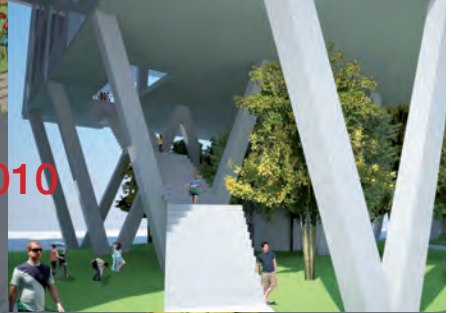
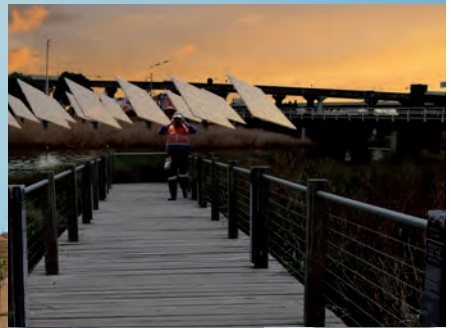


# Victorian Eco Innovation Lab

VEIL Report. February 2010



VEIL

victorian eco  
innovation lab

Front cover: Main visualisation: Design: Kathleen Turner. Quarter Schools: Inset visualisations: Top: Design: Matt Sykes. Designing the sustainable landscape. Melbourne University. Studio Leader: Dr Sidh Sintusingha. Bottom: Design: Yong Peng Shen. EBD architecture studio. RMIT. Studio leader: Simon Whibley.



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Photographs: David Luke Veenster



## About VEIL



Visualisation: Design: Akihito Hatayama and Yan Zhao, Divercity, Melbourne University.

Studio leader: Prof. Darko Radovic.

The Victorian Eco-Innovation Lab (VEIL) seeks to identify and promote emerging technical and social innovations that could form part of future sustainable systems. VEIL is a response to the critical challenge of our times: the urgent need for fundamental social, technical and structural, change to bring about what is now widely referred to as a 'low-carbon' (or even 'zero-carbon') economy. Any actions to reduce greenhouse gases have also to increase community resilience to a changing climate (including extreme weather events) and to the effects of escalating oil prices, as global demand outpaces supply. VEIL creates conditions to explore emerging ideas and stimulate new ones, using a 25-year horizon to generate visions of possible futures and new trajectories for sustainable development and to expand research related to futures and trajectories. The VEIL approach emphasises the following characteristics:

- **Changing systems of production and consumption (and resource provision):** VEIL accepts that there is a substantial and long-standing body of modelling and research that shows that it is not possible to reach a sustainable future by simply doing more efficiently what we already do. VEIL bases its approach on the process of exploring system change. This is the basis of the 'eco-innovation' in the projects title.

- **Solutions-oriented - focusing on optimistic, desirable futures:** We work with the best scientific projections of the nature and likely impact of anthropogenic ("forced") climate effects. However, we cannot expect that these projected threats will, alone, induce people/society to make changes. VEIL focuses on solutions and the projection of alternative futures that are both desirable and sustainable.

- **Visions - not (just) words and data:** To change community expectations that the future will be based on an extrapolation of 'business as usual' requires a particular form of communication. In an age when the visual representation of alternative future capacities is so powerful and ubiquitous, alternative sustainable futures must also be communicated visually and immersively. VEIL has explored the power of 'glimpses' - evocative design sketches that embody a transformation of existing systems but which still require the viewer to co-create the context-specific form in which they could exist.

- **25 yr. horizons ("time shifting"):** to overcome resistance to change from existing commitments (to policy, intellectual property, business and personal investments) the VEIL project focuses on a 25 year horizon - one that fits well with the timelines for action on climate change and is generally beyond the existing commitments of most participants (that would otherwise constrain open thinking about the future).

- **Plausible new trajectories - 'revealing' current (social and technical) innovations:** To break from business as usual futures, new trajectories of development need to be explored and envisaged. Future visions need convincing narratives of how current social or technical conditions might 'unfold' to create the new conditions. The challenge is to identify appropriate 'starting points or innovations; these may be 'invisible' because they sit 'outside' the mainstream (or because they are small and 'localised'). A blog proc-

ess established by VEIL for communicating about small scale (often community-based) initiatives provides one avenue for finding these appropriate starting points; an active 'observatory' and an international network of researchers and projects provides another.

- **Distributed Systems:** In the VEIL exploration of new low-carbon and resilient futures there is a focus on changing the underlying system of production and consumption: from a pattern of growth based on increasing scale in long 'linear' production chains to what we refer to as distributed systems. Distributed systems of production and consumption involve: greater diversity, a (re)localisation of points of production and a strong network of sharing, linking the local to the regional, national and international. (The archetypical model is the internet, or the production, distribution and consumption of renewable electricity from solar or wind, etc, strung out along a grid.) In this model 'the global' becomes a 'network of networks'.

VEIL was established through Our Environment Our Future – Victorian Sustainability Statement in 2006 and is funded through the Victorian Government Sustainability Fund managed by Sustainability Victoria. The project is a partnership between the University of Melbourne, Monash University, Royal Melbourne Institute of Technology, and Swinburne University. VEIL is managed by the research group of the same name in the Faculty of Architecture, Building and Planning at the University of Melbourne.



## VEIL Staff

Director: Prof Chris Ryan; Project Coordinator: Dianne Moy; Policy Research Officer: Kirsten Larsen; Distributed Systems Research Officer: Che Biggs; Design Research Assistant and Sustainable Melbourne moderator: Kate Archdeacon; Information Systems: Rob Eales.

Dr Michael Trudgeon joined the team as Research Fellow and Deputy Director in December 2009.

## University Partners



## VEIL Design Researchers

### 2009

Cathrine Bull; Aamon Beyerle; Nicola Dovey; Sidh Sintusingha: University of Melbourne | Simon Curlis; Graham Crist; Tanya Ivanka; Malte Wagenfeld; Simon Whibley: RMIT | Michael Trudgeon: Monash University

### 2008

Aamon Beyerle; Sidh Sintusingha; Darko Radovic; Simon Wollan; Ian Woodcock: University of Melbourne | Graham Crist; Simon Curlis; Ian Wong; Simon Whibley: RMIT | Selby Coxon; Brad Haylock; Mark Richardson; Gene Badwin; Michael Trudgeon: Monash University | Kate Bisset- Johnson; Blair Kuys; Mark Strachan: Swinburne University

### 2007

Simon Drissler; Kirsty Fletcher; Clare Newton: University of Melbourne | Charles Anderson; Graham Crist; Craig Douglas; Stephen Mushin; Malte Wagenfeld: RMIT | Mark Strachan; Michael Trudgeon Swinburne University | Mark Richardson: Monash University

## Stakeholders and partners

Sustainability Victoria; Sustainability Fund Victoria; Department of Industry Innovation and Regional Development; Department of Sustainability and Environment; Melbourne City Council; Major Projects Victoria; McCaughey Centre; City of Hume; Yarra Valley Water; ICLEI; Photography Studies College Melbourne, Department of Planning and Community Development ; Alternative Technology Association; Moreland Energy Foundation.

## Governance

VEIL is a project managed by the University of Melbourne.

An Advisory Board meets at least once per year. Current members: Cameron Frazer (Sustainability Victoria); Rebecca Falkingham (Department of Premier and Cabinet); Jon Ward (Toyota); Michael Pearce (DesignInc); David Mayes (Melbourne City Council); David Hanna (Department of Industry Innovation and Regional Development); John Wiseman, McCaughey Centre, University of Melbourne. Representatives of the participating design schools are invited as observers.

## How VEIL Works

VEIL operates on a model similar to an innovation-led design company, but in the public arena. With public funding, research grants and a design and research team drawn from staff and students in the participating universities, VEIL works to envisage future concepts and prototypes for goods, services, built infrastructure, systems and life-styles, for a sustainable Melbourne in 25yrs. VEIL has the explicit mission to change expectations of the future (to redefine the conceptual landscape of the future market and future lifestyles) and to 'seed' new innovative ideas that could contribute to making that future a reality. VEIL's foundation work in 2007 developed 'glimpses' of Melbourne 2032, assuming that the city was reaching Victorian sustainability targets. The '2032' date has been maintained even though the future horizon has reduced in time as the project has developed. The focus on Melbourne has also been complimented with some work in regional urban centres.

The VEIL program contributes to eco-innovation through:

- Developing future 'visions' – (concepts, sketches, images – of possible future conditions for goods, services, built environment, lifestyles)
- Revealing innovative change (current and emerging social and technical developments)
- Seeding new ideas and projects (for present day innovation)
- Exploring policy challenges (for government and the professions)
- New research and consultancy
- International engagement
- A substantial communications program (web, videos, exhibitions, events, lectures, publications)



Visualisation: Design: Brendan Rosevear, Michelle Rosevear, Frankie Ngan. Future Transport Studio. Swinburne University. Studio leader: Blair Kuys. Mapping: Jacob Magname, Hugh Tevelein, Rachit Vora, Dennis Lee . Rowville Studio. Swinburne University. Studio leader: Blair Kuys.

## Future Visions

The VEIL visioning process, since its inception, has involved an iterative sequence of:

- A. Hub - a design-research and visioning 'think tank' focused on concept generation
  - > B. student design studios
  - > C. student work reviewed, selected work refined and elaborated
  - > D outcomes published and exhibited

These sequences follow a six-monthly pattern (related to the academic year).

Each design research Hub involves around 6 design staff from the participating universities, joined by an appropriate range of experts. The Hub forms the 'new product' team of the VEIL process - informed by current knowledge of sustainability pressures, new science and technology, innovation and global thinking. The overarching framework for the Hub research and creative development is the idea of a shift to distributed systems, exploring innovations based on a simple hierarchy of focus areas: energy, water and food; information, transport and built infrastructure. As much as is possible, the hub work is 'sited' – related to a particular place, so that real conditions (both opportunities and barriers) remain a common reference point to test ideas and to build cumulative knowledge.

The typical output from (A) is 'glimpses' (sketch visions), research and briefs for future research and design exploration.

The most germane and innovative of the ideas from (A) inform the briefs for student design studios in architecture, landscape, urban, industrial design and visual communications. Studio work varies but has involved up to 200 mature design students at one time, across the four universities, working typically more than three days per week for twelve to fourteen weeks. The outcome of (B) is a large body of further elaborative research, design ideas and well-visualised concepts. The student work is then reviewed and selected ideas further elaborated for communication.

Each sequence of work becomes the starting point for the next Hub.

Following recommendations from the Advisory board, VEIL work since the second half of 2008 has paid a greater attention to design of the built environment and the process has been opened up to allow for a wider engagement with professional designers and other stakeholders.



## Activities 2008-9

### Hubs

**EBD** | The six month project on the design of an Ecological Business District (EBD) for the site known as “EGate” (25-35ha of land between docklands and North Melbourne available for development from 2015) culminated in a substantial exhibition of work from students in the Docklands in February 2009. [See: <http://www.ecoinnovationlab.com/ebd>] The student work also formed the background for a follow-on design studio at Melbourne University which brought a group of Masters students in landscape and urban design to further explore and refine opportunities for the site based on the vision document and brief developed by VEIL in 2008. This studio was supported by the international design practice EDAW (now part of AECOM) and led by Professor Catherin Bull. The outcomes of this studio combined with the work shown at the exhibition and the ‘site objectives’ from the 2008 Hub has substantially influenced the framework for the new master plan being developed by a team working for Major Projects Victoria. [See: Seeding Projects.]

**Transport in the City of Short Distances** | In January-February 2009 VEIL concluded a Hub bringing the idea of distributed systems and low-carbon transport into focus as critical to the creation of vibrant sustainable urban communities. The Hub looked at the daily nature of life within a residential zone of 2 km radius, exploring the potential for short-distance slow transport within that zone, combined with new connections to fast public transport for longer distance travel. Some of the work focused on life within the residential areas of Rowville (a suburb of the city of Knox) and an exploration of how people within a suburb such as Rowville could travel to a distant sea-side resort (e.g. Apollo Bay) without the use of a private car.

### University studios derived from this Hub

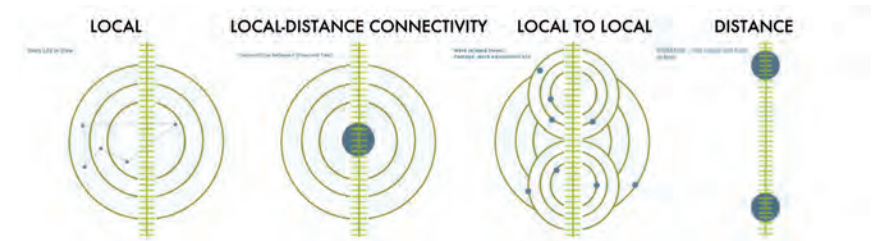
**Access 2030 Mobility Studio Monash** | This studio introduced the city of short distances, scenario building, product-service- system thinking and sustainability to Monash Industrial Design students. The project required students to undertake and map journeys across Melbourne; develop clothing that facilitated the comfort and convenience of active and public transport; develop a transport system that satisfied a high level of user comfort and convenience whilst having the lowest possible carbon footprint. Many of the projects focused on enhanced bicycle design, public transport interchanges and infrastructure and new kinds of apparel.

Leaders: Mark Richardson, Michael Trudgeon.

**Sustainable Vacation RMIT** | This studio Investigated a Victorian based vacation in the year 2032:

“You will be 23 years older, have careers, perhaps families and your parents will be nearing retirement. In the studio, we will accept that the effects of Climate Change, Peak Oil and Global economies will all be realities. Melbourne will have a population of 4 Million and work life balance will have evolved. The biggest changing factor we will encounter is the absence of cars as personal and family transport” The scenario we will consider is leaving home in Roweville and travelling to a destination on the Great Ocean Road. Leader: Simon Curlis

**Sustainable Transport Swinburne – VEIL 2032. ( Industrial Design Engineering)** | This focused on future-based ideas and communicating them to the public. The project was to design a light rail system that has low carbon emissions to be used in the suburb of Rowville in 2032. This system must be lightweight, energy efficient and have a minimal eco-footprint. Students must understand Rowville and it’s surrounding suburbs and propose a light rail system to satisfy the needs of the local community. In 2032 petrol has hit an all time high of \$8 a litre and the petrol-guzzling car has become a thing of the past. The new light rail network must be contained within Rowville with possibility for connecting extensions; modular carriages must be designed that can be interconnected into the system to add value. Travelling markets, shops, restaurants, for example, must all be included into this system. Leader: Blair Kuys



Transport modes in the 'City of short distances'. VEIL.

*VEIL Visioning elective-studio RMIT* | This focused on developing personal methodologies and language for dealing with complex, future-based ideas and communicating them to the public. These ideas were about what Melbourne might look like in a low-carbon future, with particular regard to transport and mobility equity. The projects focused on systems, services, information dissemination, vehicles, built infrastructure and mode-shift accessories, and developed glimpses, or idea “capsules” around these topics. Leader: Kate Archdeacon

*Grid, Corridor & Field, University of Melbourne* | A response to the urban planning and design challenges facing Melbourne. 45 Master of Architecture students developed an engaging array of visionary propositions to shed light on the critical questions confronting the life and design of our city. The studio engaged the public in helping create a vision for our city. The visions from each studio group address climate change, urban sprawl adaptability and the ills that go with inequality and vulnerability to change. The ‘Mess, Everyday Babylon’ studio focused exclusively on the issue of Mobility in the City of Short Distances.

Leaders: Simon Wollan, Aamon Beyerle



Full scale maquette: Design: Dominic Dowling, Jamie Schena, Kiern John, Nick Carnie, Timothy Lolicato.  
Access 2030 Mobility Studio. Monash University. Studio leaders: Mark Richardson, Michael Trudgeon

**Water Sensitive Cities** | This visioning project has taken place as part of VEIL service consultancy for the Department of Sustainability and Environment (See: Research and Consultancy). It involved an extensive review of past VEIL studio concepts that had dealt with water in the urban environment, analysis of literature on water sensitive cities and consultation with a number of agencies and practices considering the long term trajectories for the evolution of water sensitive urban design.

#### University studios derived from this project

*Water Services, Swinburne University* | Water plays a critical role in our lives: socially, culturally, economically as well as environmentally. Water is everywhere around us in the pipes under footpaths, in the food we eat and the grass we sit on. Although we use water in different ways everyday it is often invisible to us. As part of the Water Sensitive Cities initiative, VEIL has established water as the overriding theme for this studio, and we have identified a series of sub-topics to be explored. By 2032 a number of innovative and sustainable water-related systems and services solutions have already been established and are working effectively, supported by a community that values water in a new way. Your team will select and explore one of the following water-related topics: Play & Recreation; Health & Wellbeing; Food & Drink; Energy; Urban Metabolism. The overall intent is to identify opportunities – points of intervention through innovative services and systems - that will induce change in our behaviours and attitudes to water as individuals, neighbourhoods and communities.

## Hume 2032 and EcoAcupuncture 2010

The most ambitious project yet undertaken by VEIL involves taking the large body of work from the EBD project and exploring ways in which that could be used as a guide to 're-vision' - and progressively transform - an existing urban precinct in Melbourne. This will involve all areas of design and sustainable development - from the built environment, to services, public infrastructure, the provision of water, energy and food, new businesses and so on. For VEIL this required an extended Hub process dealing with:

- Appropriate processes to transfer the elements of the EBD visions (a brown-field site) to an extant urban community
- Finding a Melbourne city eager to engage in - and commit to - a process to develop designs and plans for new projects with the aim of moving rapidly to a sustainable low-carbon, resilient community
- developing practical experience in the process of engagement in the strategic planning process in an urban community confronting significant transformation from climate and peak oil.
- synthesising parallel VEIL work being undertaken to explore emerging ideas about water sensitive cities
- designing a research and idea generation process that maximises engagement with relevant external stake-holders (council, community, relevant authorities, business)

After extensive discussions with representatives of councils across Metropolitan Melbourne (based on advice from our partners - ICLEI Melbourne and the McCaughey Centre) a precinct was selected within the City of Hume. That selection reflected an eagerness on the part of Council Officers to collaborate with VEIL. Hume is also one of the high profile Central Activities Districts (CAD) identified by the state government for significant development centred around the Broadmeadows railway station. Hume has shown a substantial commitment to sustainable development as a high priority goal with its new council offices opened in July 2007 designed to 5 Star Green Star Rating. Additional consultations for this project involved Melbourne Water and Yarra Valley Water, the state government Department of Planning and Community Development, the Local Sustainability Accord and Origin Energy. Experience was also drawn from two parallel VEIL projects - on the team selected for the structure plan for Ballarat and a commission by the Department of Sustainability and Environment on visions of water sensitive cities (see research and consultancies).

During the second half of 2009 a large landscape design studio at Melbourne University - Designing the Sustainable Landscape - lead by Dr Sidh Sintusingha (with Matt Mackay, Hassell and Dan Nunam, Aspect Studios) worked across Hume, mapping the territory, researching sustainability challenges and opportunities and developing concepts and proposals for sustainable landscapes and systems.

Several workshops have been held with Council staff, local experts, community representatives and VEIL Hub members:

**August 2009** | a half day workshop in Hume at Kangan Batman TAFE brought together 40 students and staff in landscape and urban design from Melbourne University. At this workshop seven Hume Council staff members presented an overview of the city and its regions, covering social, landscape, water, transport, economic and CAD development and future plans. Yarra Valley Water also presented some of their current future projects in the region.

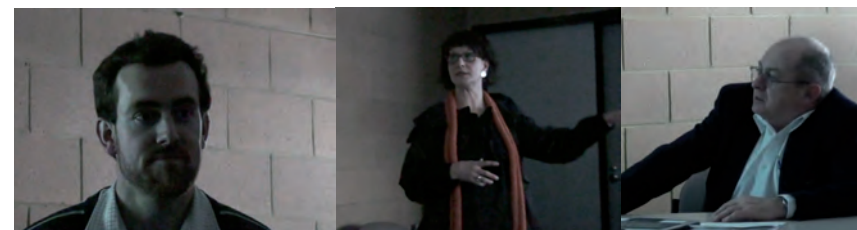


Photo: Workshop managed by Dianne Moy and Kate Archdeacon

**October 2009** | Based on Hub research and the initial findings of the 'Designing the Sustainable Landscape' studio, a design exploration workshop was held in the Global Learning Centre in Hume involving 40 people (including 16 university designers from the VEIL project). The workshop was joined by Professor Ezio Manzini from Italy (a Deakins 09 visitor - see: Revealing Change below), who presented his latest research on "Social Innovation". A future vision question was addressed:

*How have businesses and the community of Broadmeadows (and the greater Hume area) adapted to climate change to become a community which is not simply surviving but thriving in the new low-carbon future? How did Broadmeadows become the first Melbourne CAD to reach its carbon targets, 10 years ahead of schedule? What did happen to that urban growth boundary?*

The outcomes of the workshop covered Sustainable Food Systems, the creation of a water sensitive community, new models of sustainable industries and creative strategies for neighbourhoods (with new forms of work, mobility, education and play). [for detail see: <http://www.ecoinnovationlab.com/design-workshops/261-sustainable-broadmeadows-workshop>] ]





Workshop managed by Dianne Moy with Michael Trudgeon and Kate Archdeacon Photographs: David Luke Veentjer

**February 2010** | A short December Hub reviewed the workshop outcomes and developed plans for a larger Design event, which was held on the 19th and 20th of February at the Photography Studies College Melbourne (who have become a partner in the program as it moves forward). This event formed a greatly extended Hub with design academics from the VEIL universities joined by a number of recently graduated students from the 'Designing the Sustainable Landscape studio', masters students from RMIT, and eight design professionals from local and international practices.



The event was organised by Dianne Moy and Michael Trudgeon. Photographs: David Luke Veentjer

Participants included: Denis Smitka (Swinburne); Ian Wong, Tania Ivanka, Malte Wagenfeld, Simon Whibley, Julie Werner, Lan Tian (RMIT); Ammon Beyerle (Monash); Nicola Dovey, Edan Weis (University of Melbourne); Dianna Yacoub, Matthew Wilson (Hume City Council) Ralph Webster (MCC); Yurie Tyblewych (AECOM); Andrew Maher (ARUP); Shayne Lacy (Lab Architects); Rudy Darmawan (Design Inc.); Peter Brew (GHD); Lisa Dew (Grimshaw Architects); Nynke Feenstra (Rotterdam Eco-Innovation Lab); Bernie Walsh (Bernie Walsh Art & Design)

For this design event a new approach to working with, and for, the Hume community has been developed by VEIL:

**Eco-Acupuncture:** identifying small domains of potentiality that can become sites of design intervention to shift the path of innovation and development on a new trajectory: towards sustainable, resilient conditions <sup>1</sup>.

**Eco-Acupuncture** seems rich and apposite to describe what VEIL aims to achieve in its work in Hume:

**Our purpose:** to intervene to re-invigorate the eco-system of urban life and change the path of innovation and development.

**Our aim:** to design small interventions that can redirect the forces - the meridian lines - that shape development, towards a more distributed system with ultra-low environmental impact (particularly in relation to greenhouse gas production) and greater social well being.

**The result:** new projects 'on-the-ground' that can release new community energy and support for a new trajectory of development.

Within this framework we consider eco-acupuncture for the eco-system of urban life in the following way:

(A). For structural change to the essential 'life support systems':

- 1 Energy
- 2 Water
- 3 Food

(B). To realign the essential 'flows' for social and economic life (to support the above):

- 4 Transport and mobility -
- 5 Information and knowledge

(C). To reshape the physical, constructed, environment to enable the above changes and realignment.

- 6 Physical infrastructure
- 7 Residential
- 8 Work/office/commerce

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The 'urban acupuncture' metaphor seems to have been first used by Jaimie Lerner, the ex-mayor of Curitiba in Brazil, to explain (in retrospect) the success of their urban development approach (that has become so much of a global model and icon).

## Revealing Innovative Change

(D). To restore essential social services to function in the new urban eco-system:

- 9 Economy - business
- 10 Education
- 11 Health

(E). To reinvigorate lifestyles for community health and sustainable prosperity.

- 12. Creative expression
- 13 Leisure
- 14 Sharing

Nine university studios derived from this project will take place over the first six months of 2010.

The outcomes of the [Hume 2032 - Eco-Acupuncture 2010](#) design event will be presented in an exhibition in Hume starting on the 15th March and work will continue throughout the following four months in design studios. A major exhibition of all the work is being planned for mid July.



[Sustainable Melbourne and Sustainable Cities Net](#) | Using the growing body of visions (or glimpses) of potential futures as a viewing 'lens', VEIL has been able to shape these web sites as a way of identifying current and emerging, social and technical innovations that appear to offer starting points for new trajectories of innovation and change. As these are often small and localised, various processes have been adopted to give new initiatives greater exposure and support. The VEIL sustainable cities round tables have increased exposure of selected initiatives to audiences of 100-200 people and produced over 100 enduring records of presentations and the outcomes of short networking exercises amongst the audiences.

The Sustainable Melbourne and Sustainable Cities Net web-sites continue to be a major focus for community sustainability initiatives in Melbourne and other cities around the world. They have over 75000 unique visitors each year, attracting at peak, over 8000 visitors/month, and over 150,000 page views per year. Sustainable Melbourne has a membership of 1790 people and over 1276 posts.



These sites were established by Ferne Edwards and are now managed by Kate Archdeacon

[The Deakins 09: Climate and Innovation](#) | In 2007, in partnership with Sustainability Victoria (and other sponsors) VEIL created the EcoLEAD program which brought to Australia six international leaders in eco-innovation to work with VEIL, to give public lectures, advise governments and professional groups. Each EcoLEAD visitor was selected because their work revealed new directions for innovation and sustainable development. In 2009 the EcoLEAD program became the basis for VEIL's selection to run the Deakin Lectures and Festival of Ideas, a Victorian Government program since 2001. Under the title of Deakins 09: Climate and Innovation, a program of public events, industry and government briefings and media interviews were organised for eight visiting international innovators. Spread over the six months from July to December these events provided an entertaining and insightful review of projects and people 'building the low-carbon economy NOW'. [see; [climateandinnovation.com](#)]. Over 1000 people were introduced to emerging innovation – technical, social, entrepreneurial – and several enduring collaborative projects were established. Climate and Innovation will now continue beyond the Deakins to become a global portal of innovation.



The VEIL distributed system research has been extended to some small seminars that combine the format of the Sustainable City Roundtables with a more traditional conference. The first of these “Localised Solutions” was held in November 2009, supported by the City of Melbourne, Yarra Valley Water, the Alternative Technology Association, The Moreland Energy Foundation and the McCaughey Centre. This event was attended by 70 people and video of the presentations will shortly be available on the web. Further seminars on this topic are planned leading up to a VEIL international conference in 2011, in partnership with All Energy Australia (See: Communication).

## Seeding New Concepts and Prototypes

A test of ‘visionary’ intervention is that it influences the market and the real path of innovation and development. Given the usual time required from idea generation or new concept development to market-ready products (the length of “D” in ‘R&D’) the VEIL program would not normally expect to see any tangible outcomes in the market for some time. However, several early concepts (the “Solar Umbrella” and the “Wind Veil”) sparked considerable interest. The concepts have been widely reproduced in design literature around the world and international enquiries about their commercialisation continued until the financial crisis reduced entrepreneurial capital for such ideas.

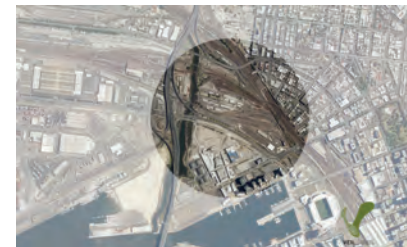


Designers: Büro North and Kathleen Turner. VEIL Solar Sunshade.

The VEIL “EBD” project for a new eco-city on a real development site in inner Melbourne can claim considerable influence on the direction that development of that site is now taking, through Major Projects Victoria (MPV). The EBD project was presented on two pages of the MPV magazine Building One Victoria (no. 11) and in the words of Minister Pallas at the opening of the EBD ‘EcoCity’ exhibition:

*“....What could be done with this new land? This is where projects such Eco City have great value. All good strategic planning begins with a discussion and I, for one, believe that this dialogue is always improved by the number of intelligent voices involved. In this case we have a brains trust of students and academics from four leading universities as well local and international experts generating some very exciting ideas..... [VEIL’s] ideas will have a real influence on the site’s future”* [<http://www.ecoinnovationlab.com/ebd/ecocity-exhibition/189-minister-pallas>]

The MPV master-planning for the site (and its business plan) should be completed by mid 2010 with tender processes possibly later in the year.



Visualisation: VEIL. EBD.  
Aerial photograph: DSE



Visualisation: Design: Akihito Hatayama and Yan Zhao.  
Diversity: Melbourne University.  
Studio leader: Prof. Darko Radovic.

The current Hume 2032 – Eco-Acupuncture 2010 project is designed from the start to influence existing local development process, to provide small, relatively low-cost, interventions that could have large flow-on effects. The VEIL process has been extended to include design professionals from a number of important local and international practices, to expand the pool of support for student work but, principally, also to increase the likelihood of practical follow-through.



## Policy Challenges ‘Observatory’

From the inception of VEIL, state government support for the project has included a process for reflection on the implications of its future thinking for public policy. Initially conceived as a mixture of detailed research and an ‘observatory’ of innovation and change VEIL, has produced a number of influential reports, briefing papers, presentations and academic publications on the implications of future challenges for policy. During the 2008-9 period this work has matured in a number of significant ways.

**Food Futures** | The research report on food sustainability and security ‘Sustainable and Secure Food Systems for Victoria’ was released early in 2008 and has been widely circulated and cited within this rapidly developing research field, contributing to widespread debate on the policy challenges identified in the document. This work has developed into a new research project with diverse partners (see next section) One project is subjecting some of the potential future scenarios for food supply to more quantitative modelling with the CSIRO using their stocks and flows model. Our broader food futures work continues through a wiki (see communications) with its collection of reports, and significant demand for lectures, seminars and submissions to government enquires (see communication/publications).

**The Deakins 09** | this program incorporated government briefing sessions for all the visitors (on future policy issues relating to: transport and electric vehicles; social innovation; regional sustainable development; solar energy; the role of public interest think tanks to negotiate business-government action on low-carbon development).

**Briefing Papers** | After a review of the various processes used to keep VEIL thinking in front of government and the professions, a new series of publications was launched in 2008 with the McCaughey Centre at the University of Melbourne. These are called briefing papers, as they set out ‘ideas in progress’ related to the key systems-change approaches underpinning VEIL work. So far, four papers have been produced – on energy, food, water and resilience. These are all written, as lead author, by Che Biggs. They have been widely cited. (See: Publications)



## Research and Consultancy

From its broad knowledge of university research capabilities, VEIL engages with society to identify and define issues and directions of change and to build consensus about potential trajectories, priorities, solutions and implications (cultural, structural, policy, and so on). This process is open, networked and collaborative. The emerging ‘consensus’ from this engagement is developed into exploratory projects, consulting and scoping research. Then, with the external partners and the results of the scoping research, VEIL works to develop funded collaborative research projects from competitive grants. This process has been particularly successful in relation to the provision of food, water, urban design and the challenges of climate change and the emerging volatility in oil prices.

**Water Sensitive Cities** | This project for the Department of Sustainability and Environment Victoria required VEIL to research current thinking on water sensitive cities and to develop a framework for visualisation of the essential aspects of WCS; then to manage the production of a set of visual images able to be used by the department in various documents and presentations. The project had four objectives:

- Integrating emerging theoretical perspectives with examples in a way that makes the ideas accessible.
- Communicating ideas and examples effectively to open up new opportunities.
- Focusing efforts across multiple stakeholder groups.
- Building support for the design and implementation of new projects.

Dianne Moy reviewed the existing literature and developed a set of eight overarching characteristics of the emerging ideas around WSC's. They have the titles of: Metabolism of the City; City as supply catchment; Portfolio of sources; Sustainable reuse; Transparency; Communities; Water services; Ecosystems. Four Melbourne design practices have been commissioned to deliver a set of visual representations of these characteristics.

**Ballarat Structure Plan** | VEIL was part of the successful tender for the design of a new structure plan for Ballarat, lead by Planisphere. In the tender succeeded VEIL provided the 2030 visions based on the EBD project work.

**Food Transport** | Building on research gaps identified in Sustainable and Secure Food Systems for Victoria, VEIL initiated a ‘scoping research’ project, managed by Kirsten Larsen to investigate greenhouse gas emissions and vulnerabilities in food transport systems in Victoria. VEIL identified partners with the right knowledge and skills to conduct the level of analysis required (CSIRO, Food Chain Intelligence and Edhouse Pty Ltd); developed a partnership with the Department of Transport for analysis from the Melbourne Freight Movements Model.

## International Engagement

For this research VEIL secured funding from the Department of Planning and Community Development, Sustainability Victoria and Regional Development Victoria. This project, due to be complete by April 2010, will provide:

- A summary of existing information relating to Victoria's food freight system, including a description of greenhouse gas emissions and vulnerabilities (from available information); and an outline of possible impacts upon food security.
- An increased understanding of how fruit and vegetables are moved from production to consumers in Victoria (with greenhouse implications and vulnerabilities).
- An assessment of "best practice" food distribution systems that can potentially achieve significant environmental improvements as well as increasing resilience of food supply.

This project will develop new data and methodologies for further research.

**Food Futures Research: VicHealth Discovery Grant** | This project builds on from the Report 'Sustainable and Secure Food Systems for Victoria' (Larsen et al) and it has CSIRO, Deakin University and DPCD as partners. VEIL was granted \$107,00 for the research from VicHealth through a competitive process in 2009. It considers Victoria's current food-shed – both our own food production and the food that is brought into the state for local consumption – and the implications of different scenarios of changing physical conditions on the provision of nutritionally adequate, future food supplies to Victoria's communities. It is using an empirical method for testing scenarios to improve understanding of risks to Victoria's liveability in relation to food supply, developing data capability and modelling based on the CSIRO Stocks and Flows computer model.

VicHealth has defined 'food security' as "the state in which all persons obtain nutritionally adequate, culturally acceptable, safe foods regularly through local non-emergency sources. VicHealth's investment in food security has focused on regular access to healthy eating, noting that access is fundamentally dependent on secure food supplies. This project will explore how environmental challenges and resource constraints could affect secure food supply in Victoria, under a range of plausible future scenarios. The scenarios are being developed in consultation with stakeholders, with the first workshop for this process held in November 2009, with 45 selected participants. The report of the results is due at the end of August 2010 with presentations and consultations planned for later in the year. VEIL researchers are Kirsten Larsen and Chris Ryan.

International exposure and engagement for VEIL has been a priority from the start, both to provide a global 'test' of the innovation involved in the project (its processes and outcomes) and to provide a global input to the information base of the project (a vital part of the observatory function). The early assumption was that the challenge to which VEIL is a response (sustainability, climate change, 'peak-oil' and so on) would be recognised by other cities and governments around the world and that they would have a range of actions against which VEIL could be measured.

From existing international networks of VEIL staff, and through the website and publications, the VEIL project has received considerable global attention. It has been an important focus as a case study at international conferences and summits on climate change transition, design research, urban design, cities, industrial ecology, sustainable production and consumption and greening of industry. In addition the program has become well known to a number of international organisations and a loose network has been formed of similarly projects addressing future challenges and eco-innovation in cities and regions in Europe and the US.

During 2009, VEIL, as a case study (of process and results), formed part of keynote presentations at the Rotterdam Global Urban Summit and the Joint Actions on Climate Change in Denmark (both in lead up to the COP15) and at special events organised by Forum for the Future in Bristol and London and a sustainable cities symposium in Sicily. Organisations with both formal and informal partnerships with VEIL include: Cartesius Institute for Sustainable Innovation (the Netherlands); Design for Sustainability Unit, Technical University of Delft (the Netherlands); Forum for the Future (UK); Institute for Manufacturing, Cambridge University (UK); Stadshavens (Rotterdam); International Institute for Industrial Environmental Economics (Sweden); MESPOM (EU Masters in Environmental Management and Policy: Sweden, UK, Hungary, Greece); Alta Tevera – University of Perugia (Umbria, Italy); Politecnico di Milano – Unit for Design and Research in Innovation for Sustainability (Italy); Lacunae (Noto Italy).

At the end of a keynote lecture on VEIL and its projects at the Rotterdam Global Urban Summit in Dec 2009, Prof Han Brezet from the TU Delft and the Stadshavens and Rotterdam Climate Initiative announced the formation of REIL – the Rotterdam Eco-Innovation Lab – to be based on the processes and methodology of VEIL.

The Forum for the Future in Bristol is in the process of establishing [www.SustainableBristol.com](http://www.SustainableBristol.com) as part of their collaboration with VEIL.

## Communication

### VEIL Websites



**EcoInnovationLab** | This, the principle site for the communication of VEIL work, was completely redesigned and re-built at the end of 2008 and early 2009. It has over 20,000 visitors per year with around 65000 page views. Those visits came from 140 countries, with the UK, USA, Netherlands and Canada being the highest traffic outside of Australia. Servers for the site have been upgraded to allow for the significant increase in downloads of VEIL reports and videos.

**SustainableMelbourne.com** | This has become one of the principle blogs for reporting of activity for Melbourne, across the sustainability areas of VEIL interests. Linkage to SustainableCitiesNet.com is still very good, with 150,000 page views per year, and new equivalent blogs are being linked to the site each month. SustainableBristol.com is being built around the same architecture and process as Sustainable Melbourne. Veil has made this layout and coding available for free to the Forum for the Future.

### Events – exhibitions – conferences workshops

#### Exhibitions of VEIL work

**EcoCity Exhibition February 2009. Docklands** | This large exhibition of student work and the VEIL framework for the Ecological Business District proposal for the “EGate” site north of docklands. Attendance: 800. Opening by Minister Pallas (state minister for roads, ports and major projects); Susan Riley, Deputy Lord Mayor of Melbourne; the Hon Tom Roper, Chair Australian Sustainable Built Environment Council; Prof Ryan, Director VEIL. [<http://www.ecoinnovationlab.com/exhibitions/189-minister-pallas>]

**Sustainable Living Festival. February 2009 Melbourne.** | A selection of work around the theme of sustainable cities.

**Festival of Ideas, June 2009. Melbourne University.** | Selected works on the future of Melbourne and the EcoCity propositions. Festival attendance 8000. [<http://www.ecoinnovationlab.com/exhibitions/228-foi>]

**Stringybark Sustainability Festival October 2009. Knox.** | Exhibition of student work from the City of Short Distances Transport studios (RMIT, MU, Monash, Swinburne) at the two-day festival. Attendance (for whole festival, est. 20,000) [<http://www.ecoinnovationlab.com/exhibitions/259-stringybark-exhibition>]

### VEIL Conferences and workshops

Localised Solutions. November 2009. Melbourne. | VEIL and the McCaughey Centre held a mini conference and forum on distributed systems in Melbourne. Work is currently underway to produce a briefing paper synthesising the work, stories and ideas presented on the website. The event incorporated a Sustainable Cities Round Table. 13 papers and presentations. Attendance 72. Sponsored by Melbourne City Council; Yarra Valley Water; Moreland Energy Foundation; Alternative Technology Association; McCaughey Centre.

### Publications

Crul, M. Diehl, J.C. Ryan C. (eds) (Jan 2009) *Design for Sustainability (D4S): A Step-By-Step Approach* United Nations Environment Program (UNEP) ISBN: 92-807-2711-7

Evans, S; Bergendahl, M. Gregory, M. Ryan, C. (Sept 2009) *Towards a sustainable industrial system : with recommendations for education, research, industry and policy.* Cambridge University. Institute for Manufacturing. UK (Available from: [http://www.ifm.eng.cam.ac.uk/sis/download\\_report.html](http://www.ifm.eng.cam.ac.uk/sis/download_report.html) )

Larsen, K and Barker-Reid, F (2009), *Adapting to Climate Change and Building Urban Resilience in Australia*, Urban Agriculture Magazine No. 22, <http://www.ruaf.org/node/2073>

Ryan C. *Climate Change and Ecodesign, Part II : Exploring Distributed Systems* (p 350-353) Journal of Industrial Ecology. Yale University. Vol13 Issue 3 June 2009.

### Submissions

Food Production in Australia, Agribusiness in Outer Suburban Melbourne and VEAC Use of Crown and Public Authority Land in Metropolitan Melbourne, <http://www.ecoinnovationlab.com/reportssubmissions>



## Presentations at conferences

Larsen, K. *Healthy and Sustainable Food Systems: Imperative, Innovation and Opportunity*, Nurture the Land, Nourish the People Conference, 6 Oct 2009

Larsen, K. *What will we eat?*, Planning Institute of Australia Conference (SA Branch), 21 August 2009

Larsen, K. *In the Hothouse*, opening of the Melbourne Social Forum. April 2009

Larsen, K. *Food for the Future*. North Central Primary Care Partnership. April 2009

Larsen, K. *Food Sensitive Urban Design* – Public Health Dieticians (Heart Foundation). June 2009

Larsen, K. *Food Supply Scenarios* VicHealth Sustainable Food Supply for Healthy Communities Conference. July 2009

Larsen, K. *VEIL and Food: How did we make it happen?* Centre for Sustainability Leadership – July 2009

Larsen, K. Revisiting Landcare – Connecting Producers and Consumers. Sept 2009

Larsen, K. *Sustainable and Secure Food Systems for Queensland*: Thoughts from Victoria. Queensland Government. Oct 2009

Ryan, C. 'Sguardi sul clima - ecoinnovazione futuro nel present. *Resilience and Cities of Short Distances*'. Keynote Lecture, Noto, Italy. Associazione Lacunae and Consorzio Universitario Mediterraneo Orientale. Supported by the Australian Embassy, Rome. December 2009.

Ryan, C. Keynote Address to Rotterdam Global Urban Summit: "*Designing future transitions: vision + urban eco-acupuncture*" December 2009. Rotterdam.

Ryan C. Melbourne 2040. *Visions of future Melbourne*. Melbourne conversations. July 2009. BMW edge Melbourne.

Ryan C. 'Can design for sustainability save the world?' Keynote Panel. Joint Actions on Climate Change Conference. Alborg. Denmark. June 2009.

Ryan, C. Designing Future Transitions. A new role for eco-design: envisaging future systems, revealing the hidden present'. Joint Actions on Climate Change Conference. Alborg. Denmark. June 2009.

Ryan C. 'The sustainable city as a place of short distances: Melbourne and the work of the Victorian Eco-Innovation Lab'. Forum for the Future; University of West England; Bristol UK. June 2009

## Guest Lectures and Media

Larsen, K. RMIT – Landscape Architecture (FSUD)

Larsen, K. University of Melbourne – Urban Planners (FSUD)

Moy, D. AILA – Australia Institute Landscape Architects

Moy, D. RMIT 3 presentations (1 Architecture, 2 Industrial Design)

Moy, D. UniMelb 3 presentation (1 Architecture, 2 Landscape Architecture)

Moy, D. Monash 1 presentation (Industrial Design)

Moy, D. Swinburne 5 presentations (4 Systems and Services, 1 Product Engineering)

Moy, D. Pecha Kucha, presentation. Benefit for Haiti

Moy, D. Interview: Hume Economic Update Magazine

Moy, D. Interview: SBS radio

Moy, D. Interview: Triple J

Moy, D. Interview: Knox Journal

## Press Coverage

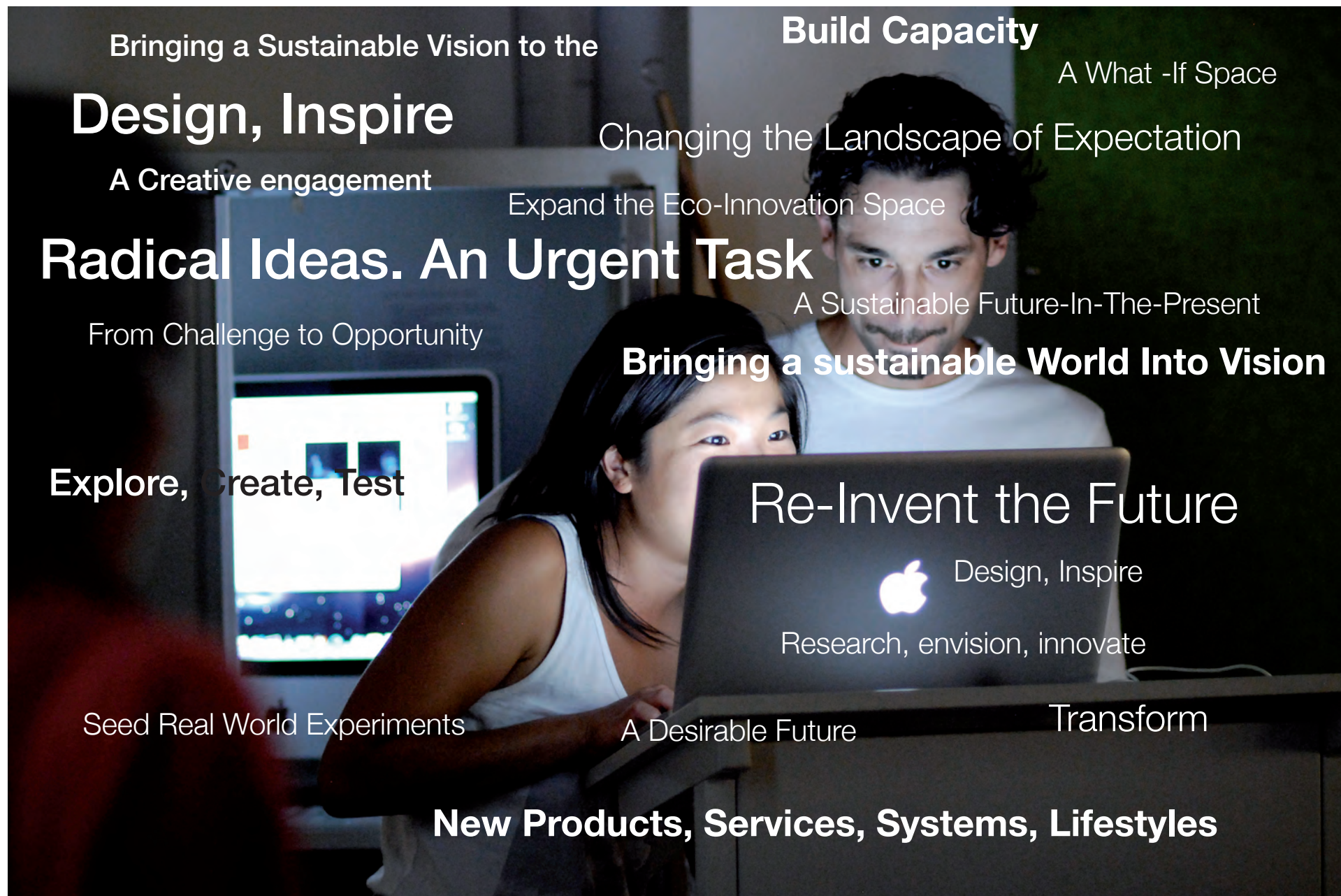
MX News Feb 19 2009 | *Green Future's just what the Doc ordered.*

Ethical Investor March/ April 2009 | *Cities of Green*

3008: Docklands Magazine April 2009 | *The ecological business district.*

Melbourne University Voice 2009 | *Unveiling the Future.*

August/ September 2009 | *Design for Climate: Perfect Storm, Perfect Opportunity.*



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