

May 2009

Welcome to the Centre for Design's quarterly e-newsletter:

As the global financial crisis plays out, there is heightened debate concerning the potential role of 'green jobs'. There is an opportunity to invest in the technologies and services of the future rather than those of the past, and to use the recession as a time to re-train, re-skill, think and act to build a resilient green economy. One way to start addressing our fossil fuel dependency and direct resources towards green jobs is to set higher environmental standards for our homes. A number of initiatives have been announced, but do they go far enough?

For example, through COAG, there is now a plan that new Australian homes should meet a minimum 6 star energy rating from 2010. Research as part of the ARC project *Lifetime Affordable Housing* at the Centre for Design this quarter indicates this standard, while an improvement, falls short across a range of measures. Indeed, initial results of the study indicate a shift to 6 star energy rating for new homes from 2010 is likely to be costly for Australian homeowners – a more economically optimal minimum standard would be 7-7.5 stars. In moving further and faster, we should also consider measure beyond the existing star rating system, such as the use of renewable energy. With 6 stars, Australian families will be better off than in 5 star homes. However, they will be worse off, and living in less comfortable, more expensive homes than in a more progressive 7-7.5 star home.

I hope you enjoy our second newsletter for 2009.

Ralph Horne, Director, Centre for Design

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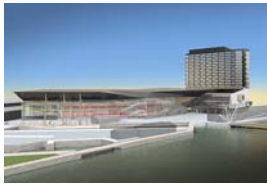
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About cfd @ RMIT e-news

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Sustainable Built Environments

Green Building and Design Conference 2009 – Green Materials



Wednesday 9th – Thursday 10th September 2009,
Melbourne Convention Centre

Attendance in-person or online

The selection of materials in buildings has an impact on the environment, on human health and on construction costs. Regulatory requirements have to be complied with, consumer demand for 'healthy' buildings need to be met and liability claims will need to be deflected when choosing products and materials for the built environment. Designers, manufacturers and regulators have been called upon to explore various options for green materials: be it those produced from renewable or recycled materials or be it innovative high-tech products - evaluating the alternatives can be a real challenge for all concerned. Therefore, the conference will provide practical guidance on how to assess building materials.

Site visits and the presentation of case studies will illustrate how theory has been put into practice and how practice can be used to refine theory.

Topics include

- **Regulatory developments**
- **Proposed emissions trading and its effect on building materials in Australia**
- **Voluntary and mandatory environmental guidelines**
- **Building materials and liability**
- **Strategies for economic gain**
- **Life Cycle Assessment**
- **Third Party Certification**
- **Building Biology**
- **Alternative building materials**
- **Innovative insulation materials.**

This highly regarded, annual professional training conference, hosted by the RMIT Centre for Design, has been a must for everyone involved in the sustainable built environment for the last 7 years. It brings together architects and designers, policy makers, energy consultants, building owners and the building industry. Over the years it has gained a reputation of being the most comprehensive and

informative conference in this field due to its breadth of speakers and the practical emphasis of the programme.

The Green Building and Design conference is being offered as a professional training short course through the RMIT.

The conference will be held at the brand-new Melbourne Convention Centre, the first convention centre in the world to achieve a 6 Star Green Star environmental rating.

A virtual participation mode has been established with the same validity as a 'physical' one (certificates, access to presentation, possibility to ask questions etc.) for those who are unable to attend the event personally. For an expression of interest to participate virtually, please contact Nicola at nicola.willand@rmit.edu.au.

Lunch, refreshments during morning and afternoon breaks as well as networking drinks on the first evening will be provided for in-person attendees.

Conference fees (incl. GST):

In-person attendance:

Early bird (until 31st July 2009) \$770

Full fee \$1045

Student/NGO's \$330

Online attendance: \$770

Register online at www.shortcourses.rmit.edu.au or telephone Short Courses on 03 9925 8111

Extension into postgraduate single course

In addition, your attendance at the conference can be extended into a course towards gaining a postgraduate certificate at RMIT University. Participants of the two-day conference can participate in four two-hour workshops before and after the conference and complete assignments as directed. There will be two assignments and a reflective journal. This extension then forms 12 credit points towards postgraduate studies at RMIT. The postgraduate discipline is related to the fields

Sustainable Built Environments continued

of engineering, environment, architecture, construction and planning.

The workshop will be held at the RMIT Swanston Street campus, Melbourne. The course is limited to 50 students. Attendance can be in-person or via distance learning.

Dates:

Aug 15 (Sat) 10:00 am - 12:00 pm

Aug 29 (Sat) 10:00 am - 12:00 pm

Sept 17 (Thurs) 5:30 pm - 7:30 pm

Sept 18 (Fri) 5:30 pm - 7:30 pm

Single Course fees (incl. GST): \$1740 (incl. attendance of the conference)

Register online for BUIL 1225 'Sustainability in the built environment: A focus on building and design' at www.singlecourses.rmit.edu.au or telephone Single Courses on 03 9925 8111.

For more information on the conference or single course please contact Nicola at nicola.willand@rmit.edu.au.

Green Loans Household Sustainability Assessment

The Australian Government has developed a new programme for providing assistance to households in installing new solar, water saving, and energy efficient products. Available to both home owners and renters, the Green Loans programme will provide householders with a free Home Sustainability Assessment, the outcomes of which will determine eligibility for a low interest Green Loan of up to \$10,000 toward sustainability improvements.

As part of a package of research for the project, the Centre for Design is developing the Household Sustainability Assessment tool, an integral part of the Programme. The tool will be used by Household Sustainability Assessors. Up to 200,000 existing homes are expected to be visited under the programme throughout Australia over the next five years. Currently in its Pilot development phase, the tool addresses heating and cooling, appliances, and household fixtures to calculate the energy, greenhouse emissions, and water efficiency of home.

More information about the Green Loans Programme can be found at www.environment.gov.au/greenloans.

Sustainability and Heritage

The Centre for Design is working on a project commissioned by Heritage Victoria, Building Commission and the State Architect's Office in assessing the environmental impacts of a range of existing buildings in Victoria which have Heritage value.

10 residential and institutional heritage building types in different construction era spanning from 1880s to 1990s will be selected to provide empirical research evidence in the form of a comparison between life cycle energy, greenhouse gas, water and other environmental impacts to 'improved' retrofitted designs where heritage value is preserved.

How to design exhibitions in the 21st century?

At the recent DesignEx 2009 exhibition Usha Iyer-Raniga was invited by the Melbourne Museum to give the keynote address on sustainable exhibition design in the 21st century.

Strategies for making museum buildings more environmentally sustainable have been well explored, supported by academic studies, regulations, quantification tools and built examples. As far as interiors are concerned, efforts have usually been restricted to office fit-outs. Accepted guidelines for shop fit-outs, trade show exhibits or museum exhibitions are difficult to find. The profession lacks consensus, regulations and there is a dearth of studies, awards or even appropriate assessment tools.

Faced with this dilemma, the Melbourne Museum approached the Centre for Design in 2008 to help develop strategies for their own exhibitions. These were put into practice in their current *Dinosaur Walk* exhibition, which was demonstrated to the workshop attendants as part of the DesignEx exhibition.

Based on the Centre for Design past projects, such as a scoping study of building materials, an LCA assessment of a shop fit-out, consultancy to an exhibitor company and the development and trial of the *greenfly* tool, Usha Iyer-Raniga was able to demonstrate to the attendants successful design strategies for reducing the environmental impact of exhibitions.



Climate Change and Social Context

Australia-Korea Next Generation Leaders Programme - Green Growth

The Research Institute for Asia and the Pacific at the University of Sydney is currently inviting early to mid-career professionals to apply for the 2009 Australia-Korea Next Generation Leaders Programme (NGLP). The leadership exchange programme has been initiated by the Australia-Korea Foundation of the Department of Foreign Affairs and Trade and managed by our Institute since 2007. It aims to develop the leadership skills of potential and current leaders from Australia and Korea in specifically identified subject areas or themes.



For further information, please contact Angela Zaballa via a.zaballa@usyd.edu.au.

Carbon Neutral Communities

Staff changes

The Carbon Neutral Communities (CNC) project has entered its third and final phase, and welcomes two new staff on board: Anna Stempel and Annette Kroen. For information regarding Annette Kroen, please see Staff @ CfD on page 8 of this newsletter.

Anna comes to the Centre from the Moreland Energy Foundation Ltd (MEFL). In her role at MEFL Anna designed and implemented a range of projects to enhance sustainability in the built environment, with a focus on the residential sector. This included capacity building programmes for the local government sector and the development and design industries, as well as a number of household greenhouse emission reduction programmes. Anna has interest in facilitating environmentally sustainable outcomes in the built environment by influencing policy development and by changing the ways in which householders, industry practitioners and government agents think about buildings.

CNC project to date

The Carbon Neutral Communities project explores the nexus between the social practices around household energy use and the infrastructures and institutions of energy provision. The project began by looking at

barriers to reducing household energy use, and has evolved into an exploration of social practices that looks 'beyond barriers' to try to understand the broader systemic and social factors that shape the ways we currently use energy at a household level.

The project team, which includes researchers from the University of South Australia and RMIT's Centre for Design, started with literature reviews, covering areas such as climate change policy context, carbon assessment methods, behaviour change, education and institutional learning, programme evaluation and analysis, and technical and non-technical interventions. In addition, quantitative analyses of resources and technical opportunities were undertaken, including renewable energy opportunities assessments for the municipalities of Manningham in Victoria, and Playford in South Australia.

Subsequently, a desktop analysis of sustainability behaviour change programmes around the country has been conducted, followed by a qualitative analysis of selected initiatives. Through in-depth interviews with practitioners, this stage of the CNC project sought to build an understanding of how past and current programmes have tried to influence householder behaviour, and the extent to which they have been successful in achieving energy usage reductions. Out of this research a Framework for Analysis was developed, which is intended for use as a tool to assist in the scoping, design and evaluation of sustainability behaviour change programmes. The Framework will be applied and tested during the next stage of the project.

What next?

The CfD research team is now developing the Action Research phase, which will test the function and utility of the Framework for Analysis by working with selected organisations to apply the Framework to project design and refinement. The selected organisations will be announced in coming months, and work on this phase will begin following ethics approval.

Climate Change and Social Context continued

The Action Research phase will also undertake further qualitative research with organisations and householders, to gain insight into the types and nature of social practices and systemic factors that determine how energy is used in the home. It is intended that this phase will provide opportunities for organisations working in the space to share experiences, knowledge and skills as well as providing the project team with valuable data. For further information about the CNC project please email annette.kroen@rmit.edu.au.

More Than a Roof Overhead

The ARC Linkage Project '*More Than a Roof Overhead – Meeting the need for a sustainable housing system in remote Indigenous communities*' has begun. The project investigators, John Fien, Ralph Horne, Esther Charlesworth and Ron Wakefield (along with Professor Jon Altman from ANU and Assoc. Professor Michael Christie from Charles Darwin University) will host the commencement meeting with the partner organisations Territory Housing, the WA Department of Housing, Indigenous Business Australia, the Centre for Appropriate Technology (Alice Springs) and the Bawinanga Aboriginal Corporation (from Maningrida in Arnhem Land, NT) on May 18.

Research Fellow, Andrew Martel is coordinating the project at CfD and the first of three PhD candidates associated with the work, Megan Worthington, has recently commenced her PhD research on the project.

The recent surge in government funding proposals, such as the \$5.5 billion over 10 years for 26 remote communities announced by Indigenous Affairs Minister Jenny Macklin on Wednesday, has strengthened the need for the development of a comprehensive delivery system that facilitates not only housing outcomes, but also community building, town planning, and education and employment opportunities associated with the construction of housing infrastructure. For further information about the MTARO, please email andrew.martel@rmit.edu.au.

Life Cycle Assessment

The LCA group has undertaken study across a wide range of topics over the past few months. A large project has recently been undertaken to quantify the environmental benefits associated with recycling in Australia. The project has leveraged existing Centre for Design publications in the area and has also sought to focus attention on benefit quantification. Additionally the group has been involved across a range of packaging related projects, studying topics such as plastic bags, as well as the impacts of returnable versus disposable packaging systems in wholesale markets. Ecofootprint has continued to be an area of interest, with the group applying the methodology to large residential housing development projects. Finally, the Centre has worked to complete activities undertaken to aid in the quantification of benefits associated with eco-procurement policies and processes. Overall, the group has been fully engaged over the period has seen increased interest from industry and government regarding life cycle assessment.



For more information about the above projects please contact andrew.carre@rmit.edu.au.



Global Footprint Network partnership

The Centre for Design is a participating partner of Global Footprint Network. The partnership is an essential ingredient to our success in strengthening the Ecological Footprint tool. Our contribution will be used to enhance the National Footprint Accounts Programme, coordinate research among partners, standardise methodologies and extend the EF into new domains. These activities will enable alignment within the EF community and strengthen the credibility and visibility of the tool. Participating partners have access to the footprint forum, a portal that allows partners to share strategies, discuss approaches and develop strategic alliances.

GFN engage in projects that serve to advance their mission of harmonizing applications and bringing the EF into new areas with the intention of affecting change. Through these projects they also provide training to practitioners and develop new tools that benefit the entire sustainability community. For further information, please contact glenn.dimauro-hayes@rmit.edu.au

Shopping bag study

In conjunction with Sustainable Packaging Alliance, the Centre for Design recently completed a study on a variety of shopping bags for Woolworths. A life cycle approach was used considering the environmental impacts of a shopping bag from 'cradle to grave' rather than at a single point in the supply chain. A streamlined assessment was undertaken for seven different shopping bags (HDPE bag, HDPE bag with recycled material, compostable bag, oxo-degradable bag, paper bag, reusable PET bag and reusable PP bag) where factors such as composition, trip rate and bag volume were explored. The outcomes provide an impact comparison of each bag across a selection of environmental indicators and sensitivity analysis to variables that are important for achieving the environmental benefits for a particular bag. The study also reviewed the end of life scenarios and related issues for each bag type.

LCA Course

Life Cycle Assessment course – 27th and 28th May 2009

Professionals, educators and students looking to understand or practice life cycle assessment will greatly benefit from attending the upcoming RMIT course. Topics covered will include ISO 14000 methodology and standardisation, a thorough explanation of each life cycle stage, practical examples and streamlined techniques. For more information or to express interest, please contact andrew.carre@rmit.edu.au or to enrol, please visit: <http://www.shortcourses.rmit.edu.au>.

2008 International Water Association Research Excellence in Support of Sustainable Urban Water Management

1st Runner up in Paper Category
Environmental and Economic Assessment of Urban Water Services for a Greenfield Development
Sharma, A.K., Grant, A.L., Grant, Tim (Adjunct Professor, Centre for Design), Pamminer, F., and Opray, L.



Sustainable Products and Packaging

Online EcoDesign 'How to' kit for Design Victoria

An online EcoDesign resource for designers has been developed by the Centre for Design. The website provides guidelines and information on some initial environmental issues and considerations for designers in the industrial, product, graphic, fashion and textile design industries. The 'how to' kit includes downloadable desktop quickguides so that EcoDesign strategies can be integrated throughout the design process. For more information on EcoDesign or the how to kit, contact Tim.Preston@rmit.edu.au

Greenfly trial survey

So we can make Greenfly the most accessible tool for designers, we are conducting a survey and interviews of the people who registered for a free trial of the tool. If you are interested in participating in a 10 minute online survey or a 20 minute phone interview, then please contact Tim.Preston@rmit.edu.au your responses will be confidential and used to help develop the tool further.

Free EcoDesign Event for Designers

On Tuesday the 5th of May 2009, the final event in our series of eight free seminars and workshops on EcoDesign will be held at the CH2 building. "Communicating EcoDesign" is open to all Victorian designers and registrations can be made through the Design Victoria website. Presentations will be provided by Leyla Acaroglu, Monique MaNamara and Michael Pitcher on how to effectively communicate your eco-designs. Over the last year the Centre for Design has delivered four free events for designers and four for SMEs on Eco-Design. The events have covered a variety of topics and provided informative and engaging presentations by industry leaders. Similar events are currently being planned and will be advertised on the Design Victoria website when available.

DesignEx 2009

The Centre for Design was at designEX again this year showcasing the innovative online EcoDesign applications PIQET and Greenfly, with interactive displays in the Design for Sustainability Section of the event. For more information about Greenfly please contact tim.preston@rmit.edu.au.

Resources Online

Centre for Design at RMIT <http://www.rmit.edu.au/cfd>

Carbon Neutral Communities <http://www.rmit.edu.au/cnc>

Lifetime Affordable Housing <http://www.rmit.edu.au/cfd/laha>

Greenfly <http://www.greenflyonline.org/>

Staff @ CfD

CfD continues to expand; two recent additions to the Centre for Design team are featured below:

Annette Kroen (Research Fellow, CCSC)

Annette Kroen has recently joined the Centre for Design following submission of her PhD thesis. She works as a Research Fellow on the ARC funded project Towards Carbon Neutral Communities. Annette has a strategic and urban planning background with a Diplom-Ingenieur degree in Spatial Planning from the University of Dortmund in Germany. She moved from Germany to Australia to undertake her doctoral thesis at the School of Global Studies, Social Science and Planning at RMIT. The thesis focuses on the coordination of cities and their surrounding suburbs through metropolitan governance as an essential element in the quest for sustainability. It deals with transit-oriented development as one example for more sustainable urban development and makes suggestions how metropolitan governance can be improved and can add to the sustainability of metropolitan urban development. The research for her thesis involved a comparative analysis of metropolitan governance structures in the city regions of Melbourne (Australia), Denver (USA) and Bonn (Germany). Further research interests lie in regional and metropolitan planning, questions of governance and strategic planning, communicative planning and citizen participation. Annette is particularly interested in the influence of governance structures on sustainability.

Prior to undertaking her PhD Annette has worked as a consultant and facilitator on a range of planning related projects in Germany. This has included citizen's workshops for an interdisciplinary research project funded by the German Federal Ministry of Education and Research. She also worked at the Research Institute for Regional and Urban Development of the Federal State of North Rhine-Westphalia (ILS NRW) on projects dealing with the integration of land use and transport planning.

Andrew Martel (Research Fellow, More Than A Roof Overhead)

Andrew has recently joined the Centre for Design as the Research Fellow for the ARC Linkage 'More Than a Roof Overhead' project. He is still enrolled as a student in the Architecture Faculty at the University of Melbourne, and is attempting to finish his PhD, 'Eco-Oikos: The Environmental Economics of Recent High-Density Housing in Melbourne'. Through this work he is interested in tracking changes in the physical and spatial characteristics of some recently constructed student housing developments and is examining the differences between owner-occupier and investment-owner priorities, that is, the shift from housing as home to housing as a commodity.

Andrew's research work at the CfD focuses on how procurement, design, and construction methods and life cycle assessments can be used in innovative ways to enhance 'non-building' outcomes in remote Indigenous communities.

