

## **Friday Forum #12**

### ***The Sustainable Housing Debate Green versus autonomous versus sustainable***

**Friday, 5 September 2008 , 9am – 12 noon  
Conference Centre, 585 Great South Road, Penrose.**

#### **Speakers:**

##### **Alec Couchman, Principal, Warren & Mahoney.**

Canadian born and New Zealand educated, Alec spent many years as a globetrotting architect in Canada, USA, Germany and the UK. Alec is the only NZGBC and GBCA Accredited Professional in New Zealand and leads the growing commitment to Environmentally Sustainable Design (ESD) throughout the practice. He has worked on a wide variety of projects, including an office building in St. Mary's Axe, London; a clinic for Kings College Hospital; a hotel in Jena, Germany and retail shops across Europe and the USA. Since joining W&M in 1997, he has been Project Architect for some of the most complex, award-winning projects, including the University of Waikato Academy of Performing Arts, the University of Auckland Information Commons, Baradene College Auditorium, the University of Waikato Information Commons and several Auckland libraries. Alec lectures locally and overseas to business organisations, universities and the architectural profession on matters relating to ESD and construction

##### **Neil Purdie, BE Mech Hons MIPENZ, Head of Mechanical Connell Wagner Ltd.**

Neil has a strong interest in sustainability and the practical application of passive design, stormwater harvesting, renewable energy and indoor environmental quality. Neil is a committee member of the New Zealand Green Building Council ratings committee and is currently a member of the New Zealand Standards committee for revising NZS 4218 Energy Efficiency – Small Building Envelope. Neil is a keen yachtsman and trampster, and owns a 4wheel drive that runs on recycled vegetable oil. Neil's team at Connell Wagner has been responsible for delivering the building services many landmark ESD projects in Auckland including Manaaki Whenua Landcare Research, Waitakere Civic Centre, Albany Junior High School.

##### **Dr Robert Vale, Professorial Research Fellow, Victoria University**

Robert Vale has worked in the field of sustainable design for thirty five years with his colleague, Professor Brenda Vale. They wrote their first book on the subject, *The Autonomous House*, in 1975, and have written several other books and papers and presentations. They also have their own architectural practice specialising in social housing, medical centres, and small-scale retrofits, all applying sustainable principles in practice. They built the UK's first grid-connected solar house and its first zero-emissions settlement. Their buildings have won many national and international awards including the European Solar Prize, and the UK Green Building of the Year Award. Since emigrating to New Zealand in 1996 Robert led the team that produced the National Australian Built Environment Rating System (NABERS) for the Australian government. This is the first operational building rating tool and it is now widely used throughout Australia. The Vales' latest book on sustainability, *Time to eat the dog?* will be published in March 2009 by Thames and Hudson of London and New York.

### **Sustainability Forums**

The NZSSES hold regular forums aimed at exploring different engineering and science sectors and their approach to sustainability. The forums are morning sessions and comprise brief presentations from guest speakers followed by a facilitated discussion.

It is hoped that problems with understanding and implementing sustainability principles will be identified and discussed.

### **Topics so far:**

- Sustainable Electricity (July 08)
- Biofuels (May 2008)
- Water: Supply and Storage (March 2008)
- Future thinking and Frontier Design (February 2008)
- Carbon Trading (October 2007)
- Sustainable Transport: Cars and Congestion (August 2007)
- Talking and Walking Sustainability Conference (February 2007)
- Governance and Sustainability (September 2006)
- Consultants and Sustainability (May 2006)

### **NZSSES**

The New Zealand Society for Sustainability Engineering and Science is a Learned Society established to foster the discipline of sustainability engineering and science as the study of complex systems. NZSSES provides training and information sessions on sustainability through its workshops, seminars, forums and international conferences.

The NZSSES is a Technical Interest Group of the Institution of Professional Engineers of New Zealand and an Affiliated Organisation of the Royal Society of New Zealand.

## Forum No 12: *The Sustainable Housing Debate*

Programme –5 September 2008

<b>9am</b>	<b>Welcome and introductions</b>	<b>Dr Carol Boyle</b> <b>Chair NZSSES</b>
<b>9.10am - 9.40am</b>	<b>Beyond sustainability</b> <i>Given N.Z.'s relatively mild climate and generous solar exposure, the objective of new sustainable housing should be to provide economically affordable, environmentally sensitive, culturally appropriate and socially responsive structures that have a nett benefit to the environment. These houses will extend the Triple Zero concept to produce more energy than they need, be self sufficient in water supply and process all their waste on site without concerted tenant/ owner interaction.</i>	Alec Couchman Warren & Mahoney
<b>9.45 am - 10.15 am</b>	<b>Avoiding Pitfalls in the quest for Sustainable Housing</b> <i>In New Zealand the opportunity to design housing for zero water and energy use is practical and achievable provided the overall strategy is consistent. Potentially mixed use developments combining work and residential provide logical benefits. These types of buildings fall between the cracks of planning and building legislation. Furthermore the fragmented approach to legislation and commercial factors are leading to conflicting solutions, which may have unrealised implications. The solutions may require a radical rethink of building codes and standards that currently "pigeonhole" buildings and systems.</i>  <i>Problems include:</i> <ul style="list-style-type: none"> <li>▪ Mould and condensation as a result of double glazing</li> <li>▪ Water treatment of harvested storm water systems</li> <li>▪ Heat pumps driving up energy consumption and maximum demand on grid</li> </ul> <i>Clever solutions as will be shown may require rewriting the legislation.</i>	Neil Purdie Connell Wagner
<b>10.15 am</b>	<b>Morning tea (20 minutes)</b>	
<b>10.35am</b>	<b>Title of presentation: Here's one I prepared earlier...</b> <i>An autonomous house obtains the services it needs for its operation from its immediate surroundings. It obtains its energy from renewable sources, it collects all its water needs and it deals with its own wastes by turning them into resources. Four completed projects dating from 1993 to 2005 show how the ideas of autonomy can be applied simply in a single house, in a small settlement and, more importantly, as a retrofit to existing houses. Two of the projects shown are in the UK and two are in NZ.</i>	Robert Vale Victoria University of Wellington
<b>11.05am</b>	<b>Panel Discussion / Debate / Wrap up</b>	
<b>12 noon</b>	<b>FINISH</b>	