



Researchers at the University of Sydney are developing an accounting system which pays heed to the social and environmental impact of decisions. **Julie Hare** reports.

Environmental impact will be one of three considerations taken into account in future University of Sydney decision-making processes. Professor Manfred Lenzen and Dr Chris Dey are developing a sophisticated sustainability planning model of accounting that will enable the university to assess its economic, social and environmental impact using triple bottom line (TBL) reporting.

The model, which is still under development, also allows managers to model planning scenarios to forecast how different strategies are likely to impact across these indicators in the future.

“Currently there’s a range of engagement with this kind of reporting,” says Dey, a research fellow in integrated sustainability analysis. “Non-financial reporting – or more precisely, taking into consideration non-financial issues when making major financial decisions – is still relatively new but not unheard of.”

Pro vice-chancellor (strategic planning), Professor Charlie Benrimoj, who has oversight of the project, says it is based on world-leading research and has the potential to support and promote sustainability at the university – and beyond.

“We have always been very interested in sustainability from the point of view of our buildings and so on, but we wanted to create a picture in terms of the triple bottom line and see how that would affect our policy,” Benrimoj says.

“The model will help the university to continue to

achieve academic excellence in a way that responsibly assesses our impact and supports implementation of sustainable practices.”

“For example, universities produce research and educate students, and all that enhances the community in some way. From a financial aspect, the impact is more obvious. Universities are major employers, the end products of the research are sold, graduates earn better incomes than non-graduates and so on.

“From a financial perspective we can quite easily measure the value and impact of the university as an industry. What we really haven’t looked at too much





is the social value of the university. Equally, the issue of environmental impact is much bigger than just the impact of our buildings. We are interested in looking at our footprint, the social benefits to the community and the financial aspects. A knowledge-based institution like ours is much more interested in just the economic aspects," Benrimoj says.

The uniqueness of this model lies in its life-cycle analysis, which tracks back through an organisation's supply chain to understand the full impact of its activities.

"Conventional thinking looks at an organisation as a discrete entity so the solutions apply only to the on-site operations of that organisation, such as reducing water usage in buildings. The life-cycle approach is boundary free and, the results often show that the biggest improvements to an organisation's impact can occur in the way it interacts within the wider economy. So changing the procurement chain may be more beneficial to the environment than reducing the organisation's water usage," says Lenzen, who is chair of sustainability research.

While the practice of TBL is not unheard of in the business community, it ranges from being "just a PR exercise to engaging very thoroughly".

"There is definitely a move toward non-financial management and that overall is a positive thing," says Dey.

"In complex organisations like universities, the first thing is not just how do you do it, but how you start to do it."

The transition requires not only broad cultural change within an organisation, but also governance and senior executive support to give it the chance to breathe.

The project is being developed over three years. The initial output will be a TBL reporting tool that will provide the university with a snapshot of its environmental impact and the transactions that contributed to this impact. This data-driven snapshot will form the basis for raising awareness on the university's environmental impact and developing strategies in response.

The final project output will be a sustainability model which embeds the university's internal economy into the wider regional and national economy. This application of the research is groundbreaking and has

not, to the university's knowledge, been done before, says Benrimoj. Furthermore, as a practical tool; the model will enable the university to model strategies such as infrastructure growth to understand the environmental, social and economic impacts on the organisation and broader community. The analysis will allow the university to integrate sustainability planning with broader organisational objectives by assessing impact at the planning stage.

"We can ask what are some of the impacts of a piece of scientific equipment made in Germany, for example, and the impact right through its life cycle."

Dey says a first version has been developed, which has attracted the interest of a major bank and state government agencies.

"One of the interesting things about universities is that they are so complex. So it's a great test case that could be applied to any other complex organisation."

An important aspect of the model is that it will transcend traditional faculty boundaries to account for shared teaching, research and community outreach activities. That will create a better understanding of how it can work in an organisational sense, Dey says.

"We are used to dealing with macro-economics but we need to know how we do micro-accounting. What we are working towards is to fundamentally understand how universities work in terms of resource and financial flows."

In 2002, Lenzen was responsible for carrying out the "world's first" comprehensive study of a university's environmental impact, assessing the ecological footprint of the School of Physics based on economic input-output analysis.

An economic footprint is expressed as the total area of land required to support the operation of an institution indefinitely and the school was found to have an ecological footprint of around 800 hectares, or 6.8 hectares per employee.

So how do physicists get involved in hard-core economics?

"We are a group in applied physics who have all done research in energy-saving devices such as solar cells. So there's a natural progression."