

Advanced Diploma of Mechanical Engineering Technology (DME)

Module 18 Renewable Energy Systems

Instructions for using Homer 2.68 Beta

V2

Created By:	Louis-Philippe Rouillard	Date:	4/12/13
Reviewed By:	Georgina Story and Steve Steyn	Date:	March 2015
Reviewed By:	T Cousins	Date:	29/10/2017



DME Module 18 Instruction

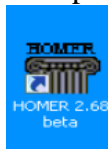
For using the software Homer Beta 2.68

1. File location

- You will need to access the EIT Remote Lab Computer in order to complete the exercise. Refer to the following documents: –
 - “**How to Connect to Remote Labs_Electromet_HTML5_Remote_Lab_Access_V9.2.pdf**”

2. Initial Setup

- Logon to Electromet
 - Homer is installed on RL 2, RL 4 and VML1
- Preferred Method - Open Homer
 - The icon is located on the desktop

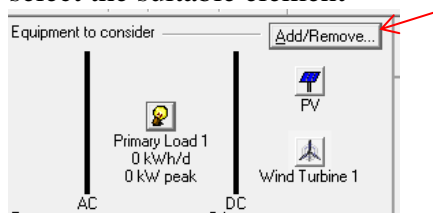


- Alternatively, you can download the software from the following website:
<http://support.homerenergy.com/index.php?/Knowledgebase/Article/View/435/0/10433----how-to-download-and-install-homer-legacy-v268>

(Note that the software will need to be activated which can take several days)

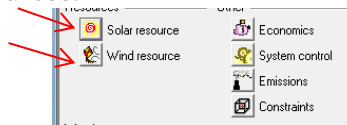
2. How to use Homer

1. Adding elements to the system:
 - Click Add/Remove and select the suitable element



2. Editing available resources:

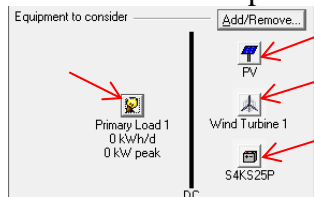
- Select the resource you want to edit. For the exercise you are only required to edit solar and wind resources.



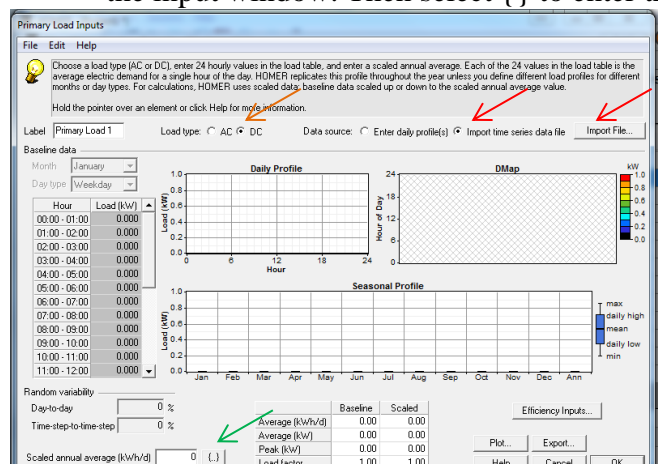
- For solar resources:
 - Select Solar under the resources tab
 - you can enter the base line data for the daily radiation one by one or copy and paste it from your assignment question sheet
 - Click the icon { } on the right of *Scaled annual average (m/s)* to edit this parameter. Click ok to confirm.
- For wind resources
 - Select Wind under the resources tab.
 - you can enter the wind speed data one by one or copy and paste it from your assignment question sheet
 - Enter the Scaled annual average data. First enter the lowest average in the input window. Then select { } to enter the remaining data.
 - Click ok to confirm

3. Editing the equipment parameters of the system:

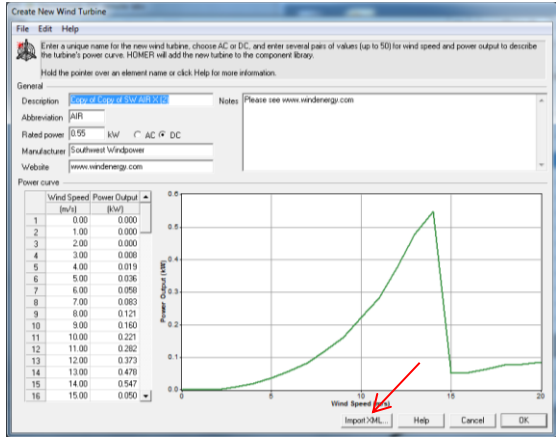
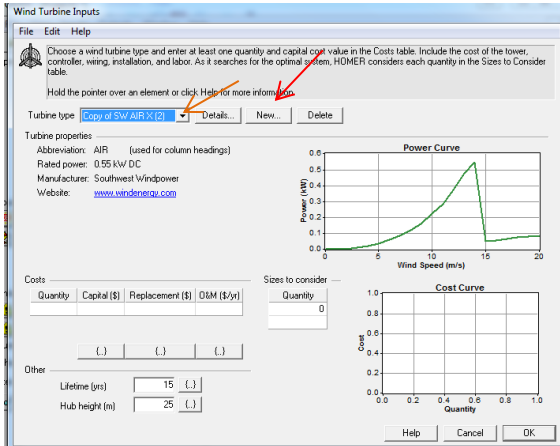
- Select the element you want to edit (load, PV, wind turbine or battery) and enter or copy and paste the data into the input window.



- For the **Primary Load 1**,
 - Open its input window.
 - To import the load profile, select import data then import file. Import the data from the file named Load.dmd. You can import the data by selecting Import Data and select the suitable file.
 - Select load type as DC.
 - Enter the Scaled annual average data. First enter the lowest average in the input window. Then select { } to enter the remaining data.

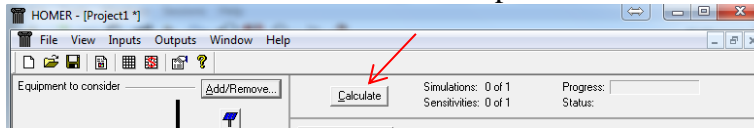


- For the **Wind turbine**:
 - Select the suitable wind turbine type from the drop down menu.
 - If the suitable wind turbine is not available upload create it as follows:
 - Click New
 - In the Create New Wind Turbine window, select import XML and find the file SW AIR X (2).
 - Click Ok to confirm



4. Calculation

- Click the calculate icon on the middle top of the window.



5. Creating the comparison data.

- Click on the sensitivity tab
- Make sure to select Graphic on the top right hand corner
- In the graphic type menu, select Optional system type.
- Expand the *Superimposed* drop down menu. Choose *Levelized Cost Of Energy*

