

# Ecocity World Summit, San Francisco, April 21-26 2008: Conference Summary

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This paper is a synopsis of my Beacon-relevant learnings at the Ecocity World Summit conference held in San Francisco in April 2008. It describes the conference background, intent and structure as well as summarising the feedback on the presentation I gave. The paper also highlights some of the more relevant presentations I went to, with links where possible. I had a great time, and really appreciate the opportunity Beacon provided for me to attend.

### Introduction

The Ecocity series of conferences began in San Francisco in 1990 and have since been held in Australia, Africa, South America and Asia. This, the seventh International Ecocity Conference, thus represented a return to the conference series' roots and inspired many of the longer term attendees to reflect on changes locally, as well as nationally and globally, over the intervening eighteen year period. The initial conference was convened in response to an awareness of climate change and described cities as "the largest creations of our species"<sup>i</sup> linking urban spaces directly to ecological and economic issues at national and global levels as well as to local issues and solutions. Then and now, cities were/are recognised as varying wildly in their impacts on the world, on people, and on civility, but it seems that this is not widely appreciated with no recognition of urban form in the recent United Nations Bali Conference on Climate Change, for example.

The focus of the series, and of this conference, thus remains firmly on urban spaces and climate crisis, including energy and food issues as well as loss of species diversity. This conference also incorporated aspects of economic crisis, both current and impending as well as associated political issues and various social and cultural aspects and perspectives. Overall the conference was promoted as seeking to "launch a design revolution"<sup>ii</sup> in order to optimise the places and processes that comprise cities, towns and villages while retaining healthy relationships with nature:

*We are seeking no less than to transform the way we inhabit planet Earth, and we are here to discuss, refine and energise this vision.*<sup>iii</sup>

A key driver of the conference was the idea of creating better cities by confronting the principles and policies that underpin the nature of the current built environment. The conference has a long term commitment to cities as an ongoing space for human habitation, but not as they are generally currently designed or functioning. The focus of the conference was on shifting away from urban areas that are built for machines and cheap energy towards cities that can nurture and sustain both people and nature. From this perspective cities were portrayed “as a whole system, as having an ‘anatomy’ like other living things”<sup>iv</sup> but with some aspects, such as suburban sprawl, big box retail and a culture of consumption and waste, that are no longer viable. There was a strongly expressed urgency in the need to recognise, refine and redesign cities as an essential context for human living into the future.

To these ends the conference attracted well over a thousand participants including architects and planners, politicians and activists, NGOs and large multi-national corporations and bureaucrats, policy-makers, entrepreneurs, academics, artists and volunteers. Although there was a certain climate of fear about what the future might reveal, many of these people gave inspirational papers that were very often grounded in application, if only in a pilot or test situation. Most people were optimistic that such fear would yield positive creativity and that both humanity and cities would ultimately be better off, so long as we got on with it as soon as possible. Many were not prepared to wait for political will and it was most refreshing to be amongst renegade thinkers and doers!

## **Conference structure**

This year’s conference was organised in two parts (Academic and Talent Scouting Sessions and the Main Conference) and held in a variety of locations across the inner city.

The pre-conference presentation by Gary Braasch, a widely-published nature photographer, set the scene for the conference by highlighted beautifully some of the changes in the natural environment as well as powerfully documenting various urban realities across the world (Figure 1). It was fascinating later to learn that many delegates had found his images and statistics almost unbelievable. One man suggested they had been doctored and several were truly unaware of the everyday realities across the world, as well as in their own backyards. An interesting start to the week!



**Figure 1. Amos Coal Power and Poca, West Virginia by Gary Braasch.**

The first part of the conference proper was the 'Academic and Talent Scouting Sessions'. These were held on April 22nd and 23rd at the University of California at Berkeley Extension. They were billed as "the place for showcasing new cutting-edge research, innovations, and projects related to ecocity design and development"<sup>v</sup>. Papers were presented on the topics of ecocity design, planning, development, transportation, urban agriculture, environmental and social justice, watershed restoration, alternative energy, bioregional and local economies, sustainable businesses and more.

. Over 120 papers from 30 countries were presented during this part of the conference, with up to eleven streams running concurrently.

Immediately following the Academic and Talent Scouting Sessions, the Ecocity World Summit Main Conference showcased ecocity elements that are either already in operation, being implemented, or are proposed. These were from all over the world and included presentations from Jaime Lerner, Rusong Wang, Ken Yeang, Stephen Schneider, Reid Ewing, Dan Beard, Peter Head, Paolo Soleri, Mathis Wackernagel, Paul Downton and Jeff Kenworthy along with Judy Lawley from Waitakere City Council. Curitiba, Freiburg, Yoff, Vancouver and Portland were all showcased along with interesting places and projects like Arconsanti, Auroville, Dongtan, the LA eco-village, Connect Ithaca, Nature in the City, FoodFirst, Local Power, Green mapping systems, green jobs and greening the Capitol. Running over three days, these papers were presented in up to six concurrent streams and included local tours and entertainment.

It is also worth mentioning that the conference provided organic meals in unbleached cardboard with corn starch utensils and biodegradable cups. A strict waste separation process was also implemented, complete with attendees to assist those who couldn't work out the system (see [http://www.green-mary.com//index.php?option=com\\_content&task=view&id=131&Itemid=66](http://www.green-mary.com//index.php?option=com_content&task=view&id=131&Itemid=66) for a report on waste). Tickets for public transport were for sale and calico bags were provided for the unbleached conference guides and other items (including corn starch pens) gathered along the way.

## **The Importance of Urban Neighbourhoods: Measuring Neighbourhood Sustainability in New Zealand**

The presentation summarising the NSF was scheduled for the sessions immediately after the opening plenary. The 25 attendees particularly appreciated the combination of instruments within the tool, commenting very favourably on the inclusion of a perceptive and behavioural assessment alongside 'hard' data. This is apparently not a common combination, and they were keen to see any tool development take both aspects (behavioural and observational) further in terms of recommended actions and standards. They were also in favour of promoting use of the tool repeatedly to monitor and assess change over time.

Alongside the gold stars, there were quite a few detailed questions related to our decision making, with regard to the six domains and weighting of responses in particular. They were also very curious about the tool's reliability and validity and what the potential incentives and gains for various users might be. There was wide support for strengthening the database by undertaking more case studies, mainly to improve the perceived reliability and validity (and marketability) of the domains and tools, but also to ensure the relational scores are robust and secure. There was also strong support for embedding the tool in a recognised policy and/or regulatory framework and a suggestion from the majority of those in the room that the most gains might be achieved with a focus on sections of major urban areas around town centres, as well as denser inner city areas. They were strongly encouraging of developing the tool to work in apartment settings and pushed for testing, refining and even redeveloping the tools for such settings so the results could be used to drive quality densification, mixed-use and multi-use spaces without compromising the more social/cultural factors as well as the environmental.

There was an interesting interlude when they briefly debated the rise of neighbourhood as an important scale of living. It was generally agreed that, in North America at least, larger cities need to become smaller, denser, more multi-use and more mixed-use.

## **Summary of Academic and Talent Scouting Sessions**

Most of the presentations were of a high class and came from a wide variety of perspectives and positions. Many were very much focused on the physical environment, particularly the impact of both product and process on things ecological, and ranged from the relatively micro or individual scale to city- and region-wide efforts. There were a number of product-based papers and also a few interesting social and cultural justice perspectives, including discussion about IP and ownership in conjunction with leadership and partnership. Slideshows of some presentations for both parts of the conference are available for viewing and downloading at:

<http://www.ecocityworldsummit.org/presentations.thurs.htm>.

### **Opening Reception**

This was jointly hosted by Urban Re:Vision and Architecture for Humanity. Urban Re:vision (<http://www.urbanrevision.com/>) is focused on changing the urban landscape by reimagining all the components that make up a city block. Including energy, transportation, commerce and community, the organisation aims to find innovative, healthy and sustainable ideas to help revitalize one urban block. Somewhat naively perhaps, they purport that this will create a blueprint for better cities everywhere. To achieve this goal they are hosting a range of competitions to glean good ideas and

pool them along with energy and resources to create a more positive and sustaining urban experience. Swish marketing, some beautiful postcards and a designer website.

Architecture for Humanity established the Open Architecture Network (<http://www.openarchitecturenetwork.org/projects> ) where anyone can access to open source architectural plans that are rated in terms of an overall rating, sustainability, innovative materials and cost-effectiveness.

### **Lochiel Park, Adelaide. Phil Donaldson**

Phil Donaldson presented a “model green village” called Lochiel Park, which is about eight kilometres from the Adelaide CBD in the suburb of Campbelltown ([www.lochielpark.com.au](http://www.lochielpark.com.au)). The village is being developed by the South Australian Government who announced it in 2004. The objective is to build ecologically sustainable homes within a nature setting that links directly to the River Torrens. The site is a former education setting and is adjacent to a busway.

Lochiel Park is directly aligned to the government’s efforts at reducing greenhouse gases. The 100 home development is designed to be a model for other urban developments to demonstrate housing and neighbourhoods with climate change and “a carbon constrained world” in mind. It incorporates fifteen percent affordable housing, includes a community garden and energy efficient building design, solar energy systems, a recycled water system and the effective management of waste. Less than one third of the site will be developed for residences, with over 10 hectares incorporated as parklands and protected by legislation against future development.

Efforts to build a ‘strong cohesive community’ are already underway through the Lochiel Park Online portal. This provides a forum for promoting events, encouraging discussion and arranging joint activities. An extensive evaluation is planned, although this appears to focus mainly on observable ‘hard’ outcomes.

### **Vertically Integrated Greenhouse: Realising the ecological benefits of urban food production. Theodore Caplow**

This presentation was about a double-skin high-rise facade that incorporates a hydroponic greenhouse. Offering both increased energy efficiency and food production, the Vertically Integrated Greenhouse (VIG) was promoted to also reduce some of the negative impacts of farming and transportation while enhancing the lives of urban dwellers. Basically the modular system involves horizontal trays suspended on vertical cables under a glazed curtain on the south facade of a building (Figure 2).



**Figure 2. Example of Vertically Integrated Greenhouse**

Modelling of the system in New York City indicates that each 2m x40m module may conserve 300 tons of water, avoid up to four tons of CO2 emissions and substitute for 0.1 hectares of cropland in the USA per year. An impressive cost-benefit was also presented, with total “positive net benefits” of almost \$US70/m2/year. While the modules are yet to be trialled, the technology already exists. See [http://nysunworks.org/?page\\_id=6](http://nysunworks.org/?page_id=6) for more information.

### **Ecological Engineering: Green roofs and the greening of vertical walls in urban areas. Hein Van Bohemen**

This presentation promoted green walls and roofs as insulation, air purifiers, and general ecosystem enhancers based on a project the presenter is involved in called ‘The Ecological City’. While the paper had an engineering focus, it also discussed the political “hesitation” towards greening urban architecture and described the technological and pragmatic advantages of greening architecture with a view to breaking down some misconceptions and entrenched perspectives. See an interview with Hein and examples of his work here: [http://www.iees.ch/EcoEng051/EcoEng051\\_Int.html](http://www.iees.ch/EcoEng051/EcoEng051_Int.html).

### **Green Surfaces in the City Context. Daniel Roehr and Jon Laurenz**

This paper from researchers working in the green-skis lab at the University of British Columbia (<http://www.greenskinslab.sala.ubc.ca/>) focused on the benefits of green surfaces (roofs, walls, facades, balconies and pathways as well as open spaces) as the “lungs of the city”. The lab and its projects are in the early stages and mainly consisted of modelling work, although a number of real-life projects were discussed as well.

The aim of the lab is to provide interdisciplinary research to assist a range of institutions to improve policy and planning to more effectively include green surfaces by providing data on the environmental benefits of “living skins” in the city. The lab also aims to create evaluation tools for governments and planning institutions to improve planning strategies and policy developments. The motivation for the research project is to mitigate some of the adverse effects of climate change and cities as well as to “create friendlier environments” and also contribute to ameliorating the environmental impact of cities including the following: reduction in cooling and heating demand; enrichment of urban biodiversity and urban agriculture; improvement of air quality; reduction in the urban heat island; contribution to carbon-neutral architecture; reduction of stormwater; improvement of indoor comfort; and the economic evaluation of different construction systems. The project incorporates research from around the world, particularly from Europe and North America to classify the different types of green roofs and identify their environmental benefits. It has developed a series of survey methods resulting in a set of measurable figures to define the contribution of an overall green surface strategy within a particular city and determine the necessity for implementation of such a policy.

The assessment has been applied to downtown Vancouver and a case study is planned there that will use a hydroponic greenwall system to connect roof and street-level green spaces including underground garages covered by a green roof; boulevards in sidewalks; green open space; and green façades. The complex interconnection of urban green skins to one another as well as to the wider city infrastructure and function have been thoroughly evaluated (through modelling I think), concluding that the environmental benefits of green surfaces are only achieved when these are applied in the larger scale of a whole city.

### **Regional Sustainability Dashboards**

This was a most interesting unscheduled paper from the people at [www.agilewaves.com](http://www.agilewaves.com) who have developed technology to continuously measure electric, gas and water consumption of a home or business. The Resource Monitor calculates the building’s carbon footprint in real-time and makes

this information readily available on a wall-mounted touchscreen or web page. The technology is designed along the lines of the Dashboard of Sustainability, which is a free-of-charge, non-commercial software package configured to convey the complex relationships among economic, social, and environmental issues. The Resource Monitor is designed to help users make smart resource consumption choices that also prove that conservation efforts make a tangible difference. It is unclear what the cost is.

The team at Agile Waves are also involved in The Vulcan Project (<http://www.purdue.edu/eas/carbon/vulcan/index.php>). This is a NASA/US Department of Energy funded endeavour under the North American Carbon Program (NACP) to quantify North American fossil fuel carbon dioxide emissions at finer scales (both space and time) than has previously been achieved, including at the scale of individual factories, power stations, road networks and neighbourhoods. The aim of Vulcan is to assist the quantification of the North American carbon budget, so as to support inverse estimation of carbon sources and sinks, as well as to support the demands posed by the launch of the Orbital Carbon Observatory (OCO) scheduled for 2008/2009. It is also expected that the detail and scope of the Vulcan CO2 inventory will make it a valuable tool for policymakers, demographers and social scientists.

At this stage, the inventory is built on a ten kilometre grid and is available at an hourly timescale for 2002 and is quantified for fuel type, economic sub-sector, and county/state identification. Similar inventories are planned for Canada and Mexico, to include carbon and nitrogen emissions, and to incorporate biotic-based fuels. Further, the learnings from the Vulcan Project have been used to inform the Hestia Project (<http://www.purdue.edu/climate/hestia/>), where it is planned to quantify greenhouse gas emissions for the entire planet at the building scale with complete driving processes.

#### **Green Jobs and Green Cities Roundtable. Various**

This round table presented Bay Area case studies of green jobs and green infrastructure. Following several brief presentations the discussion revolved around how ecological infrastructure can align (and indeed is necessary for) municipal goals on carbon capture/reduction, stormwater management, urban heat island effects and even the economic development of poorer communities within the city. I was particularly interested in the 'habitable': a tiled soil-based living wall system as well as the efforts the local authorities and developers have gone to recycle stormwater in recent developments, including the plaza in which we had lunch earlier that day (Figure 3).



**Figure 3. Mint Plaza, San Francisco. April 2008.**

I was also really impressed by the presenter from the Ella Baker Center (<http://www.ellabakercenter.org/page.php?pageid=1>) who spoke about eco-apartheid and eco-equity and who promoted green jobs as a pathway out of economic and spiritual poverty. It was great to have a discussion instead of a series of presentations.

### **Healthy Development and Ecocities Workshop. San Francisco Department of Public Health**

This workshop proved to be a sampling of a Healthy Development Measurement Tool (HDMT) (<http://www.thehdmtool.org/>) developed by the San Francisco Department of Public Health (SFDPH) to assess the health of local neighbourhoods using just under 100 indicators. The focus of the tool is to provide “evaluation metrics” in order to comprehensively consider health needs within the urban built environment to facilitate higher quality social and physical environments that advance health.

The HDMT developed out of a situation where recent intense development pressures in San Francisco had generated a multitude of infrastructure, zoning, public safety and environmental impacts, including a shortage of affordable housing. In response to requests from the community for assessments of these developments the SFDPH initiated a health impact assessment programme in neighbourhoods to the east of the city, which had been significantly impacted by new development.

Over twenty diverse organisations took part in the eighteen-month process, which resulted in a number of outcomes:

- a Healthy City Vision for San Francisco,
- community health objectives to reflect that vision,
- indicators to measure those objectives,
- data on those indicators to assess how the City was doing with respect to that vision, and,
- a menu of urban development policy strategies to advance those objectives.

The need to integrate much of the data and policy research into a tool to support evidence-based and health-oriented planning and policy-making was identified as the project evolved. A huge amount of information and data from the project was thus incorporated into the HDMT, which encompasses a community-based vision and uses a community health “lens” to explicitly connect physical and environmental planning to a wider set of social, environmental, economic, and equity priorities. The tool uses health impact assessment methods to evaluate urban environmental conditions, health inequities and environmental policy gaps and is underpinned by the fundamental value that all communities should have equal access to health resources. As such, HDMT objectives and indicators are orientated towards the need for development that serves existing and new residents and workers. Data are disaggregated by neighbourhood and are illustrated spatially in an effort to highlight disparities. The tool can be applied using data from the master indicator set that is available online and is organized into:

1. Six Elements that comprise a Healthy City: environmental stewardship, sustainable and safe transportation, social cohesion, public infrastructure/access to goods and services, adequate and healthy housing and a healthy economy.
2. Community Health Objectives that, if achieved, would result in greater and more equitable health assets and resources for San Francisco residents.
3. Health-based Rationales that describe the nexus between the objective and physical and mental health.
4. Measurable Indicators and Baseline Data to help evaluate progress towards the objectives and evaluate the benefits of projects, plans, and policies.
5. Development Targets that, if achieved by a project or plan, are a proxy for improvement of an indicator.
6. Policy and Design Strategies to support the achievement of development targets

The first version of the HDMT was launched in March 2007 and since then the web-based version has undergone a number of revisions to improve its applicability and specificity. It is one of several “Urban Place and Health” tools developed by the department (these include a number of modelling tools as well as several indexes plus a ‘neighbourhood completeness indicator’).

### **City Repair for Portland, Oregon**

This was also a last minute add-on session from a group of volunteer citizen activists in Portland who create public gathering places and help others to creatively transform the places where they live. The City Repair Project was formed in 1996 by people who wanted a more community-oriented and ecologically sustainable society. The project was born out of a successful grassroots neighbourhood initiative that converted a residential street intersection into a neighbourhood public square and was founded on the idea that localisation (of culture, of economy, of decision-making) is a necessary foundation of sustainability.

*By reclaiming urban spaces to create community-oriented places, we plant the seeds for greater neighbourhood communication, empower our communities and nurture our local culture.*

<http://www.cityrepair.org/wiki.php/about>

Key aims in all City Repair projects are to:

- inspire people to both understand themselves as part of a larger community and fulfill their own creative potential, and
- activate people to be part of the communities around them, as well as part of the decision-making that shapes the future of their communities.



**Figure 4. Image from the Depave Project.**

Projects include temporary and permanent placemaking installations, community events, educational presentations, consultation and technical assistance, community placemaking facilitation, and the development of our own egalitarian community of activists and volunteers. See their ideas for intersection repair (<http://www.cityrepair.org/wiki.php/projects/ir/main>) for an inkling of their creative spirit and the Depave project for their commitment to the removal of unnecessary concrete and asphalt (Figure 4). <http://www.depave.org/> has a wealth of information about this renegade initiative, including maps of depaved sites and of those just waiting to be depaved as well as some great before and after shots.

Another initiative is the Village Building Convergence 2008 (VBC8): a 10-day event from Friday, May 23rd – Sunday, June 1, 2008 in which neighbourhoods activate to build shared public places that they have envisioned, designed, funded, and will maintain for themselves. The poster says that VBC8 will include hands-on education in permaculture design and construction, ecological building, and public art and will feature projects that support community in various neighbourhoods, including public squares and meeting houses, community kiosks and benches, solar-powered and artistic innovations. All projects are built through collaboration, community conversations and commitment of a neighbourhood to strengthen itself and each project is initiated and managed by neighbourhood groups with support from the VBC Placemaking Committee. The Placemaking coordinators will help neighbourhoods facilitate and coordinate the outreach/public involvement process, community decision-making and design workshops, and the permit process with the City. See <http://www.cityrepair.org/wiki.php/projects/vbc8> for more information.

### **Summary of Ecocity World Summit Main Conference**

This is a brief summary of the main presentations I attended. These presentations were essentially showcases but also incorporated sometimes quite cutting critiques about politics and politicians.

### Keynote address: Jaime Lerner

Jaime Lerner gave an overview of his philosophy which hinges on the idea that cities are not the problem but are in fact the solution not only for localities, regions and nations but for climate change overall. Speaking from his personal experiences, he challenged the largely pessimistic approach that prevails in the popular press with regard to cities by articulating his strategic vision of co-responsibility and the concept of design as underpinning sustainable urban structures.

Describing a city as being like a family portrait – a representation of a functioning entity that provides identity, supporting co-existence and social diversity - he covered a wide range of subjects, including his less than orthodox (and often very fast) approaches to achieving change in Curitiba. He described the inanity of living, working and playing in different parts of the city and focused on the provision of transport combinations (rather than competition), detailing the public transport system in Curitiba in some detail and promoting the bus rapid transit system (Figure 5).



**Figure 5. Jaime Lerner and a tube-shaped bus shelter on the ‘speedybus’ network in Curitiba.**

In his inimitable way, and with characters he has used before to support him (Vita the turtle, Otto the automobile, Accordion the friendly bus), he described the car as the person who drinks a lot and won’t leave the party. He also compared private motor vehicles to a man’s mother-in-law, saying that if the only woman you have in your life is your mother-in-law, then you have a problem (!).

Lerner also promoted his design for individual vehicular transport, the Dockdock, and the idea of portable streets for multiple diurnal uses as well as the concept of ‘urban acupuncture’ – small oases in the city that can be created quickly with ‘needles’ of local government assistance to create new energy rather than long and detailed planning. Creativity, he said, is starting, and involving people will ensure the result is what is wanted, needed and intended.

*Creativity, it starts when you cut a zero from your budget. If you cut two zeros, it’s much better!”*

Cities are a collective dream, he says.

A very similar presentation is available from <http://www.ted.com/index.php/talks/view/id/213>.

### Rusong Wang

Rusong Wang was one of the conference co-conveners. He is Head of the Centre for Ecological and Environmental Sciences at the Chinese Academy of Science as well as being one of the founders of

the Ecology Society of China, one of the founders of SCOPE (the Scientific Committee on Problems in the Environment) and a member of the People's Congress of China.

Describing the impacts of urbanisation and industrialisation in China, Rusong applied Chinese philosophy to cities in an effort to understand the good and the bad of cities and to shift urban areas from ego-cities to eco-cities. Rethinking, reforming and renovation were key planks of his philosophic underpinning for the future. He envisaged a triangulation of eco-industry, eco-culture and eco-landscape encompassing and inter-connecting the various energies of Chinese philosophies. See one of his presentations at the conference here:

<http://ecocity.wordpress.com/category/rusong-wang/> .

### **Brent Toderian**

Brent Toderian is the Director of Planning for the City of Vancouver (the most 'liveable' city in the world) and is involved in preparing the city for the 2010 Winter Olympics as well as visioning and applying the City Plan, including the new "EcoDensity" initiative.

EcoDensity is based on the premise that strategically located, sustainably designed density can reduce the city's overall ecological footprint simultaneously with making the city more sustainable, liveable and affordable (both in capital cost and in performance costs and efficiency). Using LEED as a minimum benchmark standard, the process of applying EcoDensity includes encouragement of a community dialogue and the development of a charter and actions. EcoDensity and responsibility for adaptation to climate change and reduction of greenhouse gases is represented through the three wheels of a tricycle: the front wheel represents sustainability, and this is supported by the two rear wheels which represent liveability and affordability.

Brent describes the debate in Vancouver as being less about the environment versus density, and more about densification being inevitable and a focus on how to do it well. It focuses on amenity and transit and uses design, technology and working towards being 'deep green' to achieve effective sustainable density.

*...density is our friend...you cannot have a serious conversation about sustainability without talking directly about density and we have addressed it in three ways – through movement...amenity...and city by design*

This has also incorporated encouraging families with children back into the city as well as redeveloping brownfield sites through a very strict planning policy.

See two of Brent's presentations here: <http://ecocity.wordpress.com/category/brent-toderian/>.

### **Parris Glendening**

As President of the Smart Growth Leadership Institute (and with two terms as Governor for Maryland), Parris Glendening represented the eco-politician. He illustrated the progress of urbanisation in North America through a series of slides in order to support the promotion of the compact city philosophy. In what was essentially a promotion of a book called 'Growing Cooler' he articulated the need for less automobile dependent development and key changes in land use patterns through the presentation of hard data and dire warnings. Drawing on a study that somehow legitimised findings of other studies and concluded that "urban development is both a key contributor to climate change and an essential factor in combating it", Governor Glendening revealed that:

*...meeting the growing demand for conveniently located homes in walkable neighborhoods could significantly reduce the growth in the number of miles Americans drive, shrinking the nation's carbon footprint while giving people more housing choices...*

See the slides from Parris Glendening's presentation here: <http://www.ecocityworldsummit.org/presentations.thurs.htm>.

### **Dan Beard Greening the Capitol**

Dan Beard is Chief Administrative Officer (CAO) for the House of Representatives. He has thirty years of experience in policy affairs and management issues, including positions with the Senate, White House, Interior Department, the Library of Congress and the House Appropriations and Natural Resources Committee. He is currently leading House Speaker Nancy Pelosi's "Green the Capitol" initiative and this was the focus of his talk.

Started in March 2007, this two year initiative is to make the U.S. House of Representatives a leader in providing an environmentally responsible and healthy working environment for its employees and a showcase for sustainability. Beard used the symbolism of fire (carbon-free matches!) and talked about greening a campus and trying to save money. His goal is to make the House of Representatives carbon neutral by the end of 2008 and to model "going green" for businesses and homes as well as towns and cities. His achievements to date include reductions in energy use and waste, increased procurement of sustainable "inputs" (including office products and food supplies), provision of car-sharing services with onsite hybrid vehicles and establishing a pilot for the Smart Benefit program with DC public transit. A green outreach programme has also been established to enrol staff in the programme. Achievements to date are documented here <http://cao.house.gov/greenthecapitol/progress-report-2007dec.pdf>.

The website for the project is here: <http://cao.house.gov/greenthecapitol/> and Dan's presentation to the conference is here: <http://ecocity.wordpress.com/category/green-building/>.

### **Jeff Kenworthy**

This presentation was called 'Ten Planning and Transport Fundamentals for Successful Eco-City Development'. With transport and urban form at the centre he presented a model of ecocity development around which compact and mixed use development; denser human-oriented city centres and sub-centres; public and non-motorised modes of transport; environmental protection and food production within cities must operate and be embedded. Key to the success of this model is sustainable technologies for water, waste and energy as well as sustainable economic development, sustainable urban design and high quality public places. Planning processes of "debate and decide" rather than "produce and provide" as well as ensuring decision-making was based on an integrated sustainability framework were presented as critical.

Pulling these together the ten fundamentals are:

1. Compact, mixed use and efficient urban form
2. Transit and non-motorised infrastructure, not freeways
3. Nature and food growing within and around the city
4. Human city centres and sub-centres for jobs and population
5. High quality public realm throughout the city

6. Sustainable urban design qualities that meet human needs
7. Economic innovation through creativity and environmental quality
8. Environmental technologies for energy, food and waste
9. Visionary planning
10. Decision-making is within an sustainability framework that integrates social, economic, environmental and cultural factors

In summary, to achieve SOD (Sustainable Oriented Development) any project will require TOD (Transport Oriented Development), POD (Place-based Oriented Development), COD (Community and Creativity Oriented Development), GOD (Green Oriented Development) and DODE (Debate and Decide Oriented Development). Check out his slides here: (<http://www.ecocityworldsummit.org/presentations.fri.htm>) to see how he links all this to the Olympics.

### **Wulf Daseking**

Wulf is the Director of City Planning for Freiburg and has been since 1984. He showed slides of snow in the Caribbean and floods in Bangladesh as well as expensive wealthy subdivisions in Dubai out over water but his presentation mainly showcased Freiburg with a particular focus on urban form and beautification, transportation and energy efficiencies. Following a proposal to build a nuclear power plant nearby in the 1970s, the local population became mobilised and started to campaign for environmental solutions to the city's energy needs. This began a political process that led to exacting local environmental standards and the promotion of master-planning including sustainable buildings, extensive and well-used public transport, widespread landscaping and a huge demand for and supply of photovoltaic energy, such that Freiburg is now known as "the solar city". He presented images and commentary about both the Solarsiedlung (solar community) area, Reislefeld and Vauban and said, simply, "you just do it".

See the slides here: <http://www.ecocityworldsummit.org/presentations.fri.htm>

### **Mathis Wackernagel**

Mathis Wackernagel is the executive director of The Global Footprint Network and co-creator of the Ecological Footprint. He described the process of bookkeeping for the planet's ecology and how people can "live satisfying lives within the means of Earth's ecological capacity." He demonstrated the process of assessing individual and national ecological footprints and presented facts and figures and emphasised the need for behaviour change and the role of a "simple accounting framework" to support this.

You can see his presentation here: <http://ecocity.wordpress.com/tag/mathis-wackernagel/>

### **Paul Downton**

Paul Downton is Director and Principal Architect of Ecopolis Architects Pty Ltd as well as a founder of Urban Ecology Australia (UEA), a national non-profit urban environmental community group that actively promotes ecological developments. He presented several times on his own projects as well as on the concept and application of urban fractals.

A fractal derives from chaos theory and is part of a whole system that holds within it all the essentials and patterns of the larger system. The larger system, may in fact be a fractal of a yet larger system and fractal systems may be “nested” into one another, like Russian dolls, into the almost infinitely small as well as the very large. In an ecocity, integral neighbourhoods can, for example be urban fractals - embodying all the major systems of a city and inherently sustainable in themselves but also nested within the wider settlement, region and nation. Such an integral neighbourhood is likely to include a neighbourhood centre with a high diversity of functions, renewable energy technology, passive energy design, public transport, non-motorised transport and good local amenity amongst other things.

One of his featured projects was a neighbourhood in central Adelaide called Christie Walk. It is a small neighbourhood developed in conjunction with a community of people who now live there and with a commitment to “the human values of urban living and ecological responsibility”. The site is still partially under construction and is designed to test and demonstrate the processes, plans and principles contained in the ecological city vision of UEA. It is part of the Whitmore Square EcoCity Project – a conceptual strategic framework adopted by UEA for mapping the southwest quarter of the city as a future piece of ecocity. The design brief was based on energy efficiency, the use of renewables and a high overall ecological performance allied to user-participation in the design and development process. It was intended to set the parameters for a project able to demonstrate both the physical and organisational aspects of community and ecological development. Find out more about it here: <http://www.ecopolis.com.au/proj/christie-walk-ecocity>.

### **Paolo Soleri**

Paolo Soleri talked about his major life project: Arcosanti (Figure 6), a prototype town for 5,000 people, under construction since 1970 as an alternative to suburban sprawl. This town is located at Cordes Junction, in central Arizona, and where once it was isolated, now the urban fringe of Phoenix is very close.

The project is based on Soleri’s concept of “Arcology,” architecture coherent with ecology. His proposed cities are for people on foot, not designed around automobiles; they are compact and three-dimensional, vertical and not flat and stretched over large distances. Arcology advocates cities designed to maximize the interaction and accessibility associated with an urban environment; minimize the use of energy, raw materials and land, reducing waste and environmental pollution; and allow interaction with the surrounding natural environment.





**Figure 6. Arcosanti image and floorplan.**

See more here: <http://ecocity.wordpress.com/tag/arcosanti/>.

### **Peter Head**

Peter Head is a Director of Arup, the English design and engineering firm, and head of their project for Dongtan, a planned ecocity on an island near Shanghai. He has been a Commissioner on the London Sustainable Development Commission since 2002. His talk focused mainly on Dongtan and how Arup was balancing the ecological with the urban.

Started in 2005, Dongtan is a master planned city of three villages that will meet to form a city centre. The first phase of the city aims to be completed by 2010, in time for the World Expo in Shanghai, and will accommodate a population of up to 10,000. This population will grow to around 80,000 by 2020 and up to 400,000 by 2050.

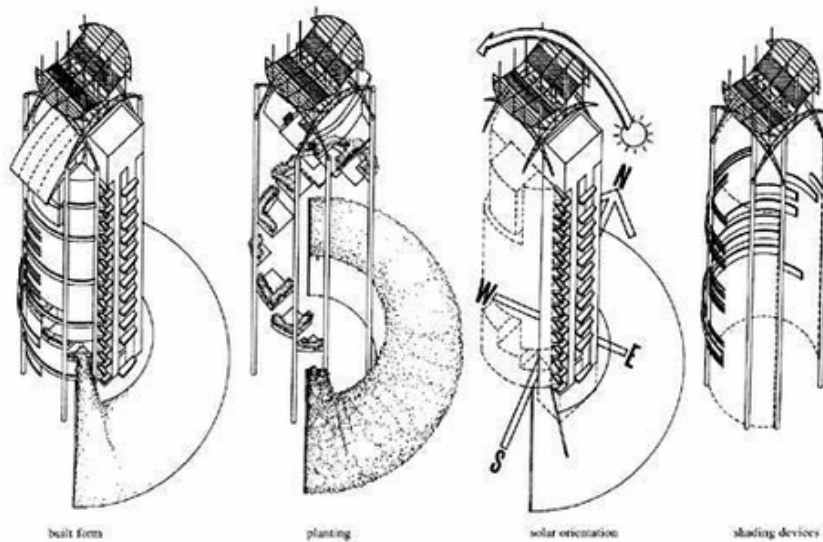
The city will run entirely on renewable energy for its buildings, infrastructure and transport needs and will recover, recycle and reuse at least 90 per cent of all its waste. Dongtan eco-city incorporates many traditional Chinese design features and combines them with a sustainable approach to modern living, but “not at the expense of creating a city that is recognizable as a ‘Chinese’ city”, whatever that means.

The wetlands adjacent to the site is one of the driving factors of the city’s design. These are to be “protected and enhanced” by returning agricultural land to a wetland state creating a ‘buffer-zone’ of at least 3.5 kilometres between the city and the mudflats. It is expected that this will increase biodiversity on Chongming Island.

See Peter Head talk here: <http://ecocity.wordpress.com/tag/peter-head/>.

### **Ken Yeang**

Ken Yeang is a Director of Llewelyn Davies Yeang, a multidisciplinary firm of Urban designers, Architects and Landscape Architects. Seeing tall buildings as inevitable because of population and land pressures, Yeang is known for pioneering “bioclimatic” design, the passive low-energy design of skyscrapers (see Figure 7 for a cross-section of one of his buildings).



**Figure 7. Cross-sections of a Yeang building**

The principles are demonstrated in his 1992 Menara Mesiniaga building in Subang Jaya Selangor, Malaysia. It incorporates vertical landscaping, external louvers to reduce solar heat gain, extensive natural ventilation and lighting, and an active Intelligent Building system for automated energy savings (he has a number of patents for building ventilation). His presentation described his principals of design, including integrating the human-made built form with nature through “eco-cells” in buildings and balancing the biotic and a-biotic within buildings. He illustrated these with detailed explanations of several of his buildings as well as expressions of his own philosophies.



**Figure 8. Yeang skyscrapers: the Elephant and Castle Eco Towers, London and Editt Tower, Malaysia**

See some more images of his buildings and hear him speak here: <http://ecocity.wordpress.com/category/ken-yeang/>.

## Endnotes

<sup>i</sup> Richard Register, Conference Co-convener. EcocityWorld Summit Conference Guide, 2008, pp3

<sup>ii</sup> Kirsten Miller, Conference Director. EcocityWorld Summit Conference Guide, 2008, pp1

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iii **ibid**

iv <http://www.ecocityworldsummit.org/about.htm>

v <http://www.ecocityworldsummit.org/about.htm>