

National Sustainability in Business Conference

+ Renewables

+ Markets

+ Innovation

+ Opportunities

+ Capital



23 - 24 March 2017

Hotel Grand Chancellor Brisbane

conference.sustainability.asn.au

Mr David Baggs

CEO, Global GreenTag Pty Ltd

Innovations in Healthy Environments: Maximising your biggest asset (and cost).

Staff in any businesses are their biggest asset. They are also the major driver to business efficiency. Recent changes to the way projects are being delivered has demonstrated significant improvements in workplace efficiency and able to be delivered when the quality of the indoor environment is designed and specified to optimise worker comfort and health. According to US DOE research some years ago a 1% shift in staff productivity typically equals an organisation's entire energy budget and so innovation that decreases absenteeism and increases efficiency can have a far bigger impact on business bottom line than energy savings drives.

Much progress has been made in design for the healthiness of spaces with tools like Green Star but focus on the health aspect of products has been buried within general materials credits. Recently new project rating tools including WELL have been raising the bar and the focus on the health of products specified in projects and the transparency of health risks associated with ingredients over and above just VOCs.

This presentation looks at the new tools now in the market place that cut through the complexity of Chemical Hazards and Risk Analyses and simplify the process of choosing products for innovative healthy environments at the same time pre-qualifying products to meet the needs of projects teams using the new rating tools like WELL.

Mr Mark Baker-Jones

Partner, DibbsBarker

Co-authors: Ms Nell van Weerdenburg, *Lawyer, DibbsBarker*

A Built Environment and Infrastructure Sector Plan: How Industry and Government Meet on Sustainability

The Queensland state government, leading institutional property owners and developers, and representative industry bodies, have piloted the development of a built environment and infrastructure Sector Adaptation Plan (SAP). With a focus on the development industry, a SAP can identify the operational, managerial, and financial impacts of climate change upon the built environment and infrastructure sector, and address how the sector will achieve climate adaptation by taking into account those impacts while balancing stakeholder interests.

Development of the SAP required establishing an agreed set of stand-alone sector principles for achieving climate adaptation. The Principles enable and support adaptation in the sector. They encourage safe, efficient, and adaptive development that addresses risks to the people and communities that will use development, or be affected by the environment, infrastructure, and economy arising from development. Following on from the Principles, the Plan highlights the sector and the government's ongoing commitment to managing the risks resulting from climate change to reduce their impacts on the people and communities.

The paper considers how the achievement of the SPA will not only provide stakeholders with confidence in the task-orientated direction of this process but will also provide a solid platform for future collaboration and buy-in as the SAP continues to evolve. It also considers those lessons learned and information garnered during the development of the SAP and how they can be applied to both determine and achieve future aims and tasks towards adaptation, within this sector and across others.

Dr Zsuzsa Banhalmi-Zakar

Lecturer, James Cook University

Opportunities and Challenges for Financing Climate Change Adaptation in Australia

While there is a great need for projects that help coastal communities adapt to the impacts of climate change, investment flows into adaptation are scarce. A recent study commissioned by the National Climate Change Adaptation Research Facility describes several ways to finance and/or fund the broad range of adaptation initiatives needed to secure coastal assets. The study draws on interviews with 29 stakeholders from 25 different organisations representing all levels of government, institutional investors, banks, consultants and the insurance industry. This presentation will describe key features of adaptation initiatives from an investment perspective and showcase a range of potential finance mechanisms.

Mrs Lissa Barnum

CEO/Founder, Peopleness: Social Design Action

Converging Design with Business – Energising Business Models for a New Human-Centred Economy

Sustainable business models thrive in an economy that supports them in particular if uniquely disruptive (Williams, 2010). Radical shifts in commercialisation are now largely reflective of a more human centred market, one where an ethos of Conscious Capitalism, (Mackay, Sisodia, 2013), and the QBL (people, planet, profit, purpose), are part and parcel of every enterprise. Customers are not only keen to participate in a sharing economy, (Air Bnb, Uber), but also use their own personal assets to leverage passive income: from homes to caravans, to washing machines and computers - even 'loaning' out one's own kids or grandparents to either rehabilitate, support or give companionship for reciprocal (human) reward - human, physical or intellectual, the sharing economy is the new norm.

This paper addresses some of the aspects inherent in these contemporary economic frameworks. Through the lens of an emergent post graduate business subject devised for cross disciplinary designers - industrial, communication, spatial, architecture & fashion – enterprises are envisioned that both support community and are also (potentially) profitable (i.e. sustainable). In the advent of the empathic process of Design Thinking to help guide creative direction, business schools are now seen to bridge both disciplines (Design & Business), to adopt mutually exclusive DT methodologies and break the back of more prescriptive, outmoded business models.

Human-centred research and human-centered design, of which empathy is a driver, underpin these enterprises. What is of interest is that many flourish out of intractable need/s, and many of this course's participants, hail from nations with daunting challenges: poverty, war or unprecedented economic development. What we grapple with, is if these human-centred businesses are able to be adapted to Australia, made to fit our contexts, energise our own economy and alleviate the constraints on our government's purse. A few case studies be-fitting these perspectives are presented gathering the flexibility of some of these concepts, engineering what can only be considered, humanist and be-spoke entities.

The new human economy requires courage and disruption and the capacity to flourish in the right ecosystem. Does Australia have the right humanist conditions?

Mr Simon Berry

Partner, Berry Simons

Geothermal Energy in New Zealand - An Overview

New Zealand has installed geothermal generating capacity of 750MWe with produces around 13% of New Zealand's electricity supply. Most of the generation capacity is in the Taupo Volcanic Zone. The first geothermal generating capacity was installed at Wairakei in the late 1950s-early 1960s. There has been significant growth in geothermal generation capacity throughout the 1990s to the present which has resulted in significant technological advantages and advances in developing the legal and policy framework within which geothermal energy production is planned for and consented.

The paper would provide:

An overview of geothermal energy production in New Zealand and the role that geothermal energy plays in the overall New Zealand generation and distribution system.

A brief overview of the legal and institutional arrangements for planning for geothermal energy in New Zealand. This would include a brief comment on the Resource Management Act 1991, the role of regional plans and the National Policy Statement on Renewable Electricity Generation.

Commentary on the key issues that arise in the context of geothermal energy production, including the need to avoid subsidence and surface water pollution via reinjection; the targets set for enthalpy decline; the protection of Maori cultural and spiritual values and the increasing trend to involve Maori owned enterprises in geothermal development.

Comment on the future of geothermal energy in New Zealand in terms of the role it is expected to play and the impacts that that would have for other electricity generation sources, both renewable and otherwise.

Ms Alice Cahill

Manager, Sustainability Advantage, Office of Environment and Heritage

Partnering for Success

Sustainability Advantage is the NSW Government's flagship sustainability program encouraging and enabling medium-to-large businesses to be productive contributors to the NSW economy while minimising their impact on the environment.

Established in 2005, the program is a unique partnership of business and government with strong links to local communities and a track record of driving positive environmental and business success within and beyond its membership. The flexible program is founded on nine modules which are the building blocks of sustainability, including Business Planning for Sustainability, Climate Change Risk and Adaptation and Sustainable Supply Chain Management, individually tailored to member needs.

Approximately 500 members from 15 diverse sectors across urban and regional NSW (including manufacturing; food and grocery; aged care; clubs; government; tourism; and hospitality) report saving \$100 million in reduced costs every year.

The Program includes a popular Recognition Scheme showcasing sustainability achievements made via participation in the program - 30% of members have had their achievements formally recognised (Bronze through to Gold). Many of our members have also won prestigious Green Globe (NSW) and national Banksia awards for their achievements.

The Program supports a spectrum of engaged partners, from those looking to take their first steps on the sustainability journey, through to major multinational companies seeking to demonstrate their environmental leadership by reducing their carbon emissions to zero.

Over the last ten years the program has helped members improve energy and water efficiency, make major investment in renewable energy, waste reduction and recycling and implement innovative solutions for repurposing and reuse of materials. The program has a solid reputation as an 'honest broker' and members benefit from the program's capacity to instigate and facilitate strategic collaborations to drive innovation.

Recently, the program has evolved to help members address new targets and frameworks, such as the United Nations Sustainable Development Goals.

Dr Nigel Cartlidge

Principal, Transitions: People, Place and Activity

Pokemon Go, Increasing Social, Cultural and Physical Activity in Public Spaces

The contribution of the urban design and planning of public spaces through spatial allocation, arrangement, design and governance to increasing levels of physical activity has until now largely been focused on supporting the activities that are seen as 'healthy'. These approved or established social, physical and cultural activities such as cycling, jogging, walking and organised sports are often associated with highly organised project groups that promote their needs and preferences to the decision makers for the urban design and planning of public spaces.

With the development of the augmented reality game PokEmon Go meeting the spatial needs of gamers who play interactive multi-player electronic games has, up to now, been seen as part of the problem rather than a possible solution. Equally, gamers have not yet organised to voice their needs in the political contest for public space. The research aim of this paper was to take a snapshot of the PokEmon Go phenomenon in online articles to examine the influence of technological innovation in increasing levels of physical activity of gamers and their more frequent use of public space. The research was organised to examine the themes and topics associated with the increased physical and social activity of gamers in public spaces using content analysis of online articles. In particular, it sought to identify the problems that players have when playing the game in relation to the amenity and facility of the urban design and planning of public spaces. The analysis also sought to examine the implications for the governance of accessibility to public space for urban designers, planners and local authorities.

Mr Gavin Christie

Co-Founder, Kkooee

Digital Disruption and Sustainability in the Engineering Services Sector

If the global engineering sector was a country, it would rank in the top 20 in terms of GDP. But like many industries, technology, the IoT and changing workforce demands are both disrupting and transforming businesses.

This presentation will explore some of the global mega-trends affecting the engineering services sector and how the enormous potential of the crowd is forging a new definition of talent. It will also look at how crowdsourcing, freelance engineers and the "gig economy" may hold the key to the sustainability of many businesses in the engineering service sector.

Mr Alistair Coulstock

Director, Coulstock and Associates

The Conscious Business - How to Achieve Purpose with Profit

Strong collaborative teams with a clear vision are necessary to set key strategies to design and implement successful environments, products and solutions. To move towards a collective consciousness, where the human spirit thrives, the knowledge of that which ignites the passion of each person must be found. What is it that drives their desire to learn and overcome challenges? Transparency in the mutual relationship between organisation and employee is required to ensure the correct approach is taken and the best is gained from people. To create successful places, we need to understand what people want and need from their environment. To gain the most in business we rely on our number one asset, our staff. Indeed, without positive people it is likely we would not have a business. Therefore, an inclusive focus on people is at the heart of the solution to a better world.

Many organisations around the world are moving towards a purpose-driven and sustainable model. Our built environment affects how we feel, and how we connect, both with the environment and to our communities. Shaping our built environment has ramifications that last for generations. It is imperative that we design our environment and our businesses so that we create places where community can come together and people can focus on purpose. The importance of these seemingly separate aspects, are unpacked in the book 'The Conscious business -How to achieve profit with purpose'.

This presentation highlights the parameters that makes a purpose driven and sustainable organisation. It highlights emerging tools that can assist in the measurement and understanding of how our businesses are impacting the world. This talk presents a strong case for all businesses to assist in correcting our two greatest issues in the western world; a separation from nature and separation from community.

Ms Carmel Dollisson

CEO, Australia and New Zealand Recycling Platform Ltd

The E-Waste Gap: The Need for Education and Awareness

E-waste is becoming more difficult to find! It's being held in stockpiles, exported, going to landfill and dependent on how we consume technology.

Through its TechCollect program operating under the Federal Government's National Television and Computer Recycling Scheme (NTRCS), ANZRP is now in its fifth year of providing free permanent and one-off electronic waste (e-waste) collection services for the public and small business in every state and territory of Australia. It is the largest of the four Co-regulatory Arrangements (CA) operating under the Scheme.

This presentation will examine the challenges of sourcing product from the current e-waste stream, and report on the 'hidden factors', including reuse and export, impacting on the available stream for recycling.

It will also explore the need for greater public participation to address the gap, and focus on the issue of shared responsibility for awareness and education.

Finally, the presentation will refer to household research undertaken by ANZRP and address what needs to be considered in the 2016 regulatory review of the NTRCS.

Mr Axl Driml

Principal Sustainability Manager, Department of Housing and Public Works

Ensuring Buildings Perform in the Real World to the Expectations of their Designers

The Australian Property Industry has been at the forefront of sustainable design, and the Queensland Government has produced some notable examples of high performance buildings using the Green Star accreditation system developed by the Green Building Council of Australia. However, international research has suggested that building performance often falls short of the expectations of designers.

Many of the issues relate to the transition of the buildings from design to construction to utilisation, and the need for better communication and knowledge transfer in the process.

The issue is exacerbated with older buildings, where the expectations of designers have been lost in time, and sustainability may not have been high on their agenda in the first place. Fortunately the Green Building Council has developed a tool and methodology, Green Star Performance, to assist facility managers either meet or exceed original expectations.

The author will draw on his experience of working with various Green Star tools and managing a Green Star building to enlighten the audience on the benefits and pitfalls of achieving sustainable building performance.

Ms Peta Earley

Associate / Senior Sustainability Consultant, Norman Disney & Young

“Wellness” Building Syndrome – Is This the Future for The Built Environment?

‘Wellness’ is the fastest growing global sub- trend in 2016 and it extends to all areas of our lives -what we eat and drink, our consumer spending choices and the quality of spaces we live and work in. People on average spend approximately 90% of their time indoors and therefore the quality of such spaces is now under increasing scrutiny for their impact on our health and wellbeing.

Similarly, approximately 90% of a typical professional services organisation’s running costs are staff salaries [1]. The productivity of staff in office environments is often determined by their health and wellbeing, which in turn, are equally often a result of the quality of their work environment. Poor quality air can be the trigger for many respiratory illnesses, poor lighting can lead to eye strain and reduced alertness, inactivity can promote heart disease and other chronic diseases and lack of access to (or the ability to prepare) fresh food can increase the incidences of obesity and a range of health issues. From a financial business perspective, staff wellness should be a priority for any organisation.

The WELL building standard is a product of seven years of research and assesses building characteristics for their impact or benefit on human psychological and physiological health. The WELL standard is having a significant impact on the Australian market and over the past 12 months Norman Disney and Young have participated in its injection and development into the Australian market.

Our presentation will provide on an overview of the WELL Building Standard and its key features.

[1] World Green Building Council (WGBC) 2014 -Health, Wellbeing and Productivity in Office Buildings

Mr Greg Edmonds

Managing Director, Charles Kendall Australia

Procurement as An Enabler for Sustainability

For sustainability to be achieved there is a need to look at what process will deliver a sustainable outcome. Procurement as a change management process is often overlooked as an important part of the process. The focus is often on the outcome versus on the steps to get there. Both government and private sector organisations are challenged by how to develop appropriate terms of reference, specifications, total life cycle costs as well as establish criteria that can be evaluated to capture the sustainability aspects of their objectives. It is challenging to balance social, environmental and economic priorities which has to be addressed to achieve sustainability.

In the past, there has tended to be a focus on technology as the core enabler for sustainability initiatives. After all, the implications of technological change can sometimes be more easily measured and, in any event, the general public is much more captivated by innovative technology, rather than contemporary procurement practices.

However, the continued drive and pressure to deliver sustainable outcomes has -and must continue to -provide a broadened understanding of what measure can and should be implemented to achieve best practice sustainability.

This presentation will provide an overview of sustainability in the context of procurement and discuss how industry can benefit from sustainable procurement practices.

A sustainable procurement framework can deliver key benefits such as reducing adverse environmental impacts, improving social and economic issues, reducing unnecessary consumption and managing demand, providing greater efficiencies in the use of public resources and demonstrating that the organisation is committed to achieving sustainable procurement objectives.

Greg Edmonds is the Managing Director of Charles Kendall Australia, part of Charles Kendall Group, an international procurement and supply chain consultancy firm with over 70 years' experience working in most parts of the world and has provided organisations advice on sustainable procurement.

Mrs Debbie Firestone

Program Leader - Sustainability, Tweed Shire Council

From A \$4.5m Annual Power Bill to Energy Self-Sufficiency? Tweed Shire Council's Energy Practices and Plans

With an annual electricity bill of over \$4.5m to power over 52 services, 700 employees working across 390 sites, an elected body representing over 40,000 ratepayer shareholders and a population of over 92,000 residents, the Tweed Shire Council faces the full range of energy opportunities and challenges inherent to any business:

- bringing energy charges down cost-effectively and within strict operating parameters of our equipment
- being as efficient as possible with the power we use
- aligning our energy policy with stakeholder expectations
- pursuing a long-term renewables vision through strategic and tangible steps.

Debbie's presentation will share Council's energy management efforts:

- Avoiding demand charges and using less

Energy use and demand charges have reduced significantly at several of Council's main sites. Between 2014/2015 and 2015/2016 Council reduced its power use by 405 and 456 megawatt hours respectively, saving over \$500,000 in demand charges during the same period.

- Taking control of our data

A spreadsheet, affectionately known as zEUS, has been developed in-house to help Council keep its finger on the pulse of power use, costs, tariff rates and times.

- Going renewable

Council's resolution to be self-sufficient in renewable energy has sparked the development of a Renewable Energy Action Plan to describe how, where, when and funding options to pursue its renewable energy aspirations.

Working together with leaders in our local energy scene, we support and benefit from regional partnerships to make change happen:

- Condong bagasse-fired co-generation plant
- 90+ kW installations at local businesses Aldi, Stone & Wood and Madura Tea
- Australia's first community-owned power retailer & regional bioenergy studies.

Ms Suellen Fitzgerald

Executive Director, Western Sydney Parklands Trust

Creating Sustainable Community Lands in Western Sydney

Western Sydney is the third biggest economy in Australia and one of the fastest growing regions. By 2030, Western Sydney will have a greater share of the Sydney population than the traditional eastern suburbs, with a population of 3 million. The development of housing, new town centres and in particular infrastructure such as the new Western Sydney Airport, will all have huge implications for the environment, air and noise quality, social infrastructure and the region's sense of place.

Western Sydney Parklands is a massive 5500ha community development and place making initiative right in the centre of this population growth that aims to both protect and expand the rare and endangered Cumberland Plain Woodland vegetation but also to grow jobs and tourism opportunities for local communities. The Parklands is also piloting urban farming as a viable commercial land use, with migrant farmers from all over the world, taking up land for commercial market gardening on government leases.

But the challenges are great. The Parklands are self-funding and generate their operating incomes from long-term business hubs. Demand for picnic and playgrounds is constantly expanding and health and wellbeing programs are vitally needed by the local communities. The Western Sydney Parklands is well advanced and has many lessons for creating sustainable public lands on the edge of one of Australia's most dynamic urban environments.

Mr Hugh Grant

ASLF Convener, Australian Sustainability Leaders Forum

Australia's Power Crisis – Are Renewables The Problem And Is More Coal The Solution?

Australia's political debate on the causes of the recent South Australian power outages is becoming increasingly toxic, with the media reporting of the debate being dominated by false claims, fake news and ideologically driven propaganda.

Casual observers of the political discourse can be forgiven for forming the view that Australia is in the midst of an unprecedented power crisis and that it is all the fault of renewable energy.

This presentation will provide a fact-based analysis of the current debate, including:

- *What were the real causes of the recent South Australian power outages?
- *Does Australia have an energy security crisis?
- *Does Australia have an energy affordability crisis?
- *What is actually driving Australia's excessive electricity prices?
- *What are the key challenges and opportunities with the Australian power sector's transition to a reliable and affordable low carbon future?
- *What reforms are needed to the National Electricity Market to support that transition?

Mr Jordan Groeneveld

Principal Advisor Sustainability, Strategy Team, Aurizon

Understanding Climate-Related Risk at an ASX-Listed Company

- What is climate-related risk?
- What is driving companies to disclose information publicly relating to climate-related risk?
- Why would an Australian rail company need to understand climate change policy in India?

This session will focus on sustainability reporting of ASX200 companies, and describe the approach taken at Aurizon, a top 50 ASX listed company that provides rail-based transport and infrastructure services across Australia.

Adj Prof David Hood AM

Chairman, Long Future Foundation

Adjunct Professor, Science and Engineering Faculty, QUT

Responding to Global Warming

It's all about risk. Would you cross a bridge if the design engineer told you that you only had a 66% chance of getting to the other side? Would you board on aircraft if the aeronautical engineer said that 'I only design aircraft with a 66% chance of them arriving at their destination? No? Neither would I. We engineers design and build to ensure as near as humanly possible that there will be no catastrophe. Why then are politicians and business leaders accepting a 66% chance that the world's climate will be survivable by mid-century? We must declare a climate emergency now, and act as if we are at war. We owe it to our grandchildren.

Mr Tom Jamieson

Manager, Project Delivery, Sunshine Coast Council

The Sunshine Coast Leads the Waste Revolution with Australia's First Automated Underground Waste Collection System in the New Maroochydore City Centre

The Sunshine Coast is taking a nation leading position by unveiling Australia's first, high-tech, Automated Waste Collection System for a CBD, to be installed in the new Maroochydore City Centre.

Rather than using wheelie bins, waste will be transported from public realm streets and parks, commercial buildings and apartments at up to 70kmh through a 6.5km system of underground vacuum pipes located beneath Australia's newest city centre, making the 53-hectare Maroochydore City Centre one of the cleanest and greenest cities in the country.

Common aspects of waste collection such as odours and vermin will be avoided, and the costs of daily street cleaning will be reduced -significant gains in recycling will also be achieved.

New urban developments in Stockholm, Seoul, Barcelona, London, Singapore and Beijing have all utilised the Swedish-designed Envac waste collection system -but no Australian city has done so - until now.

The waste system will cost \$21 million, which will be fully recovered from occupants of the CBD over the life of the system.

Each building in the new CBD will include at least three waste inlets -organic, recyclable and general waste. Waste dropped into each inlet will be stored in a sealed compartment below ground until the vacuum pump is activated at the central waste facility, usually twice each day.

This project, a first for Australia, is part of Sunshine Coast Council's \$253 million capital works program for 2016 -2017. This significant and innovative infrastructure investment demonstrates why the Sunshine Coast is fast becoming one of Australia's leading city regions for the 21st century and delivering its core strategy of becoming a smart, healthy, sustainable region.

This keynote speech will concentrate on the selection processes utilised, the procurement and engineering specifications and the delivery schedule for installing the AWCS across the CBD in Maroochydore.

Mr Stefan Jensen

Managing Director, SCANTEC REFRIGERATION TECHNOLOGIES PTY LTD

HVACR: A Major Source of Emissions Reduction

The HVACR industry is comprised of 53M installations in Australia across ten sectors that perform the function of heat transfer. These are industrial, commercial & transport refrigeration & hot water and industrial, commercial and residential air conditioning & hot water plus motor vehicle air conditioning and district energy.

The industry consumes over 22% of the electricity that Australia dispatches and generate over 14% of national greenhouse gas emissions.

These services are delivered by 17,000 companies, employing over 200,000 individuals and 55,000 certified technicians.

The industry is very much a global industry wherein global agreements are being finalised (probably prior to the conference) that will call for a fundamental shift in technology to low GWP refrigerants and high energy efficiency. These agreements (led by the Montreal Protocol) are already reflected in federal government policy. They will cause the vast majority of HVACR infrastructure to be replaced or rebuilt in the next 10 to 15 yrs and prior to the end of life of the equipment. The transition to energy efficient, low emissions technology is commercially warranted now.

Central to these initiatives is the need for integrated energy efficiency engineering - heat load management, energy management and mechanical engineering. Each of these dimensions is changing rapidly and offer important sources of emissions reduction.

At the same time the vast majority of HVACR specifiers and technicians is not well informed about the need and opportunity. There is an enormous educational task that has yet to be addressed by policy or training structures.

Within all of this is a major commercial confrontation that obscures the opportunity. There is a desperate need for sustainability professionals to be aware of the opportunity and to embrace the technologies and policies that will reduce the cost of HVACR services by \$10B pa and reduce national emissions by about 7% from HVACR alone.

Ms Delwyn Jones

Director Sustainability Assessment, Ecquate: The Evah Institute

Incubators to Jump Start SME's Sustainability Assessment

We have developed an inspiration hub for eco-positive advocates seeking sustainability projects and tools. The vision is eco-positive competition, collaboration and synergy across local and global markets.

The purpose is to accelerate business networks uptake of life cycle thinking and impact and benefit assessment. By embedding it in the corporate world, much like annual financial accounting, businesses will have annual life cycle analysis.

Services include training and tools enabling project and business practice and improvement; selection, appointment and mentoring of consultants, and advice for conscious, well-informed design, business, research and career decisions. The platform is for business, students, interns, and practitioners, innovators networks cost effective adoption of tools and systems to work for:

- * Synergising people, processes and products toward ecopositive jobs and profit growth;
- * Troubleshooting, innovation, procurement & marketing of ecopositive outcomes;
- * Infusing sustainability science into design, projects, business and management as well as
- * Teams will share inspiring stories of new thought, learning, innovation and adaptation.

Our fees for:

- * Students, graduates and interns allow free access software and project libraries.
- * Institution learning and database contents have set subscription fees.
- * Practitioner's use of specialist software is set by share of project work.
- * Practitioner fees are set at affordable hourly or weekly rates.
- * Business and practitioner subscriptions to access libraries and databases are project based from thousands down to hundreds of dollars
- * Business and research client projects and small generic LCI datasets cost hundreds to a few thousand dollars each.
- * High end custom databases cost >\$5500/sector and >\$22,000/nation

Mr Stan Krpan

CEO, Sustainability Victoria

TAKE2: Victoria's Climate Change Pledge Program and the Role of Collective Business Action to Reach a Net Zero Emissions Future

TAKE2 is Victoria's collective climate change action to help Victoria reach net zero greenhouse gas emissions by 2050. It's the first state government-led program in Australia and one of the most comprehensive pledge programs of its kind in the world. It is a key plank in preparing Victoria to implement the Victorian Government's commitment to achieving net zero carbon emissions by 2050.

Sustainability Victoria is the Victoria Government's delivery agency for environmental sustainability. Sustainability Victoria aims to inspire all Victorians sustainable actions every day. Sustainability Victoria is responsible for the delivery of the voluntary TAKE2 program, focusing on businesses, community groups, education providers, local governments, and individual and householders.

In Paris, at the 2015 United Nations Conference on Climate Change, 195 nations, including Australia, agreed to keep the global temperature rise under two degrees. Many subnational jurisdictions, like Victoria, have already shown significant leadership in mobilising communities for action following the Paris Agreement. All Victorians and all organisations with operations in Victoria are able to make the TAKE2 pledge to act on climate change. Then they can select from the actions on the TAKE2 website which will help them reduce their greenhouse gas emissions.

Launched in June 2016, within six months, the TAKE2 program had already captured climate change and emission reduction commitments from over 300 organisations operating in Victoria. These organisations included local governments representing over 3 million people, community groups representing 100,000 members with facilities that are visited by over 1.5 million Victorians every year, and businesses that employ over 70,000 people in Australia and revenues of over \$60 billion.

TAKE2 is intended to showcase and promote action taken by Victorian organisations in order to normalise behaviour across the community, create an environment for policy stability (a critical concern during our engagement with large businesses), and also inform the first 2020 to 2025 legislated emissions reduction target set by the Victoria Government, as well as a 2017-2020 interim target.

This presentation will provide an outline of the TAKE2 program, some recent successes, insights from engagement with the business community, and how the program fits more broadly into the Victorian Government's climate change agenda.

Mr Scott Losee

Director, Losee Consulting Pty Ltd

Sustainability Lite? Has Business Lost Touch with the “True Meaning” of Sustainability?

Some businesses that have successfully positioned themselves as world leaders in business sustainability, contribute to unbridled consumerism by heavily marketing products that people don't need, or are actually harmful. Meanwhile, some otherwise non-material endeavours, that on the surface seem to foster a peaceful coexistence between people and nature, such as yoga and fitness, are over-commercialised and merchandised. Some businesses embrace eco-efficiency but remain disinterested in their social, cultural or community impacts. The effort of some extends to graphic design and branding, and no further.

For a movement that grew out of a fear that humans were irreversibly degrading their only home, and a recognition that all things were inter-related, does contemporary sustainability practice in business honour the movement's original aspirations? - Or has a growth and profit-at-all-costs driven economy drawn sustainability notions into its mainstream activity without fundamentally changing?

This presentation offers an unapologetic critique of mainstream business sustainability based on a re-examination of its original intent, juxtaposing this with examples of current practice and branding. The focus is on prominent and recognisable businesses, products and services, that appear to not live up to these original intentions, or their own marketing claims.

The intent of the presentation is to challenge delegates to reflect on the gap between contemporary practice and the requirements for business to substantially contribute to a sustainable future. It begins to formulate some approaches to reorienting business sustainability, so that the 'best of business' (innovation, efficiency, coordination, responsiveness, value creation and sharing) can be brought to bear on humanity's existential challenges.

Mr Norm Madden

Manager, Education and Training, TAFE NSW, National Environment Centre

Going beyond the low-hanging fruit: Picking winner projects and people.

Sustainability means different things to different people depending on their perspective, but one consistent theme is that sustainability is a journey. Most of us begin that journey with the recognition that we want to change something, for whatever reason, and so we embark on a process of deciding what we want to change. This process generally includes things such as a back-of-the-envelope or more formal analysis of return on investment and developing a strategy for implementing the change. We generally begin with those things we may have read or heard about or that we can source funding for such as installing solar panels, timed lighting and water-saving taps. These are excellent places to begin our journey as they result in clearly measurable resource and financial savings. The financial savings, in particular, help us to get vital support and company the journey and we want to go even further now. But how do we move beyond the so-called 'low-hanging fruit'? Why do so many sustainability journeys begin to slow down or even stop at this point despite the clear value benefits of continuing? This presentation will explore the answers to those questions and discuss your next vital steps to continue your sustainability journey.

Mr David Malicki

Senior Team Leader, NSW Office of Environment and Heritage

Battery Storage for Business - A New Tool in The Energy Transition

The NSW office of Environment and Heritage has prepared resources to help commercial organisations understand battery storage technologies, their application and feasibility.

The key driver for considering battery storage is cost reduction, but there are many other aspects to solar and storage that are attractive - energy security, increased self-consumption of on-site solar generation, and reduced infrastructure-development costs.

With the 50 fold expected increase in battery storage installations by 2020, there are many questions that savvy organisations should ask to ensure they get the right solution for their situation.

What are their financial criteria and hurdle rates? Do they have the space to install the batteries in an appropriate enclosure? Do they understand safety and grid-connection requirements?

Batteries can be used to perform tariff arbitrage (buying cheap and selling high), shave peak demand costs, increase solar power consumption, and in some instances be used to trade on the wholesale market, and go off-grid.

OEH assistance helps users considering battery storage to answer the following questions:

What is battery storage really? - Battery Storage guide or Essentials guide.

Should I investigate this seriously? - Investment Decision Tool

Will it actually be viable for me? - battery storage for business training course

What should I ask suppliers and how do I compare quotes? - Price Estimate template.

My talk will focus on answering the key questions about the technology, and how it is the pivotal piece in the renewable energy transition we are currently experiencing.

Dr Andrew Monk

Chairman, Enervest Pty Ltd

Co-authors: Mr Ross Warby, *Managing Director, Enervest Pty Ltd*

10 Reasons You Wouldn't Invest in Solar and Storage

Solar has now become an "economically rational" decision for businesses including for purpose organisations. It is not longer a matter of whether to or not, but how to best design and install.

The problem is with this drive there are many misaligned and maldesigned systems that are being put in place.

This presentation outlines 10 of the most common mistakes businesses make in this sector, with simple ways to ensure what is a major investment to the balance sheet of the company, including potential enhancement of its triple bottom line from day one (including financially), is done right for the short, medium and longer term.

With such flux in this sector, including with the revolution rumbling along in the storage/batter sector, it is critical that not only the facts are ascertained by the business decision makers, but that the unique circumstances of each and every site, in each state, with its own unique needs, is integrated into the overall systems design where solar is being inserted to complement the business's energy needs and mix.

Dr Virginia Munro

Research in Sustainable CSR, Griffith University

Twelve Years On: A 2017 Case Study from a New Orleans Social Innovation Incubator Lab – With Example Startups and Sustainable Enterprises (The Calm That Came from the 2005 Storm)

This presentation discusses a Social Innovation Incubation Lab Virginia visited in New Orleans, Louisiana (USA) last year. The Social Innovation Incubation Lab has been assisting with social venture set-ups since 2009. When Virginia was invited to present on CSR Social Initiatives at the Academy of International Business (AIB) conference last year, she visited the Lab. Virginia had visited similar incubators in Dubai in 2010 to 2011, but what struck her with this one was the success in the detail of their new ventures. She would like to share this with you at this conference.

Mr John O'Brien

Managing Director, Australian CleanTech

The Visions 2100 Project: Recalibrating Environmental Communications through Positive Storytelling

Visions can mobilise communities, countries and global networks to deliver extraordinary outcomes. The human race can do extraordinary things when it needs to. With the right motivation, humans can win unwinnable wars, put men on the moon, build pyramids or create atomic bombs.

However, the complex issue of climate change is one that our race is struggling to address. The solutions are not beyond us in any way. Technological solutions exist, scientific knowledge is plentiful, the world can afford the transition but still significant action eludes us. The complexity of climate change is now in the psychology of change.

The human brain is hard wired to react to imminent threats. Telling most people of an impending catastrophe in 20 years will have no impact on current behaviours.

Visions 2100 holds stories from some of the world's leading environmental thinkers and influencers. The eighty short visions come from authors including Mary Robinson, Christiana Figueres, Bill McKibben and many others. These are the people who are shaping your future world. Their visions tell what they want to see in their future. What future do you want?

Prof Deo Prasad

Chief Executive Officer, CRC Low Carbon Living

Lowering the Carbon Footprint of Cities while Creating Business Opportunities

There is ongoing discussion on future energy mix in cities – from a coal based to renewables. The long term aspiration may be fine but how do we navigate the transition? More and more roof top PVs or local area mini-grids, storage – all at households to community to network scale are being explored. What is more certain is that there needs to be an integrated approach tying demand side efficiencies to supply side options where reliability remains critical. This talk will discuss the outcomes from the national research and innovation hub for the built environment which aims to underpin a low carbon living while ensuring job creation from the processes.

Mr Simon Proust

Sustainability Project Manager Ecological Initiatives, North Coast Institute TAFE

Sustainability At North Coast TAFENSW (Poster Presentation)

TAFENSW North Coast has an all-encompassing approach to sustainability commencing with the appointment of a dedicated Sustainability Manager in 2006. This strategic approach to sustainability includes; leadership in sustainable education including delivery; engaging staff, students and the community in leading sustainable practice and importantly managing our own carbon footprint.

This poster paper focus on the management of our ecological footprint across our 17 campuses on the North Coast of NSW extending from the Tweed on the NSW Qld border to Forster 550km to the south. TAFE NSW North Coast has some 30,000 students supported by 1700 part and full time staff. The organisation has clear goals, supported by management about embedding sustainability in our learning programs and applying sustainability in the design, modification and construction of facilities and assets. Also as a vocational educator it is important to set an example in reducing our carbon emissions from our daily operations.

Our strategy includes awareness, promotion, implementation and delivery of projects to reduce our resource use. Active monitoring of our utilities including air conditioning and ICT together with the development of partnerships in the community assist us to achieve our goals. Sustainability criteria is part of the decision making process in the planning, design, implementation of minor and major capital works and management of transport and information technology systems. Importantly and visibly, sustainability is factored in our utility, waste and recycling management systems.

Ms Monica Richter

Climate Change Business Engagement Manager, WWF

How WWF Is Seeking to Accelerate the Uptake of Renewable Energy in Australia

The Paris Agreement has recently come into force with a global goal to limit warming to well below 2 degrees C and pursue efforts to limit warming to 1.5 degrees C. This will require developed countries like Australia to achieve net zero emissions well before 2050. The transition to net zero emissions is already changing energy consumption patterns and driving greater investment in renewable energy.

Purchasing renewable energy is a smart business strategy with a number of benefits including brand building, investor appeal and improved social licence to operate. Aside from these benefits, there are also good commercial reasons to commit to a zero carbon plan which helps the company reduce its electricity costs in the longer term and contribute to help Australia transition to a cleaner energy system.

WWF has established a Zero Carbon Hub to 'educate, aggregate, accelerate, and advocate' to achieve a zero carbon climate resilient future. The talk will cover WWF's innovative program including the highly successful Renewable Energy Buyers Forum. See <http://www.wwf.org.au/what-we-do/climate/renewable-energy-buyers-forum>

Achieving net zero emissions will require strong leadership and a commitment towards this long-term goal as all businesses, governments and civil society reduces our entire carbon footprint to zero.

Mr Antony Sprigg

CEO, ISCA

Changing the Infrastructure Legacy

We have the opportunity to change the legacy of infrastructure in Australia for current and future generations. The path that will enable the achievement of policy outcomes through a unified community of practice that drives industry productivity and efficiency beyond compliance has been developed; all we need to do is adopt it.

In order to ensure infrastructure is planned, designed, constructed and operated to optimise short and long term environmental, social, economic and governance outcomes, infrastructure projects and assets should be benchmarked against industry led performance based quadruple-bottom-line best practices. Benchmarking increases awareness of key issues and provides a structure for improvement. Benchmarking to a common framework also enables the development of a community of practice between project owners, designers, decision-makers, suppliers and operators, transforming the way infrastructure is planned, designed, built, and operated.

The Infrastructure Sustainability Council of Australia (ISCA) is a member-based not-for-profit public and private industry council. ISCA is the peak industry body for advancing sustainability outcomes in infrastructure. The principal means by which ISCA is advancing sustainability outcomes in infrastructure is through the development and facilitation of the IS rating scheme. Since launching in 2012, over \$79 billion in infrastructure and civil works projects or assets across Australia and New Zealand have either been certified or registered for an IS rating. The IS rating scheme is Australia's only comprehensive rating scheme for evaluating sustainability across design, construction and operation of infrastructure.

Ms Jane Stewart

Director, Sustain Ability International

Adaptive Sustainability - An Innovative Business Management Approach That Develops New Mindsets That Can Adapt to Change and New Skillsets That Can Address Today's Modern Challenges

Adaptive Sustainability is a new business management approach that takes businesses beyond compliance, beyond lean, beyond continuous improvement to a new level of prosperity.

Let's face it businesses today operate in a dynamically changing, complex and uncertain global environment. In order to remain viable into the future, businesses need to continually innovate and improve performance across all divisions. But keeping up with rapidly changing economic, social, political and environmental conditions is difficult while trying to maximise profitability and deliver ongoing value to all stakeholders.

Adaptive Sustainability is an innovative education and training program that uses a unique learning and action framework to address practical governance and operational issues and combines this with principles of systems thinking to create an innovative approach to adaptive business management. It takes its cues from the natural world which has been successfully dealing with change for 3.8 billion years despite our destructive impact.

The fact is the natural world operates through an infinite number of dynamically changing, interconnected and complex systems. It has been shown that each of these systems is based on the same set of characteristics, no matter its scale or complexity, and work in an integrated way to achieve maximum results.

Now consider that all human organisations are a form of a social system made up of people, structures, and processes. It is the interaction of these parts working together that determines whether a business will succeed or fail.

So wouldn't it follow that if all successful systems share the same set of characteristics, and your business is a form of a social system, then the best way to ensure its success is to make sure all of these characteristic and present and functioning.

Adaptive Sustainability is based on this 3.8 million year old idea and underpinned by an innovative framework that is comprised of 14 x Key Actions for a Responsible Business and 7 x Principles for Adaptive Management. Without this new mindset and skillset businesses risk failure into the future.

Mr Lee Stewart

Head of Sustainability, Oceania, Fujitsu Australia Limited

The Digital Transformation of the Australian and Global Economies

The digital transformation of the Australian and global economies continues at a rapid pace. It is the greatest force offering genuine innovation in the way that people work and live.

As more people become more connected, we are witnessing, technology as a low carbon enabler of low-carbon growth. It is reducing travel, energy consumption and resource use while, for individuals, opening up easier access to a range of products and services.

Mrs Agnesia Candra Sulyani

Incubator Assessor, Telkom Digital Service Division

Co-authors: Mr Johannes Adi Purnama Putra, *Manager of Incubation Management, Telkom Digital Service Division*

Interesting Stories of Innovation Successes, Challenges, Good Practice, And Learning from Indigo (Indonesian Digital Community) Program

Indigo Program is an appreciation program to startup/ entrepreneurs that are perceived to be successful in creating ideas, product, or innovative digital business that customer want and pushing the growth of new digital entrepreneurs in Indonesia. Startup community co-creation are the part of Indigo program (Indonesian Digital Community) Creative Nation, which consist of People, Planet and Stakeholder Participation aspects. The program helped develops the digital creative industry in Indonesia. Indigo program stakeholders include Academic, Business, Community and Government (Government).

Indigo Program provides amenities such as startup's co-working space, mentoring, platform, market access, and also funding provided by Telkom. Telkom is the only state-owned telecommunications enterprise as well as telecommunications and network service providers in Indonesia. A total of 2456 startups participate in Program Indigo since 2009 and there are 86 startups selected to join the program Indigo through incubation or acceleration.

The expected output of this program is building startups with well-tested digital creation from market, product, and business perspective, so that they are ready to be developed further in order to become a strong business entity with national & global reach. This year, Indigo Program uses the theme 'Building Strong Indonesia's Digitalpreneur with Disruptive Mindset' with the tagline 'Work Together Grow Together'.

Prospective participants for Indigo Incubator Program are not only limited to startups that have already built products, but also for startups that have just reached product idea stage. In this program, participants can enter the selection based on the most suitable category, which is 'Innovative Idea' for startups in product ideation stage, 'Innovative Product' for startups that have reached MVP stage, and 'Innovative Business' for startups that have been proven their product-market fit with certain amount of revenue.

With those experiences, we would like to share our stories of innovation successes, challenges, good practice, and learning from Indigo Program. How we are bridging startup to entry Indonesian Market through our Telkom Group customer based and startup current achievement.

One of our Indigo's startup is Run System, an easy-to-use business management software designed specifically for small and midsize businesses based on co-founder experience as professional and user of global brand ERP software. It enables enterprises to manage critical business functions across sales, distribution, and finance, all in a single integrated system. Run System can instantaneously access a complete and up-to-the-minute view of customer business, so customer can respond to customers faster and grow your business more profitably. Currently, Run System starts from industries, textile and wood manufacturing, and they are ready to expand their market with SaaS because RunSystem has already proven its functionality, effective implementation approach and more efficient project cost compared than other competitors in the industry. There will be more stories about our Indigo's startup.

Mr Waco Tao

Founder & CEO, PowerHouse Homes

Agile Housing Model for Future Proofing: Prefabrication to Perfection

We all live with modular designs.

And, we live in a modular world.

Cars, furniture and even airplanes are comprised of modular elements, which are characteristic of mass production manufacturing.

When it comes to our homes modularity is evidenced in the accessories attached to the body of our houses such as fittings and fixtures, but rarely is the body itself a module.

There are logistical challenges that mitigate against pre-fabrication of houses. Size in particular is a major constraint.

But, as the solution applied for Karatha that demonstrates, size is not an insurmountable problem.

Nor is variety.

Like many other modules based objectives, the simple solution is to break the whole down into transportable sections each with a specific function or group of functions, which can then be reformed organically as a whole.

Modules of controlled size can be assembled in such a way that a building can function as seamlessly as a conventionally conceived and built house.

Preference for the level of accommodation can also be achieved by combining modules with specific amenity often in logical related function groupings.

When real choice is combined with the accuracy. Speed and cost effectiveness of modular factory assured construction then the element of 'prefab' housing that lead to appeals - the 'one-solution-fits-all' assumption - no longer applies.

The houses presented here are informed in their solution by professional attention and skill applied to interiors, energy and sustainability and an architectural attitude that regards modularity as a technique in the service of conventional aspirations.

When engineered efficiency, which lies at the heart of modular fabrication, is processed architecturally it becomes strongly identified with culturally determined preferences.

An optimised habitat that enshrines the idea of domesticity is the result.

Mr Mark Thomson

Director, Eco Effective Solutions

Green Buildings/Environments ... Where to From Here?

Businesses have no shortage of capital and operational cost expenditure demands during their typical financial year periods. Justifying dollars for sustainability initiatives and green buildings or fitouts, always attracts competition from other essential business considerations.

There exist a series of actions that business must understand and implement in Sustainability. Addressing current business governance expectations is a good start, however in a world of shorter employments contracts and a mobile workforce, physical environments and access to technology in business, can be an everyday challenge.

The following points are proposed to be reviewed and elaborated.

- First Things First – is your strategy and approach right?
- Walking the sustainable talk – can you, your partners and your staff, sing of the same sustainable song sheet?
- Capturing the SDG's in your business- the reasons to look at the big picture.
- The role of buildings and environments in business culture – your work environment and systems require continuous improvement.
- Disruption challenges – I didn't see that coming ... and it hurt!
- A plan for the next 12 months – a practical guide to progress sustainability in your business.

Insights, experience and possible solutions will be offered which may support growth, innovation and sustained interest in your business.

Dr Shanah Trevenna

CEO, Smart Sustainability Consulting

Strengths, Weaknesses, Opportunities, and Threats of The Global B Corp Movement

B Corp is rapidly becoming the global gold standard certification for private enterprises using the force of business for good. B Corp stands for benefit corporation since it assesses how a company bakes sustainability values and practices into the DNA of their organization ensuring all sectors of the company create environmental and social benefit. B Corp aims to transform the norms of doing business, much as LEED strove to impact the building industry. Its rigorous assessment and verification process addresses corporate green washing with many layered benefits for B2B, consumers and markets.

This presentation is a summary of my dissertation research into the values, ideas, beliefs, and professional and personal trajectories of B Corp company leaders, as well as the operations, structures, and results of their sustainability focused businesses. B Corp is introduced as an ideology and a certification and the challenges and benefits of becoming a B Corp certified company are thoroughly discussed. Four common paths to becoming a B Corp leader are shared to inspire business professionals on how they can participate and why they would want to.

Next, B Corp is further explored as a movement toward integrating sustainability into business led by its founding organization, the US non-profit B Lab. Using the articulation of its leaders, the B Corp movement is described by its internal strengths and weaknesses and global opportunities and threats. Frameworks for systemic change are then used to assess where the movement currently stands and where it needs to go to be successful.

The presentation concludes with three over-arching goals and seven guiding principles for a sustainable, socially just and environmental regenerative economy as articulated by B Corp leaders, B Lab and a recent and comprehensive literature review on green business. Participants leave with a clear potential picture for a sustainable future economy.

Mr Ray Wilson

CEO, Carbon Neutral

A Study of Australian Brands Using Reforestation Projects to Deliver Carbon Abatement and Sustainable Development Impacts

It is widely considered that greater climate action will be required if Australia is to meet its current emissions target by 2030. Taking action, rather than waiting for policy makers, partly explains the growing demand for carbon offsetting by Australian businesses. The other driver is an appreciation of sustainable development impacts (co-benefits) offered by quality carbon offset projects.

The journey to partial or full carbon neutrality by businesses initially results in significant cost savings through energy efficiency measures as well as enhanced staff and stakeholder engagement. Organisations transitioning to a low carbon economy, through the purchase of carbon offsets, can also participate in sustainable development opportunities through reforestation projects.

Modelling by CSIRO (2015) shows carbon habitat farming on a large-scale could have a major impact in reducing Australia's emissions, enhancing biodiversity and providing new and diverse income streams for farmers. In 2015, Carbon Neutral's Yarra Yarra Biodiversity Corridor was the first project in Australia to be certified under the international Gold Standard - a best practice benchmark for genuine emission reduction projects that deliver long-term sustainable development outcomes. The Yarra Yarra reforestation project is examined to show how the direct positive outcomes (social, environment and economic) associated with an offset project are additional to the carbon stored.

Restoration of marginal and degraded farmland through native tree planting is creating habitat for wildlife and reducing soil erosion. Developing integrated enterprises, including honey and sandalwood production, is creating new employment opportunities for local indigenous people and farm families.

Case studies are presented of leading brands that are championing support for biodiverse reforestation as carbon reduction projects with important secondary outcomes. Their business cases for carbon neutrality are explored, including offset purchasing decisions and how they use their environmental programme and carbon neutrality to engage stakeholders, including supply chains.

Mr Adriaan Window

Sustainable Consulting Engineer, University of Queensland and Umow Lai QLD Pty Ltd

A Social and Environmental Cost-Benefit Analysis of Sustainable Building Practices Using the Green Star Certification Tool

The Paris Climate Agreement has mandated an undertaking by the global community of vast proportion: the reduction of carbon emissions to maintain global temperature increases well below 1.5 degrees centigrade. One of the largest contributing elements to global carbon emissions is the property sector, including residential and commercial buildings. This sector accounted for 23% of Australia's total emissions in 2013 and, of that, 42% was contributed by electrical energy consumption by commercial buildings. (ASBEC, 2016) Clearly, this sector of the economy carries a significant responsibility to pro-actively reduce emissions to avoid global collapse of ecosystems and preserve the fibre of our existence.

Despite this, "sustainable design" and construction regulation remains tethered to low minimum performance standards that lag behind our international counterparts. Adoption of voluntary sustainability certification schemes remains in the minority for new developments. Further, the Australian property development industry has increasingly pursued head contractor-led design and construct procurement mechanisms. This form of procurement creates increased incentives for lowest cost value engineered projects with stifled opportunity for design innovation and less holistic consideration of ongoing operating costs to asset owners or other potential indirect benefits to the economy.

A number of discrete studies, most notably Kats (2003), have demonstrated significant indirect and intangible benefits can be realised from sustainable design practices in addition to the conventional environmental benefits of energy, material and water reduction. The present study research aims to create a cost-benefit analysis framework for evaluating the social

and environmental factors that result from the implementation of the Australian Green Star certification scheme. Specifically, the framework is used to evaluate economic efficiency as a net present value of the marginal costs and benefits derived from sustainable design and construction practices over the typical building lifetime. Results of sensitivity testing of input data are provided and commentary on the potential impact to building regulations and policy are provided.

Ms Katrina Woolfe

Manager, Business Productivity, Sustainability Victoria

Co-authors: Ms Emma Avery, *Sustainability Education Officer, Rural City of Wangaratta*

Hume Business Champions - Peer to Peer Model Leading by Example for Sustainable Behaviour Change

Background

The Hume Business Champions Network was initiated in 2015 as a voluntary partnership between a Victorian government agency, Sustainability Victoria (SV), ten Councils in the Hume region, Goulburn Ovens TAFE and Regional Development Victoria. Covering an area spanning just north of Melbourne right up to the Victoria/NSW border, the ten Councils included Benalla, Campaspe, Greater Shepparton, Indigo, Mansfield, Moira, Murrindindi, Strathbogie, Wangaratta and Wodonga.

As peer to peer learning is generally known to be an effective model for business behaviour change, the aim was to create a network of local champions to motivate and share their environmental practices with their peers.

SV committed to support the Network for a trial phase from February 2015 to July 2016. This included four events hosted by a partner Council, several industry site visits plus six working group meetings. We'll share the feedback and learnings of this Australian first trial and plans for the Network's future.

Over 12 months the quarterly events were hosted by different lead Councils where local business champions were invited to share their experiences in implementing environmental improvements. The events also included a site visit tour of a local business champion, key note speakers, trade displays, networking and introductions to energy consultants who had joined the Network. The broader working group supported the logistics, data base and evaluation/learnings from each event.

Highlights of the series included food manufacturers, wineries, timber millers and truck repairers sharing how they've improved energy and materials efficiency and the benefits to their business. As well as reduced energy and/or materials costs, many businesses have also realised various co-benefits such as improved working environments, reduced waste, increased sales, water savings, productivity gains and reduced maintenance of equipment.

The events have also provided a chance for businesses to give feedback to government agencies about the real world impact of policy direction and funding requirements.

Quarterly working group meetings have ensured the model has been refined, as needed, based on participant feedback.