Third Project Newsletter – July 2011

Low Impact Buildings Project

www.lowimpactbuildings.org

Funded by:

Technology Strategy Board
Driving Innovation

EPSRC
Pioneering research and skills

Project Team:

BESTFOOTFORWARD

OXFORD BROOKES UNIVERSITY

zedfactory ltd
delivering zero carbon architecture

DesignBuilder

With the support of:

itsWorks.

Welcome

- This is the third newsletter of the Low Impact Buildings project.

- This TSB and EPSRC funded project is focused on developing an integrated waste, carbon and cost model to help deliver future low carbon buildings.

- The project is managed by sustainability experts Best Foot Forwards, and supported by Oxford Brookes University. Other consortium partners include leading architects zedFactory and developers of the energy modelling software DesignBuilder.

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Progress

- Since the second newsletter in January, the project has moved forward to address the complex problems of data **integration** and **management** and **quantity measurement**

- Early stage **quantities** have been formally defined that follows the standard set out in the **new rules of measurement** or **nrm**

- A rule based system gathers quantities from the model as it develops and automatically updates estimates

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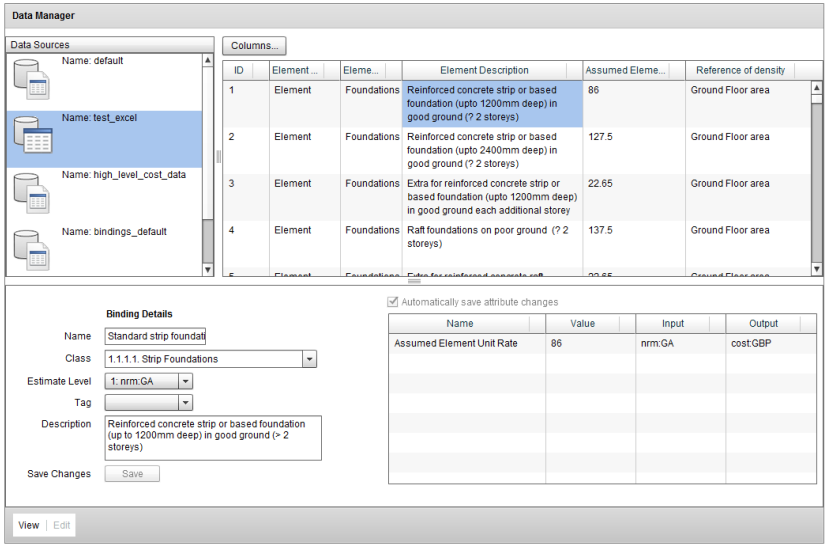
Data Management

- The tool now uses an agile data management methodology that allows data to be separated from the tool itself



- This method keeps the data centralised and easily maintainable

- The tool can recruit data from various sources using a flexible attribute system that maintains a link to the original source of the data

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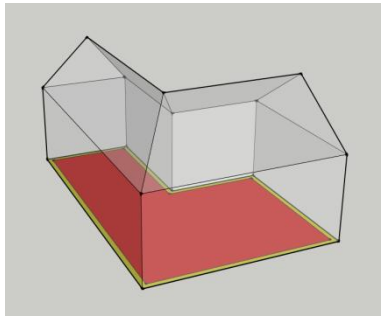
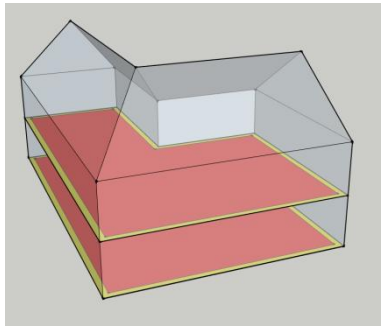
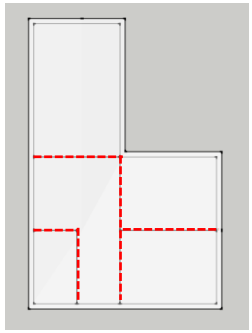
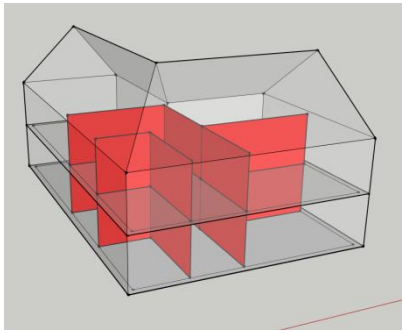
Quantities

- The tool has a flexible measurements system for automatic early stage quantity take off
- In combination with a simple building profile, high level quantities can be gathered automatically from very simple model geometry
- Quantities are updated each time the model is changed which allows any unit rates to be applied to new measurements while the model is being developed









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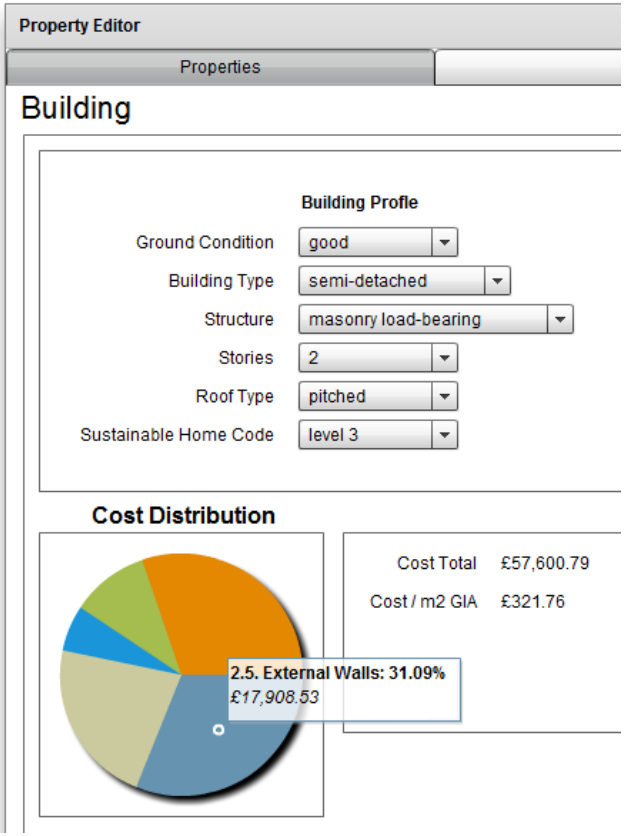
Inference

- A series of rules are applied to allow the system to generate default estimates based the massing model and building profile
- These can be overridden or customised at any time by the user
- In future this system can be extended to add a richer rule based mechanism



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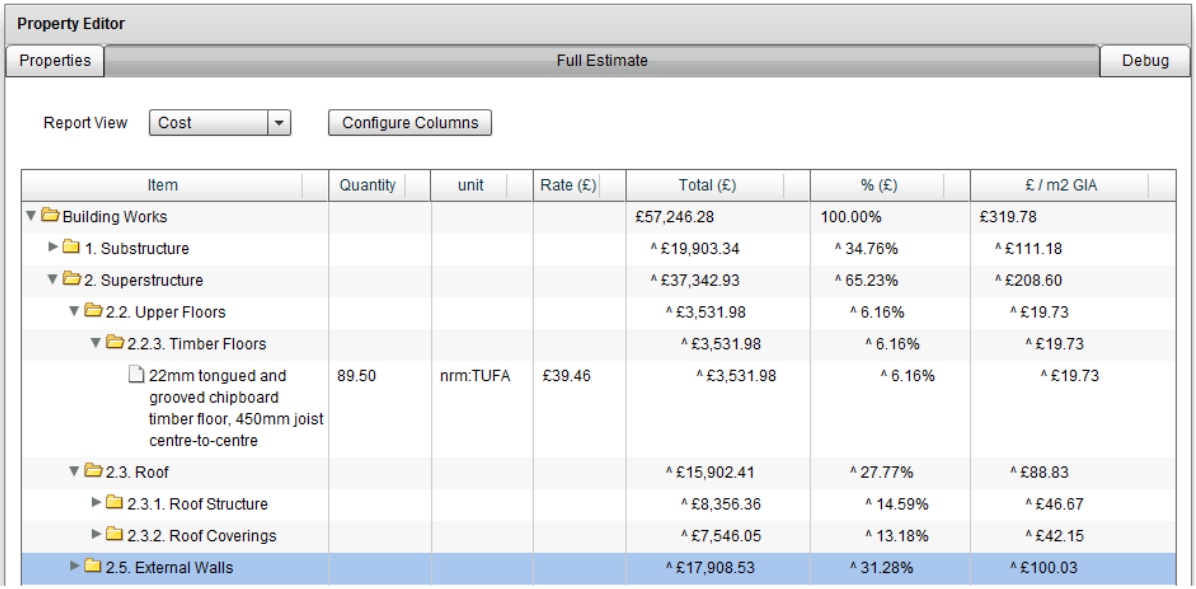
Estimate Dimensions

- Cost can now be realised by the tool, and is presented in a hierarchical report breakdown based on the **nrm** standard



Item	Quantity	unit	Rate (£)	Total (£)	% (£)	£ / m2 GIA
Building Works				£57,246.28	100.00%	£319.78
1. Substructure				^ £19,903.34	^ 34.76%	^ £111.18
2. Superstructure				^ £37,342.93	^ 65.23%	^ £208.60
2.2. Upper Floors				^ £3,531.98	^ 6.16%	^ £19.73
2.2.3. Timber Floors				^ £3,531.98	^ 6.16%	^ £19.73
22mm tongued and grooved chipboard timber floor, 450mm joist centre-to-centre	89.50	nrm:TUFA	£39.46	^ £3,531.98	^ 6.16%	^ £19.73
2.3. Roof				^ £15,902.41	^ 27.77%	^ £88.83
2.3.1. Roof Structure				^ £8,356.36	^ 14.59%	^ £46.67
2.3.2. Roof Coverings				^ £7,546.05	^ 13.18%	^ £42.15
2.5. External Walls				^ £17,908.53	^ 31.28%	^ £100.03

- Carbon estimates will be addressed in the next newsletter

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Want to Know More?

- Visit our website: www.lowimpactbuildings.org
- Where you can:
  - Learn more about the project
  - Find contact details for the project team
  - Join our Discussion Group
  - Download project documents

Thank you

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