

'Green' calculator counts cost of building designs

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What cost to the environment?

THE construction industry has a huge effect on the environment, but architects often have very little idea of the environmental and health impact of the materials they use for their designs. A “green calculator” software package aims to change all that.

The software plugs into many of the computer-aided design (CAD) programs commonly used by architects. Some programs can already calculate a partial bill of materials, listing the bricks, pieces of timber and bags of cement needed to realise a design, and working out the cost. But with the green calculator installed, they get the environmental cost too.

Called Life Cycle Analysis of Design (LCADesign), the calculator uses information from online databases to calculate the amount of energy and water consumed in the production of these materials.

It also estimates the quantities of chemicals emitted in their manufacture, and the impact this will have on the ozone layer. “Architects will be able to make trade-offs between costs and environmental performance automatically,” says Peter Newton of the Cooperative Research Centre for Construction Innovation in Melbourne, where the software was developed.

“It’s potentially very powerful,” says Simon Carter, an expert in sustainable design at architects Bligh Voller Nield in Sydney, who adds that it should

help architects avoid the wrong choices when trying to build in a sustainable way. “For example, you can go to great lengths to get rid of small amounts of a toxic material, and end up using large amounts of materials that are safer but have a greater net impact,” he says. The software will soon be able to work out the impact of running a building and demolishing it, as well as constructing it.

Architects at Bovis Land Lease and Ove Arup, both in Sydney, will test the prototype later this year. **Rachel Nowak, Melbourne** ●