Assign the Schedules to Groups using the “Schedules” Manager
5. Analyse the data and make modifications
6. Use the Utopia Power Manager Administrator to monitor PC usage within the organisation and take action in real-time

Group Managers

Overview

The Client and Schedule managers enable the management of groups. This allows a set of computers to be referenced with the same name. It is common to organise the groups according to the physical location of computers for example:

- UK Offices
  - London
  - Reading
- US Offices
  - NY
  - Florida
  - California
- India
  - Punjab
  - New Delhi
- China
  - Hong Kong

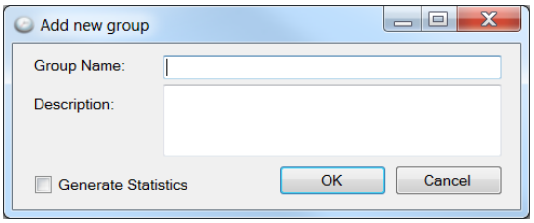
Each group can then be split further by floor:

- London
  - Floor 1
  - Floor 2
  - Floor 3
  - Floor 4

Group arrangements like the above will enable the Utopia Power Manager administrator to analyse power usage effectively and make the appropriate changes to policies. Also entire offices can be switched off given a certain time of day e.g. 20:00.

Creating groups

To create a group from the Clients or Schedules “Group Manager” right click “My Groups” and select “Add Group”. The following form will be displayed:



Enter a suitable name and optionally description, tick the “Generate Statistics” check box if you would like statistics generated for this group.

Clients Manager

Once the group structure has been created there are two options available to add clients to each group:

1. Using the Clients Group Manager select the appropriate computers and add them to the group
2. Ask the users to enrol onto a group using Utopia Power Manager client

Client Group Manager

To add clients to a group:

1. Select a group
2. Use the filters to help locate computers from “Available Clients”
3. Select the computers and press “Add Client” from the context menu

To remove clients form a group:

1. Select the group
2. Select the computers to remove and press “Remove Client” from “Clients in group”

Primary Clients

Primary clients are PCs or server which you may choose not to run certain tasks assigned to a group.

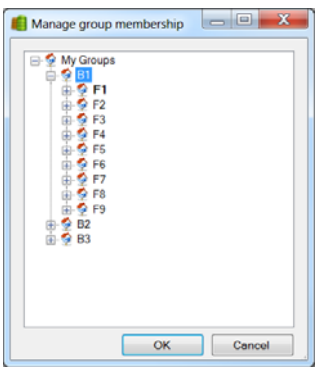
For example in an office with 5 floors you may assign a PC on each floor as a Remote Wake On LAN PC. Hence you do not want this computer to execute the shutdown tasks.

Clients can be set as primary clients by selecting the rows and selecting “Primary” from the context menu.

Press “Save” to persist the changes – this will also inform the clients of the changes

Utopia Power Manager Client

The users can enrol onto groups by the following process; this can be carried out at anytime and changes will be reflected immediately:



1. Double click the “Utopia Power Manager” icon in the task try
2. Select “Group Membership” from the options menu
3. Drill down to the group you would like to be a member off and select it then select “Include group” or “Exclude” from the context menu

The Utopia Power Manager Administrator can refresh the

group membership view by pressing “Group Members” in the “Refresh” group in the toolbar.

Schedules Manager

To assign a schedule to a group:

1. Select a group
2. Use the filters to help locate schedules from “Available schedule groups”
3. Select the schedule and press “Add Schedule” from the context menu

To remove a schedule from a group:

1. Select the group
2. Select the schedules to remove and press “Remove Schedule” from “Schedules in Group”

Press “Save” to persist the changes – this will also inform the clients of the changes

Editors

Schedule Editor

The schedule editor enables schedule groups to be created which comprise of a set of tasks. This enables related tasks to be grouped together and then assigned to a set of computers/groups.

The schedule editor is divided into two sections:

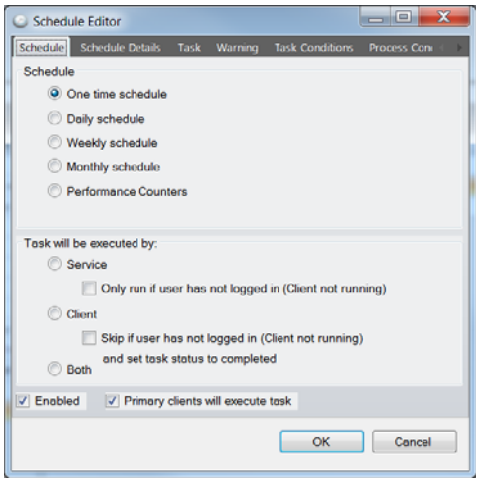
1. Schedule groups
2. Tasks

Groups can be managed from the context menu using the options Add and Remove. Once a group has been created and selected, Tasks can be created using the context menu from the Tasks section.

Utopia Power Manager supports the following schedules:

- One time schedule
- Daily schedule
- Weekly schedule
- Monthly schedule
- Performance Counters – These are dynamic schedules based on system, network or other devices performance

Creating a new Task



1. Select the schedule for the task
2. Choose how the task will be executed from one of the following:
    a. Service – Task will be executed by the Utopia Power Manager Service using the service account
    b. Client - Task will be executed by the Utopia Power Manager Client using the logged in users account
    c. Both – Task will be executed by both service and client
3. “Primary clients will execute task” is selected by default. If you have specified primary clients in the “Clients Group Manager” and do not want primary clients to execute this task un-check this option
4. Select the “Schedule details” tab page set the date and time when the task should be executed
5. Select the “Task” tab page and choose the Task action
6. Select the “Warning” tab page to set a warning for the user before the task is executed

a. Optionally tick “Vocal Warning” for the warning message to be spoken on the client PC

7. Select the “Task Conditions” tab page to set pre-conditions which must be met before the task can be executed
8. Select the “Process Conditions” tab to specify the processes which must complete before running the task
9. Press Ok
10. Press Save in the Schedule Editor

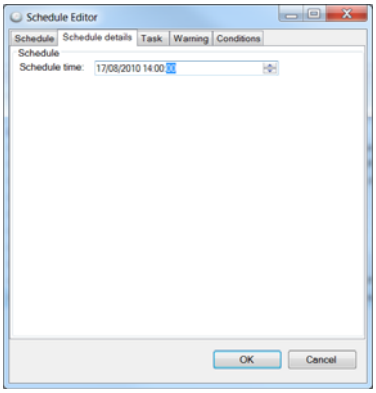
Default Schedule group

There is one pre-defined schedule group called “Default”. Any tasks added to this group will be applied to all Utopia Power Manager Clients if they are not a member of at least one group. This enables a power management policy to be applied immediately.

Schedule details

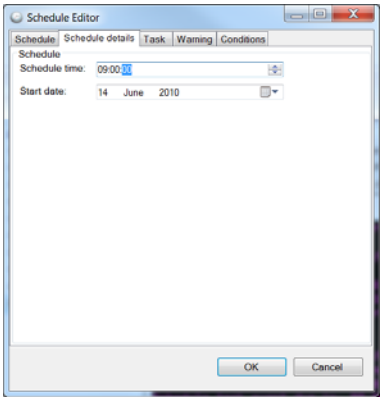
One time schedule

This schedule will execute the task once at the specified date and time:



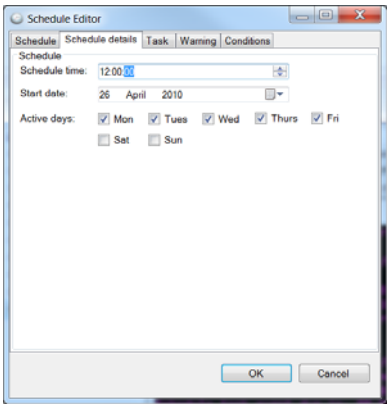
Daily schedule

This schedule will execute the task every day at the specified time. Additionally a start date can also be specified:



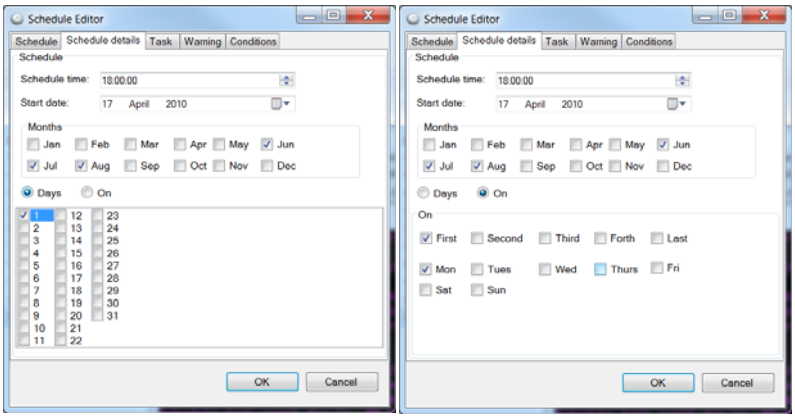
Weekly schedule

This schedule will execute the task weekly on the specified days at the set time. Additionally a start date can also be specified:



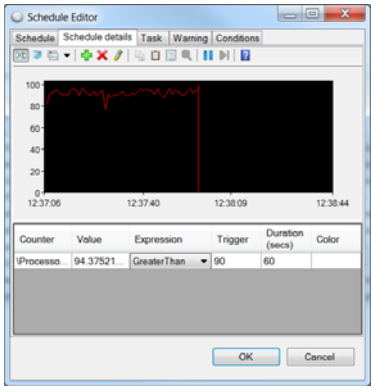
Monthly schedule

This schedule will execute the task monthly on the specified days or first/last days of the month at the set time. Additionally a start date can also be specified:



Performance Counters

The Performance Counters provided dynamic schedules which will be executed once the selected counter conditions have been met.



Use the toolbar to add/remove counters; the selected counters will be displayed in the grid below. For each counter the following can be set:

- Expression
  - Less Than
  - Greater Than
  - Equal
- Trigger
  - Performance counter threshold
- Duration (sec)
  - Duration the trigger/threshold must be met to execute the task

Task

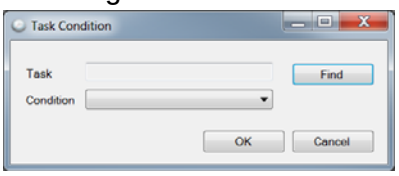
The following Tasks are supported:

1. Power Management
    a. Lock Workstation
    b. Log Off
    c. Reboot
    d. Suspend
    e. Hibernate
    f. Shutdown
2. Monitor Management
    a. Monitor Off
    b. Monitor Standby
    c. Monitor On
    d. Start ScreenSaver
    e. Stop ScreenSaver
    f. Screen Blanking Off
    g. Screen Blanking On
3. Power On – Automatically power on computer following suspend/hibernate[1]
4. Wake On LAN[2]
5. Run Program
6. Announcement
7. Script – Run scripts

Task Conditions

Conditions allow pre-conditions to be set which must be met before the task can be executed. To enable conditions tick the "Conditions enabled" checkbox then use the Add/Edit/Remove buttons.

1. Pressing Add to create a new condition which displays the following form:

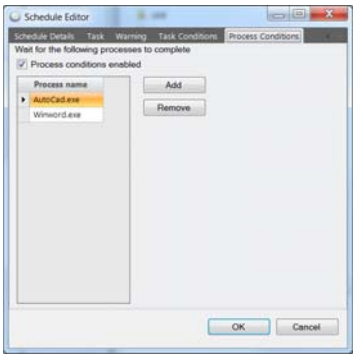


2. Press "Find" to search for a Task
3. Select one of the conditions from the dropdown box the following are available:
    a. Warning sent
    b. Execution stopped by user
    c. Execution postponed by user
    d. Execution started
    e. Execution completed

[1] Wake Timers must be enabled on the computer
[2] Wake on LAN must be enabled on the computer

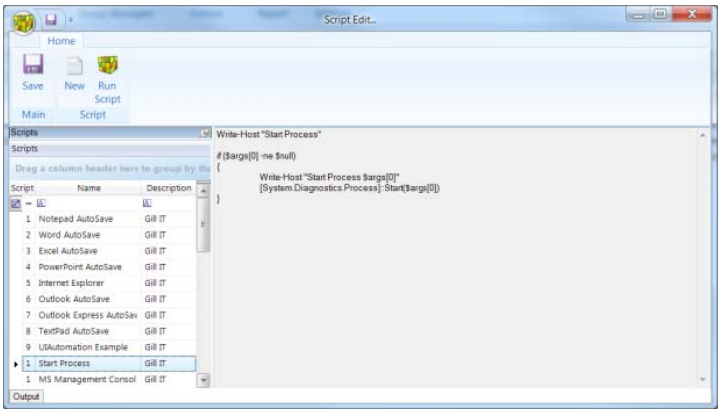
Process Conditions

Process conditions prevent a task from executing until all the listed processes have completed.



Script Editor

Utopia Power Manager has embedded the MS Powershell runtime to enable scripts to be written and executed. The primary purpose of these scripts is to automatically save open documents before shutting computers down. Utopia Power Manager makes managing and distributing scripts very simple as a result numerous tasks can benefit from them.



Script overview

The following scripts are currently available however this list will grow as new scripts are added:

ID	Name	Description
1	Notepad AutoSave	Save open Notepad files
2	Word AutoSave	Save open MS Word documents
3	Excel AutoSave	Save open MS Excel spreadsheets
4	PowerPoint AutoSave	Save open MS PowerPoint presentations
5	Internet Explorer	Close open Internet Explorer windows
6	Outlook AutoSave	Save open documents and close MS Outlook
7	Outlook Express AutoSave	Save open documents and close MS Outlook Express
8	TextPad AutoSave	Save open TextPad files
9	UIAutomation Example	Save open MS Word documents using UI Automation
10	Start Process	Start a process <process name> passed in args
11	MS Mangement (MMC)	Close MMC
12	Service Stop	Stop Service - <service name> passed in args
13	Service Start	Start Service - <service name> passed in args
14	Service Restart	Restart Service - <service name> passed in args
15	UPM Power Manager Scheme – XP/Vista/Windows 7	Switch the Windows Power scheme to Utopia Power Manager. Using this script the following can be adjusted

		centrally (plugged in and when running on batteries): • MonitorTimeout • DiskTimeout • StandbyTimeout • HibernateTimeout
17	Talk	Uses MS Windows Speech to talk. Text to be spoken is passed in args.

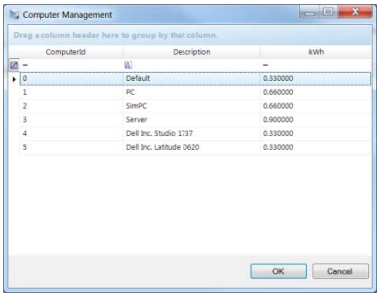
Scripts are automatically downloaded from Gill IT when new scripts are added or existing scripts updated.

You can also write your own scripts using the “Script Editor”. Please read the “Auto Save Reference” to learn about our custom functions and also study our scripts to learn how we automate various applications.

If you would like to share your scripts please email them to us and we will review and make them available for everyone to benefit.

Computers

The Computers editor enables you to set the KWh for the various computers within you organisation. This list will be automatically compiled as new computers are added.



The kWh is used to calculate the amount of electricity each computer consumes.

Reports

The Utopia Power Manager Administrative client is very rich and display many analytics. However we recognise some people would like to export the data captured by Utopia Power Manager and analyse it within Excel.

Therefore we have provided an option to output the current data to the following formats:

- CSV
- Open XML

Note: The current selected group is used as the starting point for the export.

Settings

From the settings form a number of global settings can be modified.

Statistics

End of day Statistics schedule

The “End of day Statistics schedule” determines when these will be calculated. After this has been run the historic curves are written. As an example you could set this to:

12:00,18:20,20:00,23:30

Run End of Day Statistics writer

You can write historic curves for previous days by setting the “From” and “To” days and pressing “Write”

Settings

The following can be configured from this form:

- Heartbeat Interval (seconds)
- Broadcast Interval (seconds)
- Heartbeat Per Broadcast

Depending on the number of computers in your organisation you may choose to decrease the frequency to reduce network traffic.

- Log Heartbeats – only required for diagnosis
- Lock Client Group Modifications

If locked, clients will not be allowed to change the groups they are members of. To apply this setting immediately to specific clients or entire groups select "Refresh Settings" from the context menu to force the clients to get the latest settings.

Email Request

See Remote Wake Up

Conversion factors

The following can be configured from this form:

- Cost per kWh
- KgCO2e per KWh
- KgCO2e per petrol litre
- KgCO2e per coal tonne
- KgCO2e per wood pellet tonne
- KgCO2e per LPG litre
- KgCO2e per average car mile
- Average annual car miles

These values are used to calculate statistics/reports for your organisation.

Database

Intraday and End of day statistics can be deleted for specific dates.

Style

The application skin can be changed from this page.

Remote Wake Up

The remote wake up feature enables computers to be started by sending emails to Utopia Power Manager.

You can set clients to be primary clients to prevent them from shutting down. The primary clients can be used as remote wake up agents. See “Clients Manager” for information on creating Primary clients.

Configuration

To setup the Remote Wake Up option; open the Settings form and the select the Email Request page.

1. Select “Process Email Requests”, this will enable you to modify the settings
2. Choose the mail protocol you would like Utopia Power Manager to use to retrieve email - Pop3 or IMap
3. Specify the mail server details - server, username, password, port and if SSL should be used
    a. If using Pop3 you can specify if processed email should be deleted
    b. If using IMap you can specify if processed email should be moved or deleted
4. If you would like notifications to be send by Utopia Power Manager once an email request has been processed tick “Send processed notifications”
    a. Enter your SMTP server details
5. An optional secure id can also be set. Setting this will ensure only email with the correct secure id will be processed. If the email does not contain the secure ID it will be ignored
6. Specify the interval Utopia Power Manager should check for new email requests
7. Once OK has been pressed Utopia Power Manager will start to process all email requests

Test Remote Wake Up

To test email requests have been correctly configured:

1. “Start the WOL Listener” for the clients you would like to test
2. Send an email to the Utopia Power Manager account with its subject set to “Help”, if there is a secure id set; enter it in the body.

Once Utopia Power Manager processes the email, a simple explanation of the email format will be sent.

3. Send an email to the Utopia Power Manager account using the format below for the clients you are testing

Email Request Format

Email should be sent using the following format:

Subject: HELP|WOL Broadcast|WOL IP Directed|WOL Subnet Directed|Port 9

Body:

Secure ID – if set
Computer A
Computer B

It is assumed all the computers in a single email belong to the same group. Therefore the first computer in the list is used to determine the groups it is a member of. Utopia Power Manager then checks all the computers in the group until an active computer is found. Then a WOL request is sent to the active computer for all the computers in the email.

If no active computer is found a WOL request is sent from the Utopia Power Manager server.

Note:
The email requests can be abbreviated to:

WOL/WOL IP -> WOL IP Directed
WOL Sub -> WOL Subnet Directed

Graphs

There Dashboard view has five different graph views:

1. Intraday Overview
2. Intraday
3. Historic Overview
4. Historic
5. Savings

Intraday graphs

The following information will be presented graphically:

- Group distribution of
  - Hours
  - kWh
  - Cost
  - kgCO2e
- Intraday breakdown for selected group

Historic graphs

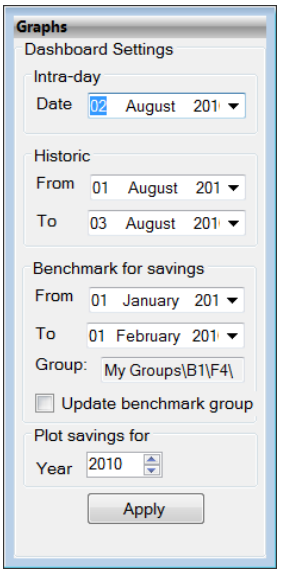
The following information will be present graphically:

- Group distribution of
  - Hours
  - kWh
  - Cost
  - kgCO2e
- Historic breakdown for selected group

Graph properties

The graph properties can be modified from the Graphs toolbox:

- Date for Intra-day data
- Historic data date range – by default the date is set to the current month
- Benchmark date range
- Plot savings year



Savings

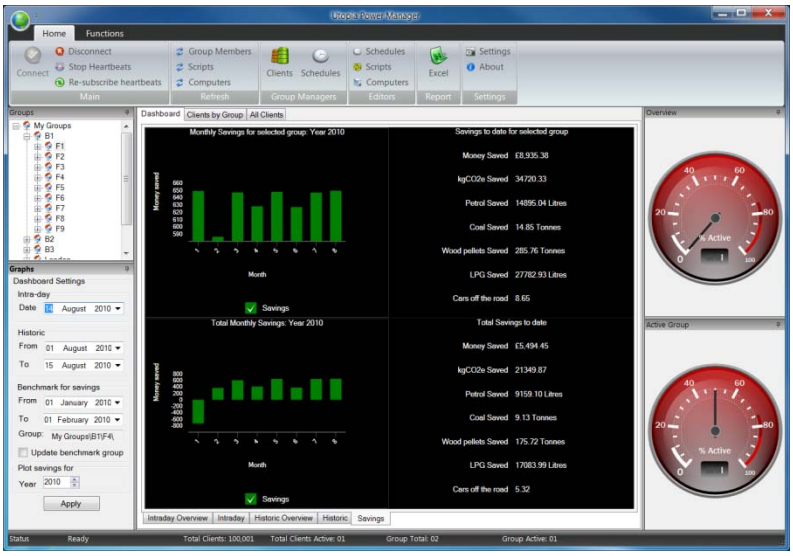
The graphs and statistics displayed in the savings page can be used to illustrate the impact of Utopia Power Manager has made to your organisation and environment.

Benchmark for savings

To capture accurate information it is important to run Utopia Power Manager without any schedules configured for a period of time. This period can then be used as a benchmark once numerous power management schedules have been enabled.

The benchmark will be based on the selected group and period. In this case the root group – “My Groups” can be used. However this can be changed by pressing “Update benchmark group” before pressing “Apply”.

This benchmark period is used to calculate the savings and environmental impact as can be seen in the following screenshot:



Benchmark calculation:

- Benchmark cost = Avg Cost is calculated for the benchmark group between the benchmark period
- Benchmark energy = Avg energy is calculated for the benchmark group between the benchmark period

Savings are calculated by

Money Saved = Benchmark cost * days in month – actual month cost
kWh Saved = Benchmark energy * days in month – actual kWh consumed

The following savings are calculated using the conversion factors set in the Settings form:

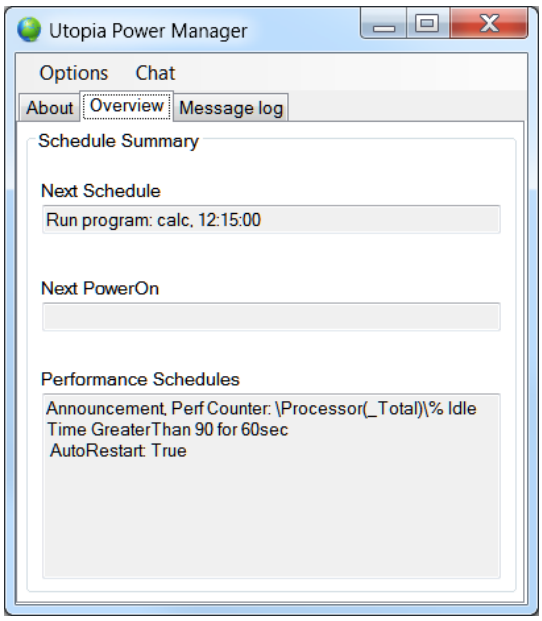
- kgCO2e Saved = kWh Saved * kgCO2e per kWh

- Petrol Saved = kgCO2e Saved / kgCO2e per petrol litre
- Coal Saved = kgCO2e Saved / kgCO2e per coal tonne
- Wood pellets Saved = kgCO2e Saved / per wood pellet tonne
- LPG Saved = kgCO2e Saved / kgCO2e per LPG litre

Cars off the road = kgCO2e Saved / kgCO2e per avg car mile / Avg annual car miles

Utopia Power Manager Desktop Client

In this section I will cover the desktop client's features. The client can be opened from the task tray by double clicking its icon. Once open the following window will be displayed.



There are three tab pages:

1. About
2. Overview
   Displays the schedule task overview
3. Message Log
   Displays overview off the messages sent and received

From the menu the following options are available:

1. Group Membership
   Add/Remove client from groups
2. Local Schedule Manager
   Schedule Tasks locally, note these tasks are only scheduled once the desktop client has started i.e. a user has logged in
3. Keep Active
   Prevents scheduled tasks from running for the specified period of time
4. View scheduled tasks
   View all the scheduled tasks for the current day
5. View saved documents
6. Chat
   IM a Utopia Power Manager administrator