POSITIVE COMMUNITIES FORUM REPORT

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Positive Communities Forum organised by:

ENGINEERS AUSTRALIA

Australian Green Development Forum

Queensland Government

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1.0 OVERVIEW

The Society for Sustainability and Environmental Engineering of Engineers Australia, Australian Green Development Forum and Department of Employment Economic Development and Innovation held this Forum on the 23 September 2010 to discuss future urban planning and research opportunities and the ways to create Positive Communities.

Approximately seventy persons attended the Forum, representing a cross section of practitioners from sustainability engineering, architectural design, urban planning, government and the research community. This Forum was an invitation only event to target practitioners from various disciplines directed at sustainability.

The Agenda (Attachment 1) allowed for a number of key presentations and collaborative discussion at two workshops. This Report includes some key themes from each presentation and summary points from the workshops. Guest speaker biographies are at Attachment 2.

2.0 WORKSHOPS

The workshop components of the Forum provided an opportunity to break out into groups to discuss two key questions from different perspectives. The workshops explored the questions:

1. How do we create a net positive eco-retrofit of central Brisbane?; and
2. How do we create a positive framework of eco-retrofitting existing multi-residential/ high density communities?

Most Forum participants specified their area of interest to form the groups. The groups comprised:

- Design Group - Eco-technologies for urban integrated eco-services
- Biodiversity Group - Urban agriculture and ecosystems
- Social Group - Social change and urban revitalisation
- Education Group - Awareness raising of potentially positive solutions
- Professions Group - Professional development
- Management Group - Analysis, planning and assessment

The workshop framework is covered at Attachment 3.

2.1 DESIGN GROUP

Design Group Session 1 *- How do we create a net positive eco-retrofit of central Brisbane?*
Eco-technologies for urban integrated eco-services
(Facilitators Prof. Janis Birkeland and Kirsty Chessher)

- A legislative framework is missing, e.g. landscape requirements (BCC) vs. community desires
- Lost resources should be recognised, i.e. roads and alleys
- Redefine uses of space, i.e. evaluate how we live so integrated systems can be provided
- Design needs to be for climate and community
- A positive framework is beyond closing the loop; the framework needs to lead to net positive benefits

Design Group Session 2 - *How do we create a positive framework of eco-retrofitting existing multi-residential/ high density communities?*
Eco-technologies for urban integrated eco-services
(Facilitators Prof. Janis Birkeland and Kirsty Chessher)

- There are difficulties for tenants – A tenant as a renter has limited capacity to improve their built environment – new models for owners/ occupiers are necessary
- The effectiveness of sustainability legislation could be improved – incentives could be used (currently, there are a number of overall barriers and tax structures)
- Bonus provisions could be provided for sustainability retrofits
- The effectiveness of sustainability declarations could be improved as the market is influenced by lower projected on-going costs

2.2 BIODIVERSITY GROUP

Biodiversity Group Session 1*- How do we create a net positive eco-retrofit of central Brisbane?*
Urban agriculture and ecosystems
(Facilitators Michael Velders and Chris Walton)

- Current financial structures are problematic – those who pay don't get the benefits; there is a need to investigate and expose the real costs of development from the perspective of ecosystems and health
- Planning change is required- planning does not value biodiversity at the moment; need to support energy generation off grid, reduced reliance on infrastructure;

neighbourhood plans could highlight opportunities to conserve biodiversity; State Government is driving the change via SPA rewrites – Grab the opportunity now!!; neighbourhood plans

- Demonstration ecosystems are needed on the ground- not just small city farms but whole suburbs
- Language that the community understands is useful, e.g. "clean lung vs. dirty lung"; Biodiversity should be made personal; facilitate and educate-adapt learnings from recent water use reduction programs

Biodiversity Group Session 2- *How do we create a positive framework of eco-retrofitting existing multi-residential/ high density communities?*
Urban agriculture and ecosystems
(Facilitators Michael Velders and Chris Walton)

- Biodiversity is the most marginalised area. What incentives are available? It is a marginalised topic both at a micro and macro level. There needs to be legislative support for incentives.
- High biodiversity is reliant on clean water air and food, and can be supported through linking of green spaces.
- The quality of the environment equates to the health of society. The social benefits associated with increased biodiversity needs to be explored.
- Better benchmarking for biodiversity and promoting the benefits of biodiversity to the community could be done – this involves communication and education.
- Biodiversity can be supported through piggybacking on existing activities such as resumption of land for biodiversity in comparison with acquiring flooding properties.

2.3 SOCIAL GROUP

Social Group Session 1*- How do we create a net positive eco-retrofit of central Brisbane?*
Social change and urban revitalisation

1. *(Facilitators - Dr Marcie Webster-Mannison and Dr Jago Dodson)*

- A prime concern is communication - Communities /consumers are not engaged - there is a perception that communication is holding up sustainability, but consumers cannot make the right choice when alternatives are not offered.
- How do we make sure that community engagement /partnering in decision making <u>always</u> happens?
    - Community <u>Owned</u> Development

- Do not have preconceived solutions, (e.g. South East Queensland Regional Plan)
- Legislative Changes on defining communities: Government has a greater capacity to be the change agent
- Implications to inclusion - consultation or participation; accessing forms of development
- Direct empowerment of community through a facilitator and community input
- Build networks to grow the community - don't just go to the community when you need something

Social Group Session 2- *How do we create a positive framework of eco-retrofitting existing multi-residential/ high density communities?*
Social change and urban revitalisation
(Facilitators - Dr Marcie Webster-Mannison and Dr Jago Dodson)

- Body corporate Legislation should be more open to allowing creation of a positive shared vision for communities
  - recognition of multiple actors is needed , e.g. tenants vs. landlords
  - in multi residential accommodation, rights and responsibilities should be better defined
- Zoning and planning options to be flexible regarding titling and governance (examples are collective and cooperative models, e.g. co-housing)
- Infrastructure provisions should incorporate evaluation of both equity and economics
- Communities need to be linked via social spaces

2.4 EDUCATION GROUP

Education Group Session 1- *How do we create a net positive eco-retrofit of central Brisbane?*
Awareness raising of potentially positive solutions
(Facilitators Michael O'Brien and Prof. Mark Porter)

- Knowledge is limited – What is sustainable? What does sustainability really mean? There is a need to develop an understanding and then action
- Engaging with decision-makers –
  - Do we name and shame (i.e. emphasise the negative)
  - Why don't we see the positive messages (particularly from Government)?
- We need to present the good news and successful outcomes

- Money talks so we need to speak the right language, and focus on marketing, the risks, return on investment, and vulnerability.
- Appropriate policy is not necessarily dependent of providing more dollars
- Why would anyone want to retrofit?
    - Form over function?
    - Feel and touch exemplars are needed (the public needs to see models that work)
- Government limits progress
    - Need policy
    - Need action
- In summary, we need
    - Exemplars
    - Positive Communication
    - Business and Government in tandem

Education Group Session 2- *How do we create a positive framework of eco-retrofitting existing multi-residential/ high density communities?*
Awareness raising of potentially positive solutions
(Facilitators Michael O'Brien and Prof. Mark Porter)

- A strategy to target Body Corporates to ensure benefits are returned to the whole unit block is of prime concern. Could this be achieved through:
    - Collaboration/ communication
    - Incentives for Developers and Body Corporates?
- A Sustainable Education Centre could demonstrate the triple bottom line. (Hotels target their audience well with room information – Would this be effective for targeting Developers and Body Corporate Companies? Business innovators to uptake this concept, would need to be identified.
- Should a sustainability checklist be mandated? What about buyers? Could use on-line real estate portals to target buyers
- Incentives for old buildings could be provided, e.g. cheap loans.

2.5 PROFESSIONS GROUP

Professions Group Session 1 *- How do we create a net positive eco-retrofit of central Brisbane?*
Professional development
(Facilitators Mark Thomson and Adam Beck)

To recreate the city there needs to be:

- A new vision with people first
- A re-definition of the city – the brief needs to be changed via advocacy
- A common/ shared vision for the City. This vision is to be holistic, with a set of hierarchies
- Infrastructure supported by professional expertise working with government
- Professional groups coming together for a “common green voice” to work with government - principles/ objectives/ shared ownership

Professions Group Session 2 - *How do we create a positive framework of eco-retrofitting existing multi-residential/ high density communities?*
Professional development
(Facilitators Mark Thomson and Adam Beck)
Body Corporate Legislation should be flexible.

- Education on issues (e.g. cross ventilation, natural ventilation)
- Demonstration projects
- Possibilities /evolution of ideas – green vision

Common language

- Sharing of new ideas and technologies
- Knowing what is feasible

Community Engagement

- Building /strengthening community cooperatives, e.g. Food Connect
- Mix/interaction methods
- Neighbourhood building
- A community garden /shared places

Broadening Incentives

- Individual vs. group
- Knowledge of law
- Shared ownerships

2.6 MANAGEMENT GROUP

Management Group Session 1*- How do we create a net positive eco-retrofit of central Brisbane?*

Analysis, planning and assessment

(Facilitators Wally Wight and Prof. David Hood)

- Professional leadership competency **-** corporations should expect sustainability in base education.
- Need mechanisms to measure and value positives **-** mechanisms need to provide long term standards for the above.
- Need an exemplar - retrofitting is not easy!!
- Shift the responsibility for waste (including demolition) - requires policy development - site purchasers will need to buy the embodied energy
- Mechanisms to streamline development application process – Is a retrofit green pool required? - Will need incentives to make it happen.
- Link to valuers to include "performance"- Selling PIA, REI
- Setting goal posts and monitoring - to be provided through a national framework
- Return investment to public realm (congestion tax, etc)

Management Group Session 2 - *How do we create a positive framework of eco-retrofitting existing multi-residential/ high density communities?*

Analysis, planning and assessment

(Facilitators Wally Wight and Prof David Hood)

- The Corporations Act requires that directors focus on profit. This limitation excludes a prime focus on sustainable business growth. A culture of sustainability must be build into education long term.
- There is a lack of good case studies in retrofitting.
- Policy changes such as waste kept on site – "pull a brick down and buy embodied energy", is needed.
- Effective evaluation of sustainable initiatives needs to be supported. A holistic approach is needed, for example the photovoltaic system/s at a community level in conjunction with the GRID.
- Currently there are inconsistencies in rating tools. All rating tools need to talk sensibly to each other. There is a need to have a national framework.

3.0 PRESENTATIONS

3.1 MARK THOMSON, AUSTRALIAN GREEN DEVELOPMENT FORUM - SUSTAINABLE DEVELOPMENT

Sustainable development has been the stepping stone for us to see the error of our ways. Minimizing impacts has been an important step to make people understand the illogical and impractical lifestyles we have been seduced into by materialism.
Issues such as greenhouse gas mitigation, population growth, climate change, urban sprawl and affordable housing all seem to have added complexity to our quest for maintaining our lifestyle today without compromising the lifestyles of future generations.

Professor Janice Birkeland's book "Positive Development" sets the scene for moving forward into an optimistic future –one where by using our current technology and know-how, we can design our future to alleviate many of the problems our past lifestyles have created. Carbon neutral, low toxic, greenhouse friendly is language we should leave behind. Concentrating on positive development rather than delivering a status quo is the logical way forward.

The concepts of positive development and positive communities are not future concepts – they are concepts for now.

3.2 THE HONOURABLE STIRLING HINCHLIFFE MP, MINISTER FOR INFRASTRUCTURE AND PLANNING – PLANNING FOR SUSTAINABLE GROWTH

Sustainable planning is a balancing act, but we need to get it right to preserve the lifestyle and environment that makes Queensland great. For most of the past two decades, Queensland has grown at a faster rate than the other states and territories, increasing the state's demand for infrastructure and increasing the need for more sustainable development and land use.

My department is leading the government's efforts to manage Queensland's growth and has developed a regional plan for growth to tackle housing affordability, climate change and transport.

There is a need to manage growth in line with the Toward Q2 targets for Queensland. The Toward Q2 framework covers a Stronger Queensland and a Green Queensland, where a green future is fundamental to environmental development. Our Green Queensland goal is about protecting our environment and addressing existing damaged.

The Bligh Government is determined to stop urban sprawl by moving away from dispersed, low-density settlement pattern and advocating compact urban forms. Good urban development will reduce traffic congestion, preserve our natural landscape and enhance the Queensland lifestyle.

The Bligh Government is committed to protecting the Queensland lifestyle and environment and improving our society's sustainability by reducing our ecological footprint. While Queensland is currently using less than the total productive capacity of our region, we need to be aware of our relative impact on global ecological resources and take steps to reduce it – which is why we have taken action.

3.3 NIKKI PARKER, AUSTRALIAN CONSERVATION FOUNDATION –SEQ COMMUNITY CAPACITY

It is critical to educate and involve the public with sustainability problems to ensure there is the political and business will for adoption of solutions, and that these solutions suit the community in question. A community will for change can be built though education, and many parties can provide a role in educating the community. To communicate, messages should be specific and tailored to the audience.

Government needs to continually engage in community consultation. Sometimes, however, the Government has pre-developed the policy and consultation is taken on as a superficial 'tick the box' exercise. This is not the consultation that is required, rather the community needs to be empowered. Broader community engagement will strengthen the policy development framework. Community engagement is required in framing the issues, determining the solutions and gaining will for the solutions from community, government and business to obtain a successful outcome.

3.4 MICHAEL VELDERS, ARUP – FARMING IN SLIM CITY

Twenty-eight percent of the carbon costs per capita is food. Major contributors to current carbon costs from food are greenhouse gases produced during production and fossil fuel based fertilisers. Food miles (i.e. transportation) accounts for about 10% of the carbon produced in food production.

World rock phosphate production is declining. Incorporating food production as part of the urban environment provides synergies in utilising urban waste (a high source of phosphate) as a fertiliser and as energy inputs from waste digestion.

The concept of farming connecting with the city has as traditional precedence, e.g. market gardens integrated with processed sewerage as a nutrient.

It makes sense to consider local food production, (e.g. community farms in the urban environment, rooftop glasshouses), as part of a community's infrastructure for both economic and social benefits.

Santiago, Chile has an agricultural strategy in place in which food sources are required to be part of the community. Alimentos Para Vida Food4Life Project Santiago, Chile includes edible laneways, with organically grown vegetable lots reliant on waste for energy and soil enrichment.

Aquaponic greenhouses can provide 20% of the protein requirements. There is a clear business case for co-locating farming and residential areas.

3.5 PROF. JANIS BIRKELAND, QUEENSLAND UNIVERSITY OF TECHNOLOGY – POSITIVE DEVELOPMENT: ECO-RETROFITTING CITIES

The City has to change. Eco-retrofitting of the city and it's linear system of roads and rails is an essential pre-requisite to sustainability.

Currently, cities contribute to 50% of waste and 75% of greenhouse emissions. However, a new "green building" to replace an existing building will not reduce impacts. Although a new "green building reduces the damage that it otherwise would do in the future, it still increases total harm. The time, energy and materials used to replace existing cities makes a reliance on new green cities and buildings unrealistic.

Eco-retrofitting improves productivity and sustainability by incorporating the already sunk embodied energy in the building while reducing on-going costs. Eco-retrofitting of an old building can save a third of the cost and material. It requires better design; e.g. through better daylight. Productivity can be increased as well as energy consumption reduced.

There are major world concerns to be addressed with a third of the world without basic needs of water and food. Developments need to leave the environment better off. Positive Development adds value to the urban area by expanding:

- the ecological base (life support system)
- public estate (equitable access to the means of survival)

Retrofitting a building could include green scaffolding or green walls that support modules that heat cool, ventilate or treat waste. New options include:

- aquatic ecosystems treating organic sewerage and toxins from buildings
- aquaponics - self contained systems of plants (vegies) and fish using kitchen waste
- algaetecture- vertical tubes in which algae converts CO2 into biofuels and oxygen
- vertical agriculture – provides oxygen and food while absorbing carbon

Current tools and metrics are biased in favour of new construction as they do not take into account the negative costs of destroying the environment.

3.6 DR JAGO DODSON, URBAN RESEARCH PROGRAM, GRIFFITH UNIVERSITY – PROGRESSING EFFECTIVE ASSESSMENT FRAMEWORKS

Positive networked communities include an across town public transport web to provide an integrated network at the metro-regional scale rather than just a radial network funnelling transport into the city centre; as well as walking and cycling at the local scale.

As a community we have a high level of vulnerability to petrol price increases as indicated by the VAMPIRE index – particularly due to the high costs of mortgages.

Many first home owners are located in the outer suburbs as, in general, house prices decrease as the distance from the CBD decreases. Brisbane has seen house land and fuel packages being offered, but, obviously, this type of response does not support long term sustainability.

The Vulnerability Assessment for Mortgage, Petroleum and Inflations Risks and Expenditure (VAMPIRE) index measures household vulnerability to socio-economic stressors, in particular, the impacts of higher fuel prices and mortgage interest rates.

The Brisbane VAMPIRE 2006 study showed higher vulnerability in the outer areas, modest income mortgage burdened areas and areas with poor public transport. Lower vulnerability is found in the inner areas, higher socio-economic status areas and areas with better public transport services. The distribution of oil and mortgage vulnerability is spatially inequitable because those in the outer suburbs feel greater impacts. There is a need to address this through urban planning.

The South East Queensland Plan 2009 is the first planning document that responds to oil supply vulnerability through a policy of actively reducing oil dependency. On page 46 of the Plan, Section 1.5.3 – the policy for active reduction of oil dependency articulates the need to

ensure transport infrastructure and service investment, particularly for trips that could be undertaken by public or active transport.

An effective assessment framework would focus on assessment frameworks at the metro-regional level, (e.g. a transport plan), sub-regional and local level. Strategic opportunity costs will be incurred as a result of non-investment.

A relevant publication on positive, public transport networked communities is from Paul Mees, RMIT – "Transport for Suburbia".

3.7 KERRY DOSS, MANAGER CITY PLANNING, BRISBANE CITY COUNCIL – LOCAL PLANNING POLICY FOR A SUSTAINABLE CITY

SEQ growth projections to 2031 predict that 156,000 new dwellings will be needed, of which 138,000 dwellings are to be infill. Couples without families will become the most common family type. The population is aging – within 50 years a quarter of Brisbane's population is expected to be over 65. Lone person households will rise substantially.

Drivers of change for Brisbane's urban environment include accessibility of transport and services, climate change and sustainability, biodiversity, urban design, character and heritage protection, and housing affordability.

These drivers are being embedded at a regional level with the South East Queensland Regional Plan, Brisbane City Plan 2000, the inner city River City Blueprint, Neighbourhood Plans and Development Planning Codes.

A good framework is provided due to strong cooperation between local government and the State government.

A demonstrated in the Henry Report on Australia's tax system reform – Real challenges need a dialogue and this means making the community aware of the issues and consulting with the community. Community consultation is costly and time consuming, but it is an integral part of decision making.

Currently, Brisbane City Council is working on a strategic plan through the community planning team. Recent plans include the River City Blueprint and the Eastern Corridor Renewal Strategy. There are a total of 32 Neighbourhood plans on track for completion by 2012 and 13 existing local plans are to be updated.

3.8 DR MARCI WEBSTER-MANNISON, UNIVERSITY OF QUEENSLAND – RETROFITTING AN INNER CITY NEIGHBOURHOOD

Substantial inroads for sustainability can be made through retrofitting of an inner city neighbourhood.

In considering a plan in a Brisbane inner suburb which projected an additional 16,000 residents as a result of a substantial high rise building complex and planning for 4000 additional households in the surrounding study area, there was a need to take pressure off existing infrastructure.

It was estimated that photovoltaic technology on 10% of roof space could power all household energy use. Composting of waste in the neighbourhood locality would better support reuse. Water conservation measures through rainwater and stormwater collection and grey water treatment and use, could be employed.

In discussions with senior citizens it was evident that a current drain which had formerly been a natural creek pathway had been an important conduit for movement around the suburbs and through to Brisbane city, as a person could to walk from as far away as Mt Coot-tha to the river on a gentle grade. The restoration of this creek corridor from the Brisbane River to Mt Coot-tha would be potentially useful in the reconnection of important habitats supporting biodiversity. Also, sustainability would be encouraged though reinstatement of former pathways such as this natural water course, for pedestrians and cyclists.

3.9 DAVID HOOD, PRESIDENT, AUSTRALIAN GREEN INFRASTRUCTURE COUNCIL (AGIC) – INFRASTRUCTURE FRAMEWORK

IPCC is now suggesting that a four degree increase in average global temperature is highly likely this century, if little or no serious mitigation takes place. Hadley Centre and CSIRO suggest that a 2 metre rise in sea levels on East Coast of Australia also highly likely by end of the century. A small change in average temperatures can have a disproportionate effect due to a higher incidence of extreme discomfort days. Increases in temperature will increase energy consumption. There will be a range of significant other issues to consider, such as salt water intrusion.

These changes will impose significant impacts on Australia's infrastructure. Responding to this challenge, the Australian Green Infrastructure Council is an independent industry association which aims to advance infrastructure sustainability.

AGIC will recognise leading sustainable practice in infrastructure, through the world's first full sustainability rating scheme for infrastructure which will be fully transparent, flexible and outcomes based.

(The scope of the AGIC scheme should not be confused with the scope of the Green Building Council Australia's "Green Star" rating, which focuses on the design of buildings). The AGIC scheme will assess design, construction, and operation of infrastructure.

Alongside developing AGIC's sustainability rating scheme, a knowledge portal and hub for dissemination of sustainable practices to stakeholders will be available. AGIC will also develop a structured approach for education and training for climate change mitigation and adaption. On-going tool development and improvement will also be incorporated.

3.10 ROSEMARY KENNEDY, DIRECTOR, CENTRE FOR SUBTROPICAL DESIGN – SUBTROPICAL URBAN DESIGN

The South East Queensland Regional Plan 2009-2031 includes twelve principles for subtropical design which emphasise accessible open space systems, pedestrian connectivity and active public spaces.

In a hot humid climate, there is a need for substantial vegetation to provide a liveable environment. Continuous vegetation supports walk ability around urban streets. The street layout for the shade trees needs to particularly take into account the patterns for direct paths of travel and the sun's orientation.

The Centre for Subtropical has recently released a Design Handbook in support of the South East Queensland Regional Plan. The relevant design strategies (technical and qualitative) in the handbook are cross referenced to the Subtropical Design Principles in the Plan.

The Book, "Subtropical Design in South East Queensland – A Handbook for Planners, Developers and Decision Makers" can be found at: www.subtropicaldesign.org.au

3.11 ADAM BECK, GREEN STAR COMMUNITIES, GREEN BUILDING COUNCIL OF AUSTRALIA (GBCA) – SUSTAINABLE COMMUNITIES FRAMEWORK

I want to propose a challenge to participants at this Forum. How can Brisbane respond to climate change and support Brisbane's sustainability?

With Brisbane population rising there will be challenges to ecological sustainability. Areas of Brisbane can be transformed to be more liveable, for example, changes at Kelvin Grove in the past few years.

There is a need for national consistency in a frame work for sustainable communities. GBCA has a suite of rating tools for building design and construction. Green Star Community is a GBCA tool to support a sustainable built environment and was built through consultation with government, professions and researchers.

For developers, eco-retrofitting offers a challenge, but is this an opportunity?

3.12 KIRSTY CHESSHER, ENVIRODEVELOPMENT MANAGER, URBAN DEVELOPMENT INSTITUTE OF AUSTRALIA – ENVIRODEVELOPMENT

EnviroDevelopment certification was initiated in 2006 and supports sustainable development through building capacity within the industry.

EnviroDevelopment is independent certification that requires higher sustainability than current regulatory requirements. Standards have and will be progressively raised. EnviroDevelopment incorporates consideration of energy, water, materials, waste, community and ecosystems. A logo system exists for each of these components.

EnviroDevelopment certified projects meet a series of performance based standards, e.g. affordable product – Fitzgibbon Chase.

For an Ecosystems logo, the development will need to protect and enhance existing native ecosystems, including quality of land and water for flora and fauna. A Waste logo requires better waste management procedures, including reducing the waste sent to landfill. Energy logo considerations include orientation of buildings to facilitate passive design, efficient lighting and a reduction in usage of polluting and non renewable energy sources. Water logo covers improved water efficiency-stormwater harvesting, recycled water, grey water reuse and rainwater harvesting. The Community logo addresses community consultation, transport, access to local facilities and measures to build community spirit.

EnviroDevelopment is a tool to encourage developers to achieve sustainability above regulatory requirements.

3.13 IAN PURSSEY, DEVELOPMENT MANAGER, URBAN LAND DEVELOPMENT AUTHORITY – FITZGIBBON CHASE

Fitzgibbon Chase is a 114 hectare site which will includes 44 hectares of bushland which will be retained to protect the local flora and fauna. There will be 1,500 plus dwellings with ready access to parks and rail.

A retail village and community centre and a diversity of housing types and price points are provided. Fitzgibbon Chase must achieve sustainability within a broad context (environmental, social and economic objectives). The development is required to have 20% of residences as affordable housing. House prices average 66% of median Brisbane House price. Eight Star houses are featured on the housing sites. To date, each staged developments has been sold quickly after release.

There is a need to look at the entire development footprint, rather than the individual home, and this is the principle by which Fitzgibbon Chase operates. Sustainable features such as water recycling and stormwater harvesting are considered on a community basis. Fitzgibbon Chase has the highest EnviroDevelopment accreditation - six leaves (logos).

The Urban Land Development Authority (ULDA), the developer for Fitzgibbon Chase, is required to be self sustaining in three years. ULDA has a Memorandum of Understanding (MOU) on the Green Star Communities Program.

3.14 CHRIS WALTON, LANDMATTERS – THE ECOVILLAGE

The Ecovillage consists of 10 hectare sustainable sub-divisions. The goal was to develop the World's best ecologically sustainable development.

The Ecovillage opposed a cycle of development where people buy what developers produce. Instead, the development of the Ecovillage involved considerable consultation with the locals through public meetings and workshop discussions and, as a result, the development application went smoothly through Council.

The Ecovillage features greenways, bikeways and walkways throughout the community. Biodiversity has increased after the development (cats and dogs are not allowed), as there was no loss of trees, and revegetation was an integral part of the development. "Cut and Fill" has not been allowed as part of the development, to enable the integrity of the natural topography to be maintained. Waste water is used to sustain gardens.

Home energy use is 20% of normal houses in SEQ. Low energy usage is supported through solar power systems and discussions are being held on connecting to the grid. The Ecovillage aims to be self sufficient in water and energy usage in the long term.

A number of home owners prior to coming to the Ecovillage had not grown vegetables. But by creating an appropriate built environment at the Ecovillage, it was demonstrated that residents will come and embrace a new paradigm.

An Interpretative Centre at the Ecovillage showed eco-products to buyers. The Village Centre is under construction to meet needs of residents close to home. The Ecovillage has been Australia's most awarded development and has gained mainstream awards such as the International Real Estate Federation award for "The World's Best Environmental Development".

4.0 WHAT TOPICS ARE SUGGESTED FOR FUTURE FORUMS?

Feedback was sought at the conclusion of the Forum regarding the possible future forum themes. Responses are as follows:

Normalisation of ratings nationally and internationally

Benchmarking end Use

Education-Marketing-Communication

Keep on this Forum topics (add creative cities/communities) and go in more depth – Future talks could cover "snapshots" of each key issue (e.g. rating schemes, guidelines, etc)

Management Legislation for holistic development for any project

Energy in the Built environment

Incentives to local government to support off-grid fuels, sewerage; Power in residential development – carbon tax compensation

Urban Agriculture – getting action on the ground; or Feeding our Cities

Vegetation and Urban change

Take one step back in each industry and re-envision from the ground up

Potential retrofit of existing suburbs/area as an example and inspiration i.e., "I want what they have"

Sustainability + responsibility – How do we fast track responsible changes?

Technical limitations and research needs for sustainable positive communities

An open forum session available for interactive discussion to incorporate all ideas from each of the six groups

"Fine-grained" infill - How to increase population with a light footprint and respecting the neighbours?

5.0 ATTACHMENTS

Positive Communities Forum Agenda

8:00	**Registration,**	
8:30	Mike Duggan AGDF and FWR Group, Facilitator	Welcome
	Alison McDonald AGDF and SSEE	Introduction
	Hon Stirling Hinchliffe MP Minister for Infrastructure and Planning	Planning for sustainable growth
	Mark Thomson Australian Green Development Forum, President	Sustainable Development
	SEQ Sustainable Growth and Retrofitting	
9:00	Nikki Parker Australian Conservation Foundation	SEQ Community Capacity
	Michael Velders ARUP, Senior Sustainability Consultant	Farming in Slimcity
	Prof. Janis Birkeland Queensland University of Technology	Positive Development: Eco-Retrofitting cities
10:00	**Panel Q&A** and **Eco-retrofitting Workshop**	
	Morning Tea	
	Existing Assessment Frameworks	
11:00	Dr Jago Dodson Urban Research Programme, Griffith University	Progressing Effective Assessment Framework
	Kerry Doss Brisbane City Council, Manager City Planning	Local Planning Policy for a Sustainable City
	Dr Marci Webster-Mannison University of Queensland	Retrofitting an inner city neighbourhood
	Rosie Kennedy Centre for Subtropical Design, Director	Subtropical Urban Design
	David Hood Australian Green Infrastructure Council, President	Infrastructure framework
	Adam Beck, Project Leader Green Star Communities Green Building Council Australia,	Sustainable Communities Framework
	Kirsty Chessher, EnviroDevelopment Manager Urban Development Institute of Australia	Enviro Development
	Case Studies	
12:00	Ian Purssey Urban Land Development Authority, Development Manager	Fitzgibbon Chase
	Chris Walton Landmatters	The EcoVillage
	Progressing Effective Frameworks	
12:30	**Panel Q&A** and **Frameworks Workshop**	
1:15	**Networking Lunch**	

Australian Green Development Forum

Queensland Government

Society for Sustainability & Environmental Engineering

ENGINEERS AUSTRALIA

Positive Communities Forum
Guest Speaker Bios and Topic Summary

In order of programme:

Mike Duggan

Michael Duggan is an experienced consultant, educator, trainer and sustainability facilitator having presented at and facilitated numerous local and national seminars on sustainable business, education, housing, communities and development, including most recently the Central Queensland Carbon Forums (2009/2010) and Australian Centre for Sustainable Business and Development (USQ) Business Seminars, 2010. Michael is a Member of the Board of Directors of the Australian Green Development Forum (AGDF) and has worked as a consultant, educator, and/or trainer with such companies as: Queensland Energy Resources, The Good Guys Electrical Retail Stores, QLD X-Ray, the PASK Group, and QLD Department of Environment and Resource Management. Through his continuing role in sustainable consulting practice and research, education, and training, he is committed to accelerating sustainable development and facilitating its uptake into the mainstream. He is a very energetic, passionate speaker, with a strong business focus.

Alison McDonald

Alison McDonald is a chartered UK architect and a low-energy architecture consultant. In addition to her passion for low-energy architecture, her interests include sustainable communities and the metabolism of cities, exploring this through means such as the world renowned Schumacher College. Alison has had a long relationship with sustainability, her family were founding members of the world's largest permaculture community, and she is a member of The EcoVillage at Currumbin. She has also worked on aid projects in isolated and developing areas; and for clients with special health needs.
Alison works with James Cubitt Architects, implementing sustainability design principles into infrastructure and education projects; and with QUT Faculty of Built Environment and Engineering, assisting with units such as Sustainable Practice, Greenhouse Solutions and Architectural Design.
She has completed a number of projects with a strong ESD focus, she holds a Master of Science in Architectural, Energy and Sustainability and is accredited/trained GreenStar, NABERS, BREEAM, EcoHomes, SAP, and various environmental software. Alison sits on the Board of AGDF, ANSI, SSEE Committee and PDSC for EA, and was involved in TT Totnes and TT Kurilpa.

Hon Stirling Hinchcliffe MP

As Queensland's Minister for Infrastructure and Planning, Stirling Hinchliffe plays a key role in the Bligh Government's policy response to growth management and development.
He brings industry experience to the position, having previously worked as Manager of Policy and Research with the Property Council of Australia's Queensland branch and as a self-employed property industry analyst.
Stirling Hinchliffe has previously worked as an advisor at all three levels of Government.
First elected to the Queensland Parliament as the Labor Member for Stafford on 9 September 2006, Stirling was returned on 21 March 2009.
Having served from early in his first term as a Parliamentary Secretary, Stirling was promoted to Cabinet on 26 March 2009.

Mark Thomson

Mark Thomson's career has evolved into Sustainability consultancies from his origins in Brisbane Architecture. Currently he is the Corporate Sustainability Principal for SCHIAVELLO, an Australian commercial office systems and construction organisation with offices in Dubai, Singapore and Tokyo. He was Director of TVS Partnership Architects from 1982 until 2009, winning numerous sustainable design awards and influencing Government, Residential and Commercial Development projects to pursue green agendas via his "Environmental Brief" process. He is a Faculty member of the Green Building Council of Australia ,foundation Member of GINA (Green Infrastructure Network Australia) and co-founding member of QUT's Centre for Sub-Tropical Design.

Nikki Parker

Nikki Parker works in environmental communication and consultancy, with a particular interest in the use of technological tools. She has been heavily involved in, and has advised others on, successful environmental community campaigns in south west Brisbane, Ipswich and Victoria. Nikki is passionate about the need for strong involvement, education and empowerment of the community to achieve positive changes for the future and for sustainability. She has a Bachelor of Science and is currently studying for a postgrad law degree, but doesn't plan to be a lawyer! Nikki has been on the ACF Board for three and a half years. She has lived in a heritage area of Ipswich for seven years with her partner and three boys.

SEQ Community Capacity

Educating, empowering and involving the community is an integral part of achieving the political, business and public 'will' to adopt a sustainable future. To be most effective the education and messages for the community should centre around issues which affect them personally. Although environment and planning issues affect people from all parts of the community, they do so in different ways, so the messages, issues and involvement should be tailored depending on the audience. 'Community consultation' processes, as they are traditionally undertaken, are not sufficient.

Michael Velders

Michael Velders is a senior sustainability consultant with Arup having more than 15 years experience in consulting. He mastered in Agricultural and Environmental engineering and Change Management and is committed to help implement initiatives that strive to make a difference to society.

Michael enables clients in setting the bar for sustainable development; clarifying achievable and practical targets and initiatives. His particular interest lies in identifying "How we can feed ourselves sustainably in a low carbon economy?" Amongst others he leads Arup's Centre of Excellence in Food and Agriculture

Farming in Slimcity

Michael Velders will be presenting from his personal experience working on "New Generation Urban Agriculture" projects in Europe, the America's, China and Australia. Climate change, water shortages, rising crude oil prices and an expanding population are beginning to question the resilience of our current farming and food supply systems. In the near future localised food production – integrated into the city's infrastructures – might well be a key factor in securing access to affordable and healthy food for new and existing communities. Michael's presentation makes a strong case for localised integrated food production in a Slim City – the resource and carbon efficient cities of the future.

Prof. Janis Birkeland

Janis Birkeland BA fine arts Bennington, M Arch U of Cal Berkeley, JD U of Cal Hastings Law, PhD U of Tas.

Now Professor of Architecture at QUT, Janis worked as an a register architect and lawyer, as well as an artist, advocacy planner, urban designer, and city planner in San Francisco before moving to Australia, where she turned to academia. She has run many tertiary and professional development units on sustainable systems, has written over 100 papers and has given over 100 invited talks on this area. She initiated the concepts of Positive Development and Design for Eco-services. Her books are Design for Sustainability (2002) and Positive Development (2008).

Positive Development: Eco-retrofitting cities

Cities account for about 75% of wastes and greenhouse emissions. When we realize that most of our environmental problems can be ultimately be traced back to the design of cities, it becomes clear that saving the planet would involve less effort and cost than destroying it. We have the eco-technologies needed to modify urban areas and increase human and environmental health while reducing total resource flows. Eco-retrofitting can pay for itself in health, productivity and energy savings, but it could also give back to the environment more than it takes. Precedents are found in concepts like aquaponics, living machines, algaetecture and vertical wetlands, which produce clean energy, air, water, soil and food (eco-services). Eco-retrofitting could be cheaper than doing nothing, if such systems were fully integrated with the built environment.

Wally Wight

Wally Wight is an urban designer, regional planner, transport planner, and Architecture Gold Medalist. His Canadian experience ranges from leading a community reversal of an intent to extend a freeway, to helping design Calgary's international air terminal. In Australia, with a Graduate Diploma in Urban and Regional Planning, he led multi-disciplinary teams in subdivision design, urban master planning, project management of transport and infrastructure projects, impact assessment, community engagement, and site selection and pre-feasibility studies, including Brisbane's Expo 88. As Sub-Regional Organisation of Council Coordinator, he engaged in South East Queensland's regional planning. In Queensland Transport, he championed place-making and transit-oriented development.

Wally, now free-lance, is committed to sustainability and to resilient communities. He is Brisbane Chapter Coordinator of the Association for the Study of Peak Oil and Gas (ASPO). He is active in Queensland's Urban Design Alliance, Friends of South East Queensland, and Transition Towns, and is developing methodologies to address oil vulnerability. In his spare time, he is putting his money where his mouth is, planning a fine-grained residential infill, addressing affordability, sustainability and community.

Dr Jago Dodson

Dr Dodson has held research intensive positions since finishing his PhD in 2002 and was promoted to Senior Research Fellow within the URP. His work has addressed a range of urban social scientific research problems and has synthesised insights across urban planning, transport, geography and housing studies. Jago's recent work has produced considerable insight into urban household sector stressors in Australian cities, especially household exposure to higher oil prices and mortgage costs, most notably through the VIPER and VAMPIRE indexes. Jago's research record includes more than 50 publications, with one sole author and one joint author book, 12 refereed journal articles, 6 book chapters and 12 refereed conference papers. He has contributed extensively to scholarly, policy and public debates on urban problems in Australia and internationally. Jago also teaches Urban Management at Masters level in the Griffith School of Environment and supervises PhD students. He also provides research-based consulting advice to a range of urban agencies.

Kerry Doss

Kerry Doss is the Manager of City Planning in Brisbane City Council's City Planning and Sustainability Division.
He has over 22 years experience in town planning and urban management in Queensland and New South Wales.
He holds qualifications in coastal management, urban and regional planning and business management. He is a member of the PIA Divisional Committee also a past QLD Vice President.
He has worked on regional planning projects for the Queensland State Government, as a local government planner and as a consultant to all levels of government and private industry. Kerry's experience covers the full range of planning activities.

Local Planning Poilicy for a Sustainable City

The next 20 years will see significant growth occurring in the SEQ region and this growth will be focussed upon Brisbane as the capital City. Brisbane's share of this growth equates to 156,000 new dwellings with some 138,000 of those dwellings to be infill development.

While Brisbane has seen similar growth levels to this in the past the type of growth required for the future has to be, by necessity, undertaken in a different manner. As part of delivering this growth the community needs to be engaged and informed at both a city-wide and a local level to ensure that the quality of life and a "positive community" is maintained. This presentation will focus on the challenges and opportunities that face Brisbane in achieving this outcome.

Dr Marci Webster-Mannison

Marci Webster-Mannison commenced her architectural career in 1979. After three decades working in architectural practice in Noosa Heads, Sydney, Canberra, regional NSW, and Brisbane, Marci joined the University of Queensland in 2008 and is the Director of the University's Centre for Sustainable Design.
Marci is known for state of the art ecologically inspired architecture as a practicing architect, speaker and writer. Amongst over twenty state, national and international awards for her architecture, Marci received a Special Jury Award (RAIA), for her contribution to the advancement of architecture and commitment to environmentally sensitive design in 2001.

Retfitting an inner city neighbourhood

This presentation explores how a new understanding of our natural environment and appropriate cultural identities for neighbourhoods may contribute to the reshaping of Brisbane, particularly in response to pressure to increase density.
The pilot study defines a neighbourhood based on the catchment of the former Western Creek which has been progressively buried during the course of development since the early 1940's. The proposed Western Creek Neighbourhood Retrofit project examines the multi-dimensional nature, and the potential for, green infrastructure, decentralised power, waste management and local food production, and the integral role of social and ecological connections in the formation of a sustainable built environment.

Rosie Kennedy

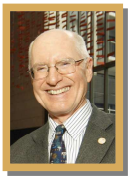
Rosemary Kennedy, is Senior Lecturer in the School of Design at Queensland University of Technology and Director of the Centre for Subtropical Design.
She is a member of Brisbane City Council's Independent Design Advisory Panel. In 2008 she was the Queensland Director of the Australian Institute of Architects Awards Program and in 2009 was on the judging panel of the National Ideas Competition for the Gold Coast Civic and Cultural Precinct.
She convened the ground-breaking international Subtropical Cities conferences in Brisbane in 2006 and 2008. The next conference will be held in Florida in 2011.

Subtropical Urban Design

SUBTROPICAL DESIGN THINKING for desirable urban outcomes

- The SEQ Regional Plan 2009-2031 identifies several subtropical design principles for SEQ required to be adopted by regional councils.
- Gives little guidance on how they should be applied to achieve sustainable urban development objectives.
- Subtropical Design Handbook provides the nexus between good policy and practical implementation.
- Explains why the key principles are important, and how subtropical design thinking is related to sustainability and liveability (the ability of higher density options to produce acceptable or even desirable amenity in terms that embrace culture, landscape and climate in appropriate design solutions).

David Hood



David Hood is a Chartered Professional Engineer with over thirty five years experience in business, engineering, education, project management, and senior executive positions in both the public and private sectors. He is currently Chairman of his own consulting engineering practice specialising in the areas of sustainability in the built environment, "green projects", energy efficiency policy, engineering education and global engineering infrastructure.

David is actively involved with industry and professional associations promoting the improved energy performance of buildings. He sits on a number of industry, community and university advisory boards where his extensive engineering background, and considerable involvement at a senior level in the built environment sector is influencing change in the "energy culture" of Australia.

David is currently Chairman of the Australian Green Infrastructure Council (AGIC), Past Chairman of Engineers Australia College of Environmental Engineers, and past Deputy President of the Australia Sustainable Built Environmental Council (ASBEC) of which he is a Founding Member. David is an Adjunct Professor in the Faculty of Built Environment and Engineering at Queensland University of Technology, and is also an accredited presenter on Al Gore's Climate Project.

Infrastructure Framework

Infrastructure projects in the past have largely been driven and delivered as economic imperatives. Environmental and societal matters have been addressed as post decision issues through the prescribed mechanisms of state and federal environmental legislation. The advent of Infrastructure Australia has added a new dimension to the approvals process by prescribing a number of prerequisites for consideration in its priority listings. But, how can we determine if the delivery of a project actually meets these approval prerequisites?

David Hood will present the Australian Green Infrastructure Council (AGIC) proposed Sustainability Rating Scheme for Infrastructure, its progress to date, and the implications for engineering, capital and infrastructure projects within our communities, including:

_ Roads, rail, bridges and tunnels;
_ Ports, wharves or boating;
_ Airport airside facilities;
_ Distribution grids (pipes, poles, wires);
_ Water or resource management;
_ Water infrastructure;
_ Waterway or foreshore management;
_ Preparatory civil works for other any projects;

Adam Beck

Adam is the national Project Leader for the Green Building Council's Green Star Communities project. He has over 13 years experience in environmental and social planning and for the past 8 years has focussed on developing and implementing sustainability tools for built environment projects.

Adam has developed and facilitated sustainability assessment processes for major development and research projects for public and private sector organisations throughout urban and rural Australia. Prior to joining the GBCA he held senior positions with global consulting firms Arup and GHD and was a lecturer at the University of Queensland in their Sociology faculty.

Sustainable Communities Framework

As national policy emerges around the strategic planning of our major cities, guidance on the relevant issues, priorities and standards is now critical. One issue in particular that is being sought out by government and industry is a nationally consistent language around best practice sustainable communities.

In response to this, the Green Building Council of Australia, with the support of government and industry around Australia, has created a draft national framework for sustainable communities. The framework establishes five national principles to shape the evolution of communities, both new and existing ones. It addresses the issues of liveability, prosperity, environmental quality, placemaking and governance.

The framework has been developed in collaboration with government stakeholders, industry professionals, practitioners, research and academia, professional associations and other representative groups. Importantly, the framework establishes the foundations for Green Star Communities, the GBCA's newest tool helping transition Australia to a sustainable built environment future.

Kirsty Chessher

Kirsty Chessher is the EnviroDevelopment Manager at UDIA (Qld). Since joining UDIA (Qld) in January 2006, Kirsty's role has included coordinating the set-up and ongoing growth of EnviroDevelopment, which aims to encourage, reward and inspire greater sustainability in developments.

Her responsibilities include management of the national rollout, reviewing EnviroDevelopment applications and providing recommendations to the National Board of Management, consultation with various stakeholders and reviewing the EnviroDevelopment technical standards.

Kirsty holds a Bachelor of Environmental Management, specialising in Sustainable Development, with first class honours and a Masters in Science, specialising in Conservation Biology from the University of Queensland. Kirsty has most recently worked for a range of environmental consultancies.

Enviro Development

EnviroDevelopment is a scientifically-based branding system designed to make it easier for purchasers to recognise and, thereby, select more environmentally sustainable developments and lifestyles.

Ian Purssey

Ian Purssey is a Development Manager with the Urban Land Development Authority, his career background in architecture and construction has evolved into large scale project management of greenfield development and sustainable communities.
Recent involvement with the multi award winning Pacific Harbour and now Fitzgibbon Chase projects has enabled the practical application of these principles in real world situations.
His experience across a broad range of disciplines and passion for sustainability in all its forms lends well to his role in development and vision management at the ULDA's first and vitally important residential development.
Ian currently sits on the Board of AGDF and is a member of the UDIA's Queensland EnviroDevelopment Technical Standards Taskforce.

Fitzgibbon Chase

The Urban Land Development Authority (ULDA) is the master planner and developer for a new residential development within the Fitzgibbon Urban Development Area called Fitzgibbon Chase. Fitzgibbon Chase will be developed in stages over the 5 years, providing more than 1,500 homes in a range of sizes and styles to suit all household types, as well as neighbourhood parks and a 40-hectare conservation park.

At Fitzgibbon Chase, the ULDA is keen to demonstrate how quality residential communities can be developed and provide diverse, affordable homes, while also delivering on sustainability. This project will not only directly produce great housing outcomes at Fitzgibbon, but it will also serve as a demonstration project for Councils, developers and builders, showing commercially viable ways to increase housing diversity and sustainability.

Chris Walton

Chris Walton's whole life has been spent around building, property valuation and development. One day in the mid 1990's, Chris had a mad idea that he would try to do something about the rapid spread of ill conceived development and housing in our local environment. He and his partner Kerry, with scant resources set off around Australia and the world to research and put together an exemplar community that could hopefully inspire sustainable living and development. Chris leads LandMatters Pty Ltd, the company that is developing The Ecovillage at Currumbin. Chris is the recipient of the Qld Governments inaugural Ministers/Premier's Award for Leadership in Business Sustainability and also the Gold Coast City Award for Environmental Achievement.

The EcoVillage at Currumbin

Australia's most awarded contemporary development, The Ecovillage at Currumbin sets the benchmark for sustainable living and development. Recipient of 29 state, national and global awards including the highest honour in world property, the International Real Estate Federations Prix d'Excellence for Environmental Development, the Ecovillage provides practical demonstration of easy to achieve ways to create sustainable community. Adopted by the Gold Coast City Council as the City's Innovation Estate this residential subdivision achieves complete water self sufficiency and targets zero carbon living. The community with its innovative social design and productive landscapes, aims to have more enhanced biodiversity post development.

Prof. Mark Porter

Mark Porter is a water resources and environmental engineer with a strong interest in engineering education. He is the Professor of Engineering in the new civil engineering program at the University of the Sunshine Coast. He was previously the Head of Agricultural, Civil and Environmental Engineering at the University of Southern Queensland and a foundation Director of the Australian Centre for Sustainable Catchments at USQ.
He has taught courses in hydrology, water resources engineering and environmental technology as well as supervising postgraduate research students. In recent years he has been focusing on research work involving the impact of human activity on water quality and resources in Germany, New Zealand and Queensland, Australia

Australian Green Development Forum

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Positive Communities Forum
Workshop Guidelines

The Workshop components of the Forum provide an opportunity to break out into groups to discuss two key questions. Each of the six workshop groups will address each question, but from a different perspective.

Eco-retrofitting Workshop:

How do we create a net positive eco-retrofit of central Brisbane?

Progressing effective frameworks Workshop:

How do we create a positive framework for eco-retrofitting existing multi-residential/High-density communities?

Barriers that could be converted to opportunities

Eco-retrofitting (here) means modifying buildings and/or urban areas to improve overall human and environmental health, while reducing total resource flows and pollution. It can be cheaper than doing nothing, and it reduces negative impacts that will otherwise continue through business-as-usual buildings and renovations.

Need for research: Despite many efforts in promoting eco-retrofitting and its established economic and environmental benefits, there has been relatively little uptake over all. One reason for this is that the data and studies relied on are mostly from other countries. The construction industry is not overly convinced by facts and figures from overseas where conditions may be different. Research in Australia is necessary to capture the economic opportunities presented by eco-retrofitting.

Need for exemplars: The lack of local research to-date has made it difficult for designers to present strong business cases to create net positive development. Despite many efforts in promoting eco-retrofitting and its established economic and environmental benefits, there are few physical examples. Mary of the examples are from other countries. The construction industry is not overly convinced by facts and figures from overseas where conditions may be different. Exemplar developments in Australia are necessary to capture the economic and research opportunities presented by eco-retrofitting.

Need for frameworks: Another reason for slow uptake is the lack of appropriate frameworks, tools and metrics. Perhaps foremost among these is that we usually only assess negative impacts, and do not count many of those (such as the public costs of building demolition). We also reduce everything to energy or other resources, which does not take into account whole systems and devalues the living ecology (the life support system). If we counted eco-positive impacts, a far more efficient form of design would emerge.

Discussion points: The discussion points below are 'FOOD FOR THOUGHT' and we welcome your active participation to identify key issues and opportunities and, in particular, actions to progress.

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DESIGN GROUP

Eco-technologies for urban integrated eco-services

Design research: Moving beyond the indirect approach of encouraging businesses to research how to reduce impacts using market based or regulatory 'incentives' to direct design solutions.

Eco-retrofitting Workshop: Sample issues and opportunities (Facilitator – Prof. Janis Birkeland)

- **Passive solar**: Energy retrofits seldom use passive solar technologies, but even 'add-on' technologies can apply passive solar principles. Passive solutions should be used first, even where the energy source is renewable.

  R&D in portable trombe walls for natural cooling, ventilating and heating of Australian buildings.

- **Algaetecture**: Integrating vertical tubes with algae into the built environment has been proposed by many to produce biofuel and oxygen as well as sequestering carbon (eg the airspace above petrol stations).

  R&D in integrating algae systems into the built environment or on roofs or walls.

- **Building integrated energy**: Building integrated renewable energy technologies are now cost effective and competitive with fossil-fuel-based systems. Wind and solar systems can be applied to site-specific conditions.

  R&D in new applications of solar films and solar windows for eco-retrofitting in Brisbane.

Progressing Effective Frameworks Workshop: Sample actions (Facilitator – Kirsty Chessher)

- **Trading eco-services**: Trading carbon or ecological space in the built environment has precedents in transferrable development rights, and eco-service trading has been used in Australian regions.

  R&D in trading systems in carbon and/or 'ecological space' in urban areas.

- **Focus on negatives**: There is a tendency to only count 'less bad' impacts and not ecological growth. Evidence is mounting that plants, air quality and daylighting measurably improves health and reduces stress.

  R&D in measuring health gains from retrofitting for indoor/outdoor greenery in Brisbane.

- **Guiding design assessment**: Current approvals depend on predicting future negative impacts (which are delegated to consultants), rather than supporting the frontloading of design and education.

  R&D in 'eco-design reporting', where designers justify their decisions, rather than predicting their impacts.

BIODIVERSITY GROUP

Urban agriculture and ecosystems

Solutions that only address 'resources' are not whole systems (ie ecological) approaches and can be suboptimal or even contra-ecological. Urban systems need to be designed that recognize the nature of open systems.

Eco-retrofitting Workshop: Sample issues and opportunities (Facilitator – Michael Velders)

- **Urban agriculture**: Food transport ('foodmiles') has a huge impact on the ecological and carbon footprint, and access to fresh food in urban areas can be limited in a crisis. Urban agriculture can support biodiversity.

  R&D in eco-retrofitting for urban food production (abandoned warehouses, rotating vertical trays).

- **Green walls**: Green walls not only have thermal benefits, they can restore and increase appropriate ecosystems, provide habitat for biodiverse organisms and contribute to nature corridors.

  R&D in new forms of 'green scaffolding' for eco-retrofitting Brisbane in ecologically appropriate ways.

- **Aquaponics**: Aquaponic systems are forms of 'living machines' that are arguably eco-productive as well as restorative. However, they are usually put in rear yards, where they compete with other land uses.

  R&D in integrating aquaponics with building spaces, decks and structures for space optimisation.

Progressing effective frameworks Workshop: Sample actions (Facilitator – Chris Walton)

- **Reductionism**: Building tools do not yet consider the unique nature of living ecosystems or communities, ecosystem services (because they reduce everything to units of resources).

  R&D in measuring and valuing eco-services in the built environment.

- **Food miles**: While food miles have become widely accepted as an indicator of sustainability, the potential for improving the urban metabolism of Brisbane has not been quantified.

  R&D in measuring and valuing the reducing in food miles created by urban agriculture in Brisbane.

- **Design for eco-services**: Rather than retrospective design and assessment tools (that require a design first), an eco-positive design tool would guide design for eco-services.

  R&D in eco-positive design support tools (see Eco-Positive Spider diagram).

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SOCIAL GROUP

Social change and urban revitalization

Eco-retrofitting Workshop: Sample issues and opportunities (Facilitator – Dr Marci Webster-Mannison)

- **Risk aversion**: The 'perceived' lack of demand, which cause developers to stick to conventional designs. Light green projects are deemed to be more marketable to the public, but this has not actually been tested.

  R&D on consumer responses to radically green buildings through virtual modelling.

- **Marginalization of design**: The cultural belief that design itself is an added luxury when, in fact, it is a miniscule portion of the cost in the total life cycle cost of the building.

  R&D in establishing the value-adding and ROI potential of design in the Brisbane context.

- **Community engagement**: Lack of activities focused on the immediate neighbourhood that enable a sense of place and sense of community.

  R&D in combining social and physical networkin in residential areas.

Progressing effective frameworks Workshop: Sample actions (Facilitator - Dr Jago Dodson)

- **Multi-residential**: Incentives for private homeowners such as rebates or loans have not been applied to multi-residential structures or body corporates. This lost opportunity could easily be remedied.

  R&D into providing optimal support for multi-residential eco-retrofits in Brisbane.

- **Public-private-community partnerships**: Public-private partnerships are becoming common, but these often exclude the community and public interest groups with expertise in local social and environmental values.

  R&D on ways of implementing partnership frameworks for identifying opportunities for net positive development.

- **Toward Zero Waste**: Brisbane has adopted a zero waste plan, but extensive work is needed in community education (as consumption and waste relative to population is increasing.

  R&D in targeting zero waste actions in Brisbane context.

EDUCATION GROUP

Awareness raising of potentially positive solutions

Eco-retrofitting Workshop: Sample issues and opportunities (Facilitator – Rosie Kennedy)

- **Perceived costs**: Lack of means to overcome the belief that 'retrofitting costs too much' because net positive impacts are not measured in life cycle and cost-benefit assessments.

  R&D on positive impacts of eco-retrofitting other than resource savings (ie eco-services).

- **Focus on style**: Cultural attitudes favour new buildings that reflect the current style, which turns existing buildings into waste.

  R&D into the influence of (non-ecological) stylistic trends in the design professions

- **Consolidation**: Infill development is often allowed in the name of sustainability, but the development itself is not sustainable and reduces the overall environmental amenity and sustainability.

  R&D in means of increasing sustainable density (like allowing second floor units that solarize both units).

Progressing effective frameworks Workshop: Sample actions (Facilitator – Mark Porter)

- **Visibility of solutions**: Need for awareness of potential solutions (such as passive solar design) among all sectors that influence the built environment (clients, builders, investors, government, designers).

  R&D into ways of communicating the possibilities of passive eco-retrofitting solutions.

- **Exemplars**: Lack of eco-retrofitting and demonstration projects that show people how sustainable design can provide positive environmental and social gains, at no extra 'inherent' cost.

  R&D to produce exemplars of eco-positive retrofits (as opposed to just energy and water efficiency).

- **Education in government**: Few public officers know much about the economic potential for ecological retrofitting in generating new businesses with positive impacts.

  R&D in better presenting the business case for eco-retrofitting.

PROFESSIONS GROUP

Professional development

Inadequacy of incentives to encourage new eco-efficient products, services or processes that can leapfrog the market barriers to eco-retrofitting (eg EU grants for eco-innovation).

Eco-retrofitting Workshop: Sample issues and opportunities (Facilitator – Mark Thomson)

- **Best practice dilemma**: The concept of 'best practice' which encourages marginal improvements over standard buildings, and where a small reduction over the standard can obtain high rating.

  R&D in encouraging ecological design as opposed to incremental engineering improvements.

- **Modus Vivendi**: The tendency for builders and designers to want to continue customary ways of doing things, even when capacity building in retrofitting could lead to higher profits.

  R&D in how to engage builders and designers to engage in continuous learning.

- **Greenfield dilemma**: Land release brings revenue to governments, but it costs a lot to 'service' new areas. Resource autonomous design would solve this problem, but it would increase greenfield development.

Progressing effective frameworks Workshop: Sample actions (Facilitator – Adam Beck)

- **Integration**: Slow adoption of integrated design, procurement, construction, commissioning and management processes despite widespread acceptance of the fact that they can lead to better outcomes.

  R&D in improving commissioning processes, especially in the eco-retrofitting context.

- **Partnering**: The segregated processes that characterise the building supply chain and management processes, and oppositional structural relationships among designers, builders and owners

  R&D in partnering processes in eco-retrofitting that avoid zero sum outcomes and tradeoffs.

- **Performance contracting**: Mechanisms exist to offset the initial design costs of the retrofit with the long-term economic benefits of green design, as has been done in commercial buildings.

  R&D in performance contracting that is adapted to eco-retrofitting residential dwellings.

MANAGEMENT GROUP

Analysis, planning and assessment

Eco-retrofitting Workshop: Sample issues and opportunities (Facilitator – Wally Wight)

- **Split incentives**: Opportunities to save money by retrofitting are often concealed by administrative systems that separate capital and operational budgets (and government agencies are increasingly tenants).

  R&D into budgeting systems that will encourage eco-retrofitting by governments and firms.

- **Green tape**: The complex, prescriptive and retrospective orientation of codes, assessment and rating tools which put the expense of certification on green buildings rather than conventional buildings.

  R&D in closed loop taxes for the built environment where poor performers support good performers.

- **Measurement biases**: Most tools reinforce systemic biases against retrofitting by, for example, ignoring the ongoing costs of, and embodied waste in, existing development (not to mention impacts of demolition).

  R&D on how new and old buildings can be assessed against a common benchmark (sustainability standard).

Progressing effective frameworks Workshop: Sample actions (Facilitator – David Hood)

- **Mapping**: Many planning issues and flows are not considered in mapping exercises, such as impacts on wealth distribution (see proposed). Equity mapping looks as the distribution of environmental values.

  R&D in mapping negative impacts that are currently not measured (eg SMARTmode).

- **Quality-based selection**: Currently, most tenders are based on the lowest upfront cost, rather than building performance. This has several disadvantages for eco-effective design.

  R&D in ways of linking tenders to ability, and linking pay to future building performance.

- **Procurement**: Need to improve procurement systems to ensure components (products, materials and equipment) for retrofitting are green/ Abuilding depends on its weakest link (eg. mold can destroy a building).

  R&D Ecospecifier and GECA to cover a wider range of products quickly.