

## Free online – a new skill for a climate-constrained future

*Design Transformed: Whole System Design for Climate Change Mitigation* is a free online training package developed by leading sustainability think-tank, The Natural Edge Project (TNEP), with the support of the Federal Department of Environment and Water Resources, Sustainability Education Grants Program.

The package consists of 10 downloadable units (approximately 260 A4 pages), the first five of which explain the benefits, principles and implementation of whole system sustainable design, including an outline of 10 key elements of the process, and how the approach fits with current systems engineering project management frameworks. Units 6–10 provide five worked examples, including a pump example well cited by advocates, providing calculations to demonstrate the methodology.

In the acclaimed 1999 book *Natural Capitalism* by Paul Hawken, Amory Lovins and Hunter Lovins, the authors detail a case study that attests to the value of ‘whole



[www.naturaledgeproject.net](http://www.naturaledgeproject.net)

system’ design. Rethinking a new factory pump system for US carpet manufacturer Interface, the design engineer managed to cut pump size requirements by 92 per cent with a series of design changes across the entire hydraulics system, treating it as a system rather than focusing on particular components first. These changes included specifying larger pipes to reduce friction and optimising the pipe layout. The redesign reduced energy use and capital costs, and improved system performance.

As this case study demonstrates, whole system design is all about the bigger picture and the longer term – important considerations for new buildings, technologies and products that have long ‘design lives’ and a significant environmental impact over their life cycle.

Companies such as Interface, Toyota, General Electric, Hewlett-Packard, IBM, Lend Lease, Dupont, WalMart and Mitsubishi are now using whole system design for everything from pump systems to cars, computer servers, buildings and water management systems.

Education is obviously the best way of preparing the next generation of engineers, designers and architects to meet forecast demand for these design skills.

In 2007, the TNEP package was trialled at the Australian National University and is now part of the second year Systems Design course.

Available at [www.naturaledgeproject.net/Whole\\_Systems\\_Design\\_Suite.aspx](http://www.naturaledgeproject.net/Whole_Systems_Design_Suite.aspx)

## O b i t u a r y

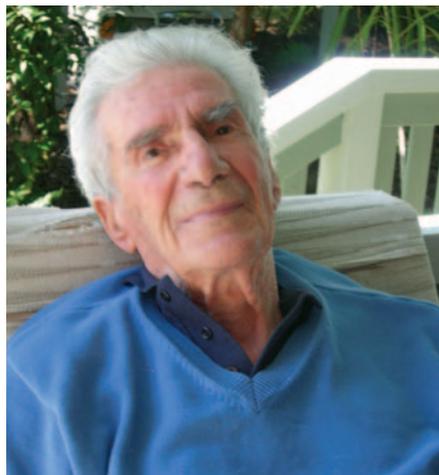
### Dr Vincent Serventy, 1916–2007 – new morality crusader

Dr Vincent Serventy AM, who died last September, was referred to as the Father of Australia’s environmental movement with good reason. After a bush childhood, then zoological research with CSIRO, he set out to teach Australians about nature and conservation.

Through much-loved TV documentaries, talks, over 70 books and publications, and tenaciously campaigning to protect Australia’s natural sites and animals, Dr Serventy rose to be an acclaimed environmentalist. He was listened to by prime ministers and media moguls alike, and was always supported by fellow campaigners, wife Carol and other family.

Elected President of Honour of the Wildlife Preservation Society (formed in 1909) after leading it for 33 years, he also helped found numerous other key organisations, such as the World Wildlife Fund Australia.

As author Christine Williams records in her book *Green Power*, Dr Serventy believed that a greater richness of living can only come from a ‘forever growing



Dr Vincent Serventy, environmental champion, 1916–2007. Wildlife Preservation Society of Australia

sensitivity to the environment.’ That echoed Thoreau’s credo: ‘In wilderness is the preservation of the world.’

Even in his ninth decade, Dr Serventy was still working tirelessly to raise the importance of making caring for nature

central to living life with integrity. Fittingly, his last campaign was to promote and publish an international Bill of Rights for the Environment, based on 10 key ‘commandments’ that included the responsibilities of nations to maintain biodiversity, have sustainable populations, refrain from altering nature in ways that damage Earth’s basic resources, and educate people into a new morality that cares for the environment as much as the individual.

Ricki Coughlan, commenting on the Birding-Aus online message board at the news of Dr Serventy’s death, captured the essence of perhaps his most important impact.

‘People like Vincent never really die as the legacy of love of nature and respect for others such as he possessed will always resonate through the actions of those whom they inspire.’

Dr Serventy’s autobiography, *An Australian Life* (1999, Freemantle Arts Centre Press), charts his life of energetic and largely under-acknowledged achievement.