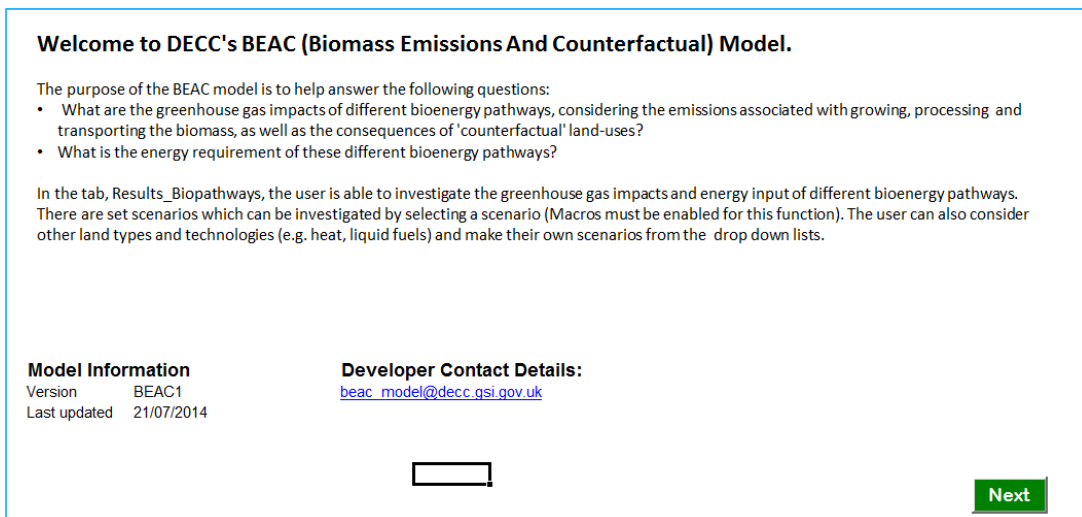


User Guide for BEAC Model

Quick Guide

1. Read the announcement <https://www.gov.uk/government/publications/life-cycle-impacts-of-biomass-electricity-in-2020> about the BEAC report and model.
2. Download the full report https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332946/life_cycle_impacts_of_biomass_electricity_in_2020.pdf DECC URN 14D/243 and read these sections:
 - Exec Summary
 - Definitions
 - Introduction
3. Download the model (Excel spreadsheet) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332948/beac_1.xlsm and check that it is compatible with your computer: it is written using Excel 2010. It will run on 1280x800 screens but is better on larger displays.
2. Open the model and read these tabs. If you are reading the model for the first time, read the tabs in this order.
 - “Welcome” tab: check that it says “**Welcome to DECC's Prototype BEAC (Biomass Emissions and Counterfactual) Model**”



- In the bottom left of this screen, you will see section called “Model Version Information”. Check that you are reading a called “**BEAC1**” otherwise this guide will be inappropriate.

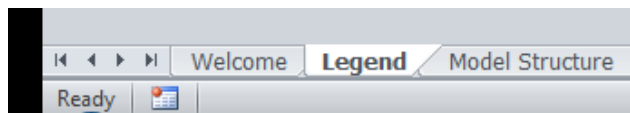
- Then click the green Next button (bottom right of the screen) to advance through these tabs and read them as you go:
 - “Legend”

Legend

Name	Colour	Colour Description/Purpose
Input data	Input data	Cells containing input data from external sources.
Calculations	Calculations	Cells containing formulae/calculations.
User inputs	Parameters	Cells containing parameters (e.g. user defined values for setting up scenarios)
Reference Tables	Reference Tables	Cells containing reference tables (e.g. lists for data validation, lookup tables for non-data related conversions such as January -> 1, February -> 2 etc).
Data selected from Lookup Tables	Data selected from Lookup Tables	Cells containing model data which has been retrieved from lookup tables
Output	Output	Model Outputs and key data

Next

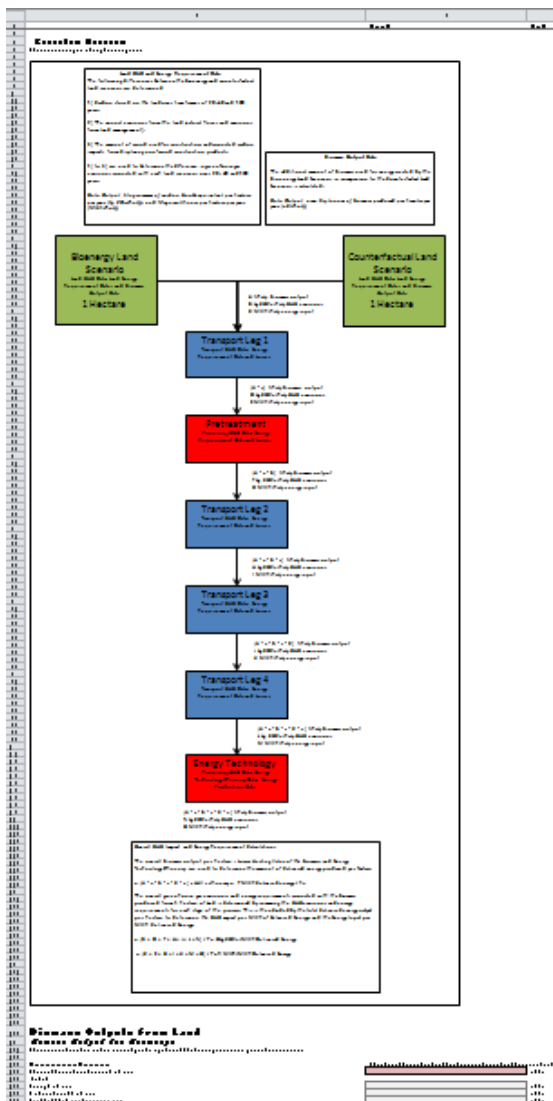
- “Model Structure”
- Then use the standard Excel arrow buttons along the bottom of the screen:



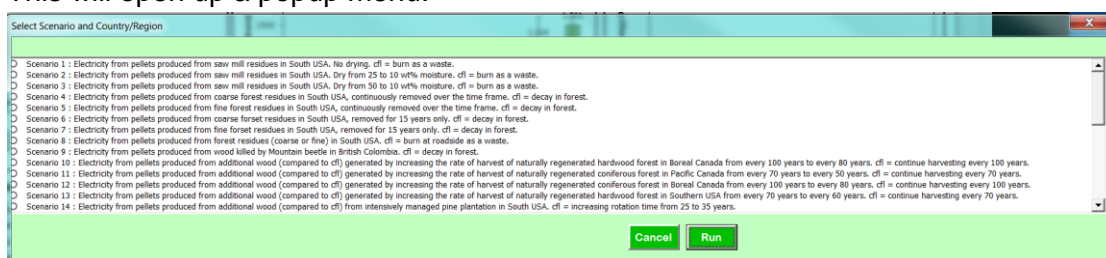
to open the “Copyright” tab (extreme tab to the right): read this.

1	Copyright
2	
3	This model is Crown Copyright © 2013 UK Government, Department of Energy and Climate Change
4	Contact beac_model@decc.gov.uk
5	
6	Open Government License for Public Sector Information
7	You are encouraged to use and re-use the information that is available under this licence freely and flexibly, with only a few conditions.
8	
9	Using information under this licence
10	Use of copyright and database right material expressly made available under this licence (the 'information') indicates your acceptance of the terms and conditions below.
11	
12	The Licensor grants you a worldwide, royalty-free, perpetual, non-exclusive licence to use the information subject to the conditions below.
13	
14	This licence does not affect your freedom under fair dealing or fair use or any other copyright or database right exceptions and limitations.
15	
16	You are free to:
17	copy, publish, distribute and transmit the information;
18	adapt the information;
19	exploit the information commercially and non-commercially for example, by combining it with other information, or by including it in your own product or application.
20	
21	You must, where you do any of the above:
22	acknowledge the source of the information by including any attribution statement specified by the information provider(s) and, where possible, provide a link to this licence;
23	
24	
25	If the information provider does not provide a specific attribution statement, or if you are using information from several information providers and multiple attributions are not practical in your product or application, you may use the following:
26	
27	*Contains public sector information licensed under the Open Government Licence v2.0.*
28	
29	These are important conditions of this licence and if you fail to comply with them the rights granted to you under this licence, or any similar licence granted by the Licensor, will end automatically.
30	
31	Exemptions
32	This licence does not cover:
33	personal data in the information;
34	information that has neither been published nor disclosed under information access legislation (including the Freedom of Information Acts for the UK and Scotland) by or with the consent of the information provider;
35	departmental or public sector organisation logos, crests and the Royal Arms except where they form an integral part of a document or dataset;
36	military insignia;
37	third party rights the information provider is not authorised to license;
38	other intellectual property rights, including patents, trade marks, and design rights; and
39	identity documents such as the British Passport
40	
41	
42	
43	
44	Navigation buttons: Wood Product Data, LCA_data, Constants, Conversions, Reference Data, References, Regress, Copyright

- Now scroll back towards the left-most tabs and open the “Calculations” tab. This shows a diagram of how the scenario and the counterfactual are calculated and compared. Below the diagram are the calculations themselves. Do not bother with these yet.



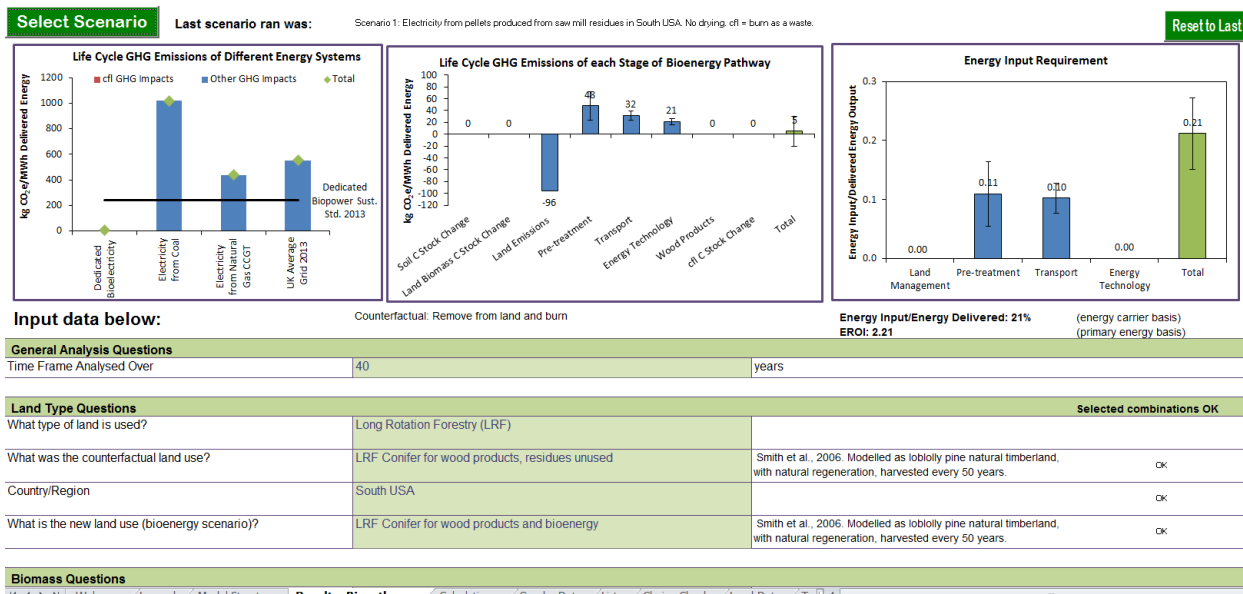
- Then open the “Results_Biopathways” tab.
- Press the “Select Scenario” button at the top left of the screen.
- This will open up a pop up menu:



- Select the top radio button for Scenario 1 (“Electricity from pellets produced from saw mill residues in South USA. No drying. cfl = burn as a waste.”)

- Click the green “Run” button.
- The popup will disappear and the results will be calculated.

3. You are now looking at the results for scenario 1 (this image is from model version BEAC1, your copy may be slightly different):



- Now read section “Results – Woody Residues” of the full report (page 55 onwards).
- Scroll down the page to examine the input parameters set up for Scenario 1 (in the cells coloured light green)

4. Read the “Discussion and Conclusion” of the full report.

5. Now select another Scenario from the drop-down menu in the middle of the sheet “Results_Biopathways” and read the corresponding part of the Results section of the main report.

6. Explore two more from each of “Woody Residues” and “Roundwood and Energy Crops”,

7. Now select scenario 30 and experiment with changing the input numbers on the sheet “Results_Biopathways”.

- Start by changing the dropdown for “Time Frame Analysed Over” from 40 years to 20 years by clicking in the light-green coloured box with a “40” in it, in the middle of the top row of data.
- Explore the implications in the results, and make sure that you understand why the figures change in the way that they do.
- Repeat for other input parameters (which are all in shaded green boxes).

8. The last-but-one tab on the right is called “Regress”. It runs all the scenarios automatically.

- It is a good idea to run this before and after you make any changes at all.
- It will show you which scenarios are affected by any change you make.

- More important, it will tell you if you have accidentally made any changes you didn't mean to.
- Remember that you can always download a fresh copy of the model if you want a clean copy. This is easier than trying to find all the changes you made and un-doing them.

Contact

Some limited support from DECC is available, when other work permits, by contacting BEAC_model@decc.gsi.gov.uk

References

<https://www.gov.uk/government/publications/life-cycle-impacts-of-biomass-electricity-in-2020>

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332946/life_cycle_impacts_of_biomass_electricity_in_2020.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332948/beac_1.xlsm