ADDRESS TO APEC SYMPOSIUM ON HUMAN CAPITAL POLICIES
FOR GREEN GROWTH AND EMPLOYMENT

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‘THE GREEN SKILLS AGREEMENT: OPPORTUNITIES AND CHALLENGES’

WASHINGTON DC, DAY 1
12.00 NOON – 1.30PM, TUESDAY 20TH MARCH 2012
BARNARD AUDITORIUM, LYNDON BAINES JOHNSON
US DEPARTMENT OF EDUCATION BUILDING
400 MARYLAND AVENUE, SW WASHINGTON DC 20202

LADIES AND GENTLEMEN

THANK YOU FOR THE INVITATION FOR AUSTRALIA TO BE INCLUDED IN THIS SPECIAL APEC INITIATIVE, REVIEWING GREEN SKILLS AND HOW THESE CONTRIBUTE TO JOBS AND PRODUCTIVITY.

BACKGROUND – TAFE BASED AT NATIONAL OFFICE, IN SYDNEY.

POSTCARDS FROM AUSTRALIA -- PHOTOGRAPHS

- SYDNEY’S BEACHES
- MANLY VIEW OF THE CITY OF SYDNEY
- GLOBAL RESOURCE SUPPLIER – AUSTRALIA IN RESOURCES BOOM
- GLOBAL WARMING – GREAT BARRIER REEF – UNDER RISK WITH INCREASE IN OCEAN TEMPERATURES

THIS IS A PROUD OCCASION FOR THE CEO OF TAFE DIRECTORS AUSTRALIA, THE PEAK BODY FOR THE 61 AUSTRALIAN PUBLIC PROVIDER ‘TAFE’ INSTITUTES

(TECHNICAL AND FURTHER EDUCATION) –

- I OWE MUCH TO THE MANY EXPERTS IN SUSTAINABILITY IN AUSTRALIA WORKING ACROSS THE TAFE INSTITUTE SYSTEM,

- I RECOGNISE THE WORK OF MY COLLEAGUE, DR. GARRY McDONALD, DIRECTOR OF THE NATIONAL CENTRE FOR SUSTAINABILITY WHICH HAS BEEN A MOST SUCCESSFUL CONSORTIA OF TAFE MEMBERS ACROSS SEVERAL STATES, BASED AT THE SWINBURNE UNIVERSITY OF TECHNOLOGY IN MELBOURNE. GARRY IS OUR TAFE REPRESENTATIVE ON THE ‘NATIONAL GREEN SKILLS AGREEMENT.’
• **LINDA CONDON** is an additional co-author of our paper for this conference. Linda has been a senior tertiary educationist and is now director of proactive sustainability.

My address on the **opportunities and challenges** will cover ---

• policy challenge set out in this Australian green skills agreement
• industry and its role, and networks into government leading to policy change
• transformation required across vocational education and training
• looking at the green skill credentials of TAFE institutes in Australia
• uptake of green skills, and
• beating the challenges, to exploit opportunities – especially noting Australia’s place in the Asia-Pacific region

I want to begin this lunchtime presentation with a scene-setter:

Today a political debate rages about so many issues surrounding sustainability, climate change, taxing carbon.

For the first time in this political history in 2010, Australia’s federal system has a national parliament whereby after the initial landslide election of prime minister Kevin Rudd in 2007 — and disillusionment about failure to proceed with major pledges including climate change reform, the re-election of the Labor Government this time was achieved only with a minority government, and now led for Labor by prime minister Julia Gillard — the greens Party and rural independents hold the balance of power.

Prime Minister Gillard earlier held the role for Labor as minister for Education while also Deputy Prime Minister, and during the late 2000s visited the US and other countries, hosted special green skill roundtables as part of her own commitment in two areas:

That skills and vocational education was just as important to Australia’s GDP and productivity as university education — and stared to follow an integrated tertiary education model, and that Australia got to understand what was the term ‘green skills’ and its role for industry, and tertiary education.

Back home in Australia, Labor during its first term oversaw the release of the Garnaut Report into climate change.
The Garnaut Report (2008) found that Australia’s per capita emissions are the highest in the OECD and among the highest in the world. Emissions from the energy sector would be the main component of an expected quadrupling of emissions by 2100 without mitigation.

- Only five countries in the world rank higher—Bahrain, Bolivia, Brunei, Kuwait and Qatar. Australia’s per capita emissions are nearly twice the OECD average and more than four times the world average (see Figure 7.1).

Relative to other OECD countries, Australia’s high emissions are attributed to high emissions intensities from energy use, rather than the high energy intensity of the economy or exceptionally high per capita income – and behind that is the issue that Australian energy use is mainly the result of our reliance on coal for electricity.

Garnaut’s Climate Change Report concluded by pointing to the connected role between carbon change, and productivity development – and listing key issues as the dynamic changes to 21st century jobs, and the critical role to be played by education and training.

The report said --

**Chapter 23.8 - The Importance of Education and Training**

“The structural changes that will emerge in a low-emissions, growing economy will change requirements for human capital. In Australia, a history of skills development has been inherent in a globally successful resources sector. Australia should be structurally well placed to apply such skills to new activities.

“At the same time, the additional requirements will place added strain on an education and training system already under pressure from the resources boom and the associated shifts in employment between key sectors.

“The work of the Dusseldorp Skills Forum (Hatfield-Dodds et al. 2008) has indicated that more than 2.5 million jobs will need to be filled over the next two decades. Many of these jobs will be in areas either directly or indirectly influenced by the climate change response. In addition to the construction and energy sectors, areas of potential employment change include transport, agriculture and a range of services.

“Many of these jobs will be in industry subsectors that barely exist today and some that lie within the imagination of farsighted entrepreneurs. The need to supply appropriately skilled people for these jobs is in addition to the need to develop new knowledge and skills in existing
ROLES AND SECTORS AROUND THE ISSUES THAT EMERGE FROM THE IMPLEMENTATION OF CLIMATE CHANGE POLICIES. THERE WILL BE FEW SECTORS LEFT UNTouched.

“THE IMPLICATIONS OF THESE CHANGES FOR AUSTRALIA’S EDUCATION AND TRAINING SECTOR ARE YET TO BE FULLY APPRECIATED. THESE IMPLICATIONS, AND THE NECESSARY RESPONSE FROM GOVERNMENT, BUSINESS, LABOUR AND OUR EDUCATIONAL AND TRAINING INSTITUTIONS, NEED TO BE COMPREHENSIVELY UNDERSTOOD AND INTEGRATED INTO THE LONG-TERM PLANNING OF THESE BODIES.” [CHAPTER 23, GARNAUT REPORT, 2008]

MY PAPER DETAILS THE POLITICAL AND PERSONALITY UNDERCURRENT OF THIS REFERENCE TO THE DUSSELDORF SKILLS FORUM. IT REALLY WAS AN INTERESTING INTERSECTION, WHICH I WILL RETURN TO.

FAST FORWARD TO LAST YEAR, WHEN AUSTRALIA’S NEWLY APPOINTED SECRETARY OF THE AUSTRALIAN TREASURY, DR. MARTIN PARKINSON, MADE A LANDMARK ADDRESS AT THE UNIVERSITY OF WESTERN AUSTRALIA — IN THE STATE AT THE CENTRE OF AUSTRALIA’S RESOURCE BOOM — DETAILING WHAT HE TERMED A SUSTAINABILITY WELLBEING FRAMEWORK.

THIS SUSTAINABLE WELLBEING FRAMEWORK PROPOSED THAT AUSTRALIA SHOULD RECOGNIZE SEVERAL WIDER ISSUES WHEN DEALING WITH ECONOMIC GROWTH —

- THAT WELL-BEING IS BROADER THAN GROSS DOMESTIC PRODUCT (GDP),
- THAT SUSTAINABILITY IS MORE THAN ENVIRONMENTAL ISSUES, AND
- THAT ENERGY, RESOURCE AND ENVIRONMENTAL EFFICIENCIES ARE KEY DRIVERS OF PRODUCTIVITY.

PARKINSON ASSERTED THAT THE THEME OF SUSTAINABILITY MUST SHAPE THE APPROACH TO POLICY DEVELOPMENT OF THIS GENERATION. IN PART, THE VARIOUS NATIONAL AND STATE-BASED POLICIES DIRECTED AT GREEN SKILLS AND SKILLS FOR SUSTAINABILITY ARE INCREASINGLY FRAMED AROUND THIS NEW IMPERATIVE.

AT THE HEART OF BOTH PRODUCTIVITY AND ENVIRONMENTAL SUSTAINABILITY IS THE FOCUS ON INNOVATION.

THIS MEANS INNOVATION NOT ONLY IN TECHNOLOGICAL SOLUTIONS BUT ALSO IN MANAGEMENT STYLE IN THE BUSINESS ENVIRONMENT.

IN A RECENT WHITE PAPER CALLED POWERING IDEAS: AN INNOVATION AGENDA FOR THE 21st CENTURY, THE GOVERNMENT DIRECTLY LINKED THE PROTECTION OF THE ENVIRONMENT AND SOCIAL INCLUSION TO INNOVATION AND PRODUCTIVITY.

THE PRODUCTIVITY AGENDA FIRST PUBLISHED IN AUSTRALIA IN MAY 2008 ALSO ARTICULATED SUGGESTIONS OF MORE INCLUSIVE, INNOVATIVE BUSINESS MANAGEMENT PRACTICES AND STRONGER LINKS BETWEEN INDUSTRY AND EDUCATION.


THE AGREEMENT’S MODUS OPERANDI WAS IMPRESSING WITH A DETAILED PLAN, THE IMPORTANCE AND PATHWAYS TO CREATING CHANGE IN THE WORKPLACE THROUGH EDUCATION AND TRAINING.

IN POLICY AND ACTION PLANS PRIOR TO THE GSA, THERE IS CONSISTENT MESSAGE THAT PRODUCTIVITY, INNOVATION AND GREEN SKILLS ARE PARAMOUNT TO ACHIEVING A MORE PRODUCTIVE ECONOMY.
This has been a strong motivator for the Australian government particularly considering that according to OECD data, Australia has dropped behind its productivity improvements — outlined recently by Professor Roy Green, Dean of Business at the University of Technology, addressing the Skills Australia, ‘Using Skills Productively’ Conference:

“Australia has slipped from an enviable position as one of the OECD’s productivity leaders to a laggard, well behind the US, Britain and Japan”

**National VET Sector Sustainability Policy and Action Plan**

The National VET Sector Sustainability Action Plan (NVSSAP) 2009-2012 was the original policy instrument, and endorsed by the Ministerial Council for Vocational and Technical Education (MCVTE) on 12 June 2009. This Action Plan was developed to provide a national framework for the VET sector to support the development of a productive workforce as industry, government, individuals and the wider community move to a sustainable economy. The Policy has four key result areas:

1. Developing a workforce skilled for sustainability;
2. Providing VET system products and services that support skills for sustainability;
3. Encouraging the adoption of sustainability values, principles and practices by VET leaders, partners and champions; and
4. Reducing the VET sector carbon footprint.

While remaining an important policy framework for the VET sector, the NVSSAP has been superseded largely by the intent of the Green Skills Agreement, other than through the commitment to reduce the Sector’s carbon footprint.

**The Green Skills Agreement (GSA)**

Progress against each of the four objectives of the GSA has varying but a collectively discernible impact on delivery of green skills to apprentices, trainees, students and existing workers and community members across Australia.

1. **Develop national standards in skills for sustainability within the requirements of the national regulatory framework.**

   In 2009, a draft Skills for Sustainability Standards Framework of Voluntary Standards for providers of skills for sustainability, aligned to the Excellence Criteria within the Australian Quality Training Framework, was released for comment through the National Quality Council. The draft has not been implemented.

2. **Review and revise training packages to incorporate skills for sustainability.**

   In 2010, the eleven Australian Industry Skills Councils (ISCs) undertook a strategic review of all training packages to identify gaps in the provision of sustainability knowledge, skills and principles. The review and revision to include skills for sustainability was completed by January 2011. The ISCs have adopted a range of approaches to embedding skills for sustainability into training packages. Some have revised qualifications to include sustainable work practices as a core unit (eg manufacturing, construction, innovation & Business); others are developing new qualifications and units of competency (such as manufacturing), while others are focusing on reviewing the pool of electives in selected training packages.
iii. **UPSKILL VET PRACTITIONERS SO THEY CAN PROVIDE EFFECTIVE TRAINING AND FACILITATION IN SKILLS FOR SUSTAINABILITY.**

A number of recent national initiatives have been established to provide strategic support in upskilling VET Practitioners. In 2011, the Commonwealth funded the development of professional development resources for VET practitioners including freely available training materials, e-learning resources and online tools based on the new Sustainability Skills Set within the Teaching and Assessment 2010 (TAE10) Training Package. In 2012, there are complimentary programs to support 500 Australian VET practitioners to complete the Sustainability Skills Set, and a further 80 national scholarships to provide “Sustainability Champions” within VET institutions with the post graduate qualification the Vocational Graduate Certificate in Education and Training for Sustainability.

iv. **IMPLEMENT STRATEGIES TO RE-SKILL VULNERABLE WORKERS IN THE TRANSITION TO A LOW-CARBON ECONOMY.**

Research projects have been commenced on the future green employment and training opportunities for the Indigenous population in the Murdi Paaki NSW region, and workers within the vulnerable carbon intensive (power generation) industries of Victoria’s Latrobe Valley.

**Clean Energy and Skills packages**

In late 2011, the Australian Parliament passed the **Clean Energy Act** which will introduce a price on carbon from July 2012, and an emissions trading scheme from 2015.

It also introduced a major national funding initiative to support tradespeople and professionals learn green skills related to carbon abatement. The **Clean Energy and Other Skills Package** (of approx AUD$30M) will invest in integrated green skills training and clean energy knowledge, advice, products and services which will support the transition of Australia to a low carbon economy.

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*Implement strategies to re-skill vulnerable workers in the transition to a low-carbon economy.*
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Further evidence is described in our paper, covering other states.

The role of industry and key thought-leadership initiatives created an important backdrop to the emergence of green skills as a part of sustainability action plans.

I point in particular to policy work conducted through the 1996-2008 period by the Dusseldorf Skills Forum.

This was a private think tank led by the industrialist, Mr. Jack Dusseldorf, pioneered significant policy research – initially on youth at risk and key drivers to alleviate this with innovative re-training.

Later the Dusseldorf Skills Forum turned to sustainability, and doubtless policy evolved into key statements of commitments about sustainability by the Australian peak business bodies, including the Business Council of Australia (BCA), Australian Industry Group (AiG), and the Australian Chamber of Commerce and Industry (ACCI).

At this cornerstone of public policy was Dr. John Spierings, formerly the chief researcher for Dusseldorf, who later was recruited by the incoming Labor Government in 2008, by the then deputy Prime Minister, and minister for Education, Employment and Workplace Relations, honourable Julia Gillard MP.

In the early period of Education Minister Gillard, Spierings organised initiatives such as the deputy Prime Minister hosting a Green Skills Roundtable during one of her official visits to Washington DC (Nov, 2009). Here invited guests included officials in the Obama Administration, and key community college leadership, to explore how issues which faced the US green economy related to workplace developments, and productivity.

With Julia Gillard assuming the role of Prime Minister in 2010, Spierings continued in her office. During these years as adviser to the PM, Government policy maintained ‘green skills’ as core policy in education and training, and formed part of subsequent Australian Government policy announcements, linked to Labor’s drive on national productivity and how the green economy may shape workforce renewal.

The Australian Industry Group (AiG) and other key industry bodies

In a recent report by the Australian Industry Group, A More Competitive Manufacturing Industry – Management and Workforce Skills (Feb 2012) the industry has recognised the important alignment of sustainability and innovation:
“INNOVATION SKILLS WILL BE A KEY CONTRIBUTOR TO THE SECTOR’S FUTURE AS THESE ARE THE SKILLS NEEDED TO MAXIMISE SUSTAINABILITY, TO FULLY UTILIZE TECHNOLOGY, AND TO IDENTIFY AND ACT ON OPPORTUNITIES”.

IN A RECENT AUSTRALIAN INDUSTRY GROUP PUBLICATION, PROFESSOR GÖRAN ROOS, ADELAIDE’S 20TH “THINKER IN RESIDENCE” POINTED OUT THE IMPORTANCE OF EDUCATION AND TRAINING FOR A SUCCESSFUL INDUSTRY.

HE COMMENTED THAT ONE OF HIS FINDINGS IN AUSTRALIA IS THE “...LACK OF CONTINUOUS EDUCATION OF THE WORKFORCE” COMPARED TO EUROPEAN COUNTERPARTS WHERE THE BLUE-COLLAR WORKERS ARE INCREDIBLY WELL EDUCATED WITH ANNUAL TRAINING UPDATES.

IN ADDITION, THE BUSINESS COUNCIL OF AUSTRALIA THROUGH ITS CEO MS JENNIFER WESTACOTT HAS STATED THAT “THE SUSTAINABILITY AGENDA AND THE ECONOMIC GROWTH AGENDA SHOULD NOT BE IN COMPETITION. WITHOUT GROWTH WE CANNOT INVEST IN THE INNOVATION, TECHNOLOGY AND EDUCATION THAT IS VITAL TO DRIVE A MORE SUSTAINABLE FUTURE.”

THERE ARE ALSO NUMEROUS CASE STUDIES AND EXAMPLES OF INDUSTRY SUCCESSFULLY ENGAGING WITH THE GREEN SKILLS AGENDA AND REAPING THE BENEFITS THROUGH ENERGY SAVINGS, INNOVATIVE BUSINESS MODELS AND NEW TECHNOLOGIES.

THE EPA IN VICTORIA HAS A RANGE OF EXCELLENT EXAMPLES OF PRODUCTIVITY SAVINGS MADE THROUGH SUSTAINABLE PROJECTS AND NSW WITH ITS SUSTAINABLE ADVANTAGE PROGRAM HAS MADE SIGNIFICANT INROADS WITH OVER 545 ORGANIZATIONS CURRENTLY INVOLVED IN THAT PROGRAM.

AS STATE GOVERNMENT-OWNED STAKEHOLDERS, ‘TAFE’ HAS BEEN REPRESENTED ON THE GREEN SKILLS TASKFORCE AND THE GREEN SKILLS AGREEMENT IMPLEMENTATION PLAN.

SOME EXAMPLES OF THE WAY TAFE HAS LED THE GREEN SKILLS AGENDA INCLUDE:

CENTRAL INSTITUTE OF TAFE WESTERN AUSTRALIA HAS THE STATE’S FIRST SUSTAINABILITY CENTRE AT THE EAST PERTH CAMPUSS AND THEY HAVE BUILT THE LARGEST SINGLE GRID-CONNECTED SOLAR SYSTEM IN THE PERTH CBD AND ONE OF THE LARGEST IN THE STATE. IN ADDITION, THEY OFFER A BROAD RANGE OF COURSES IN SUSTAINABILITY AND THROUGHOUT THE INSTITUTE, LECTURERS AND STAFF MEMBERS SUPPORTING THE INTEGRATION OF SUSTAINABILITY PRINCIPLES INTO THEIR TEACHING AND LEARNING METHODS AND DAILY PRACTICES.

SWINBURNE UNIVERSITY OF TECHNOLOGY (TAFE) WHICH HAS A NATIONAL CENTRE FOR SUSTAINABILITY WITH A STRONG FOCUS ON EDUCATION FOR SUSTAINABILITY WHICH LED THE WAY TO DEVELOPING NATIONAL GUIDELINE STANDARDS FOR SUSTAINABILITY, POST GRADUATE STUDIES IN EDUCATION FOR SUSTAINABILITY AND CONTINUES TO BE REPRESENTED ON KEY BODIES TO PROGRESS THE GREEN SKILLS AGREEMENT.

TAKE NSW - SYDNEY INSTITUTE OF TAFE HAS UNDERTAKEN TO DELIVER A BROAD RANGE OF COURSES THAT INCLUDE GREEN SKILLS. IN ADDITION, THEY HAVE DEVELOPED WASTE DISPOSAL SYSTEMS THAT CONVERT ORGANIC WASTE FROM THEIR HOSPITALITY COURSES INTO ENERGY FOR THE GRID. THEY ARE ALSO PART OF THE NSW STATE GOVERNMENT SUSTAINABILITY ADVANTAGE PROGRAM ASSISTING BUSINESS TO BECOME MORE SUSTAINABLE.

TAKE NSW - NORTH COAST INSTITUTE OF TAFE HAS INITIATED A RANGE OF PROGRAMS TO IMPLEMENT THEIR ENVIRONMENTAL POLICY, ENGAGE INDUSTRY ON SUSTAINABLE PRACTISE, EDUCATE THEIR OWN STUDENTS AND STAFF IN LEARNING FOR SUSTAINABILITY AND PROVIDE A BROAD RANGE OF COURSES IN SUSTAINABILITY.
GREEN TECHNICAL SKILLS: The units of competency involving the specific technical skills and sometimes qualifications required to undertake jobs in emerging and existing industries have been progressively developed in recent years to meet the demands.

The extent to which the national training system is responsive to this need has varied from excellent (eg manufacturing and electro-communications) to sub-optimal.

- For example, prior to 2011, there were no publicly available courses for servicing electric cars or wind generation, despite the obvious emerging, albeit fledging industry.

There is an additional complexity.

Some green skills, as highlighted by those involved in energy efficient outcomes, are not just technical but require energy literacy, a systems understanding and an ability to engage stakeholders / clients across trades or disciplines.

For example, constructing or retrofitting an energy efficient building requires an understanding of and collaboration between all professions and trades that contribute to the building and stakeholders who subsequently use the technologies. Similar principles apply across a manufacturing line, or within a business operation.

SKILLS FOR SUSTAINABILITY ‘BOLTED ON’

In themselves, green technical skills do not necessarily include skills for sustainability (eg workplace approaches to resource efficiency). In 2006, three (guideline) competency standards for sustainability were developed and noted by the National Quality Council as appropriate units for Australian Training Packages:

Develop workplace policy and procedures for sustainability (AQF V & VI)

Implement and monitor environmentally sustainable work practices (AQF IV)

Participate in environmentally sustainable work practices (AQF II)

These units provide skills related to planning for, implementing, or acting on the need for resource efficiency improvements in a generalised workplace or community, respectively. Sector contextualised versions of these have now been introduced as core units (eg MSA, CPSISC, EEOz) or elective units into most training packages. The units are equally relevant to all qualifications in preparation for all jobs. This approach is affectionately regarded as the “bolt-on” option, where a single unit is or can be added to a qualification in the expectation that the principles infuse across all learning.
SUSTAINABILITY EMBEDDED

A more effective method of ‘teaching’ the principles and skills of sustainability is to embed them into the fabric of all relevant units of competency. This is achieved by identifying potential or implicit sustainability skills in the training specification, and documenting these skills as part of the learning and assessment strategy. Within the Training and Assessment 2010 Training Package (TAE10), a unit within the sustainability skill set, 

$TAESUS501a$ Analyse and apply sustainability skills to learning programs, has been developed to assist VET practitioners to achieve this.

QUALIFICATIONS IN SUSTAINABILITY (FOR SUSTAINABILITY PROFESSIONALS):

Since 2005, at least two qualifications have been available nationally, the Diploma of Sustainability and the Vocational Graduate Certificate in Sustainability, both designed to provide learners with a deeper understanding of how sustainability might be applied to work and community environments.

In August 2011, Manufacturing Skills Australia (MSA) launched a new Sustainability Training Package with a Certificate IV, Diploma and Vocational Graduate Certificate in Sustainable Operations, largely targeting the manufacturing sector.

Competence in Education – this is for us about two different things.

Education about Sustainability has been teaching about the principles of sustainability but Education for Sustainability (EFS) is learning-based strategies to stimulate change towards sustainability, and is recognised internationally as the educational and pedagogical platform for teaching in sustainability.

It encourages systems thinking, problem solving, critical thinking and reflection, allowing the learner to not only acquire knowledge and skills, but to develop a personal perspective and commitment toward action on sustainability. This approach is entirely consistent with best practice in VET teaching as a whole.

Green Skills Vocational Competence: here we refer to difficulties in recruiting or developing vocationally competent teachers in the (green) technical skills being taught, often in nascent or emerging technologies, reflects the classic skills shortage challenge.

For instance, there is an acute shortage of many of these specialists, and many are not attracted to the typically lower salaried positions of the VET sector. As a priority, our sector needs to identify the most critical green technology streams and find system level approaches to creating pools of specialist teachers (eg lighting design, electric cars, carbon farming, etc)

TAFE Directors Australia approached these green skill challenges in several ways –

Our methodology was to look at our backyard.

- In 2011 we commissioned the National Centre for Sustainability to manage research to scope current sustainability readiness and capability.
MORE RECENTLY, WE HAVE ADDITIONALLY ESTABLISHED WIDER COLLABORATIONS:

- NEXT MONTH WE WILL JOINTLY PARTICIPATE WITH THE RMIT UNIVERSITY AND PROFESSOR JOHN FIEN, HEAD SUSTAINABILITY AND INNOVATION, WITH ITS SCHOOL OF EUROPEAN STUDIES, ON KEY ISSUES FACING EDUCATORS IN SUSTAINABILITY. JOHN FIEN WILL LATER ADDRESS THE UNESCO CONGRESS ON TVET IN SHANGHAI IN MAY THIS YEAR, ON RELATED ISSUES, WITH TDA PART OF THE AUSTRALIAN DELEGATION.

LAST YEAR WE ADDITIONALLY WERE MORE ACTIVE INTERNATIONALLY, HOSTING MINDY FELDBAUM WHO WAS AWARDED AN AUSTRALIAN ENDEAVOUR SCHOLARSHIP TO REVIEW HOW COMPARABLE OR OTHERWISE WAS AUSTRALIA IN THIS AREA OF GREEN JOBS, TRAINING, AND EDUCATION.

THE AUSTRALIAN GOVERNMENT FURTHER FUNDED REPRESENTATIVES FROM THE US:

- DR. MICHELE FOX FROM THE US DEPARTMENT OF ENERGY
- DR. CELESTE CARTER FROM THE NATIONAL SCIENCE FOUNDATION
- MARCY DRUMMOND FROM LA TECH TRADE SCHOOL
- DR. MARY SPILDE, FROM OROGAN COMMUNITY COLLEGE, AND THE IMMEDIATE PAST BOARD REPRESENTATIVE TO AACC IN THE US, ON SUSTAINABILITY

LET ME PROVIDE A SHORT SNAP-SHOT OF THE TAFE SURVEY OF ITS OWN MEMBERS, BEFORE I CLOSE:

**CULTURE** - **MOST (83%) INSTITUTES HAD A CURRENT SUSTAINABILITY PLAN, STRATEGY OR POLICY AND HALF OF THESE WERE ADOPTED BEFORE 2010 WHEN THE GREEN SKILLS AGREEMENT WAS SIGNED; TWO HAD BEEN IN PLACE SINCE 2006.**

**FIFTEEN INSTITUTES (78%)** SET SUSTAINABILITY TARGETS AND MOST INCLUDED ENVIRONMENTAL INDICATORS SUCH AS ELECTRICITY, GAS, ENERGY EFFICIENCY, WATER, WASTE, CARBON EMISSIONS, FLEET VEHICLES, ASBESTOS AND RENEWABLE ENERGY. **FOUR INSTITUTES (21%)** ALSO INCLUDED TEACHING AND LEARNING IN THEIR TARGETS.

**TEN OF THE INSTITUTES (59%)** HAVE A FORMAL ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) IN PLACE AND FOUR ARE CERTIFIED UNDER ISO14001. **ON AVERAGE, OPERATIONAL SUSTAINABILITY MANAGERS SPENT ABOUT 20% OF THEIR TIME ON SUSTAINABILITY MATTERS. SUSTAINABILITY RECOGNITION THROUGH AWARDS HAS GROWN OVER THE LAST FEW YEARS, WITH A NUMBER OF AWARDS BEING WON BY 10 INSTITUTES (53%).**

**CURRICULUM** - **WHEN ASKED ABOUT IMPLEMENTING SUSTAINABILITY EDUCATION ON CAMPUS, 13 (81%) INSTITUTES CITED ACTIVE PROGRAMS. MORE SPECIFICALLY, NINE INSTITUTES LISTED EDUCATION PROGRAMS ABOUT SUSTAINABILITY AND FOUR INSTITUTES (25%) SPECIFICALLY LISTED EDUCATIONAL FOR SUSTAINABILITY (EFS).**

**ACROSS THE 11 INSTITUTES THAT RESPONDED TO THE QUESTION, AN AVERAGE OF 30% COURSES/QUALIFICATIONS ON SCOPE INCLUDED SUSTAINABILITY COMPETENCIES.** **ONE INSTITUTE HAD EMBEDDED SUSTAINABILITY IN ALL COURSES OFFERED, AS IS POSSIBLE UNDER THE RESTRUCTURED TRAINING PACKAGES.**

**SOME INSTITUTES (69%)** OFFERED SPECIFIC TRAINING IN GREEN SKILLS / SUSTAINABILITY FOR WORKERS IN TRADES AND PROFESSIONS WHILST MOST INSTITUTES (94%) OFFERED ONE OR MORE “GREEN” OR “SUSTAINABILITY” QUALIFICATION,
THESE OFTEN INCLUDED MORE TRADITIONAL COURSES SUCH AS CONSERVATION AND LAND MANAGEMENT. IN SOME CASES, STUDENT ENROLMENTS HAVE BEEN RELATIVELY HIGH IN THESE COURSES.

THE APPROACH TO PROFESSIONAL DEVELOPMENT (PD) IN SUSTAINABILITY VARIED CONSIDERABLY. OF THE 17 INSTITUTES RESPONDING, 1 - 30% OF TEACHERS HAD UNDERTAKEN PD IN SUSTAINABILITY.

NOTE –

IN MOST CASES, PD HAS BEEN OFFERED THROUGH COURSES THAT OFFER A BASIC INTRODUCTION TO SUSTAINABILITY (‘SUSTAINABILITY 101’), SOME THROUGH FULL QUALIFICATIONS IN SUSTAINABILITY, PARTICULARLY THE DIPLOMA OF SUSTAINABILITY, OR UNITS IN SUSTAINABILITY SUCH AS THE MSA UNIT IMPLEMENT AND MONITOR ENVIRONMENTAL SUSTAINABILITY. IN FIVE INSTITUTES, PD PROGRAMS HAVE INCLUDED EDUCATION FOR SUSTAINABILITY, OFTEN THROUGH THE VOCATIONAL GRADUATE CERTIFICATE IN EDUCATION AND TRAINING FOR SUSTAINABILITY, PD WHICH MORE FOCUSED ON THE PEDAGOGICAL SKILLS OF ENGAGING LEARNERS IN SUSTAINABILITY LEARNING THAN IN SIMPLY TEACHING SUSTAINABILITY CONTENT. NOT SURPRISINGLY, 11 (65%) INSTITUTES HAVE OFFERED PD IN SPECIFIC TECHNICAL GREEN SKILLS TO ACHIEVE INDUSTRY COMPETENCE, OFTEN IN GREEN TRADES.

COMMUNITY - THERE WAS A MODEST RESPONSE TO QUESTIONS ON LOCAL COMMUNITY ENGAGEMENT IN SUSTAINABILITY PROJECTS (HOUSEHOLDS, BUSINESSES). SEVERAL INSTITUTES, MOSTLY REGIONALLY-BASED, HAVE STRONG COMMUNITY, REGIONAL AND INDUSTRY PARTNERSHIPS IN SUSTAINABILITY, FORMING A KEY COMPONENT OF ORGANISATIONAL STRATEGIES FOR BOTH OPERATIONAL AND EDUCATIONAL SUSTAINABILITY STRATEGIES. ONE INSTITUTE IS WELL CONNECTED TO THE TRAINING ASPECTS OF THE SOLAR FLAGSHIPS PROJECT (MOREE SOLAR FARM) INITIATIVE.

“GREEN CAMPUS” ACTIVITIES DOMINATED THE SURVEY RESPONSES. OF THE MOST EXEMPLARY SUSTAINABILITY FEATURES OF CAMPUS INFRASTRUCTURE, 31% INCLUDED ENERGY EFFICIENCY INITIATIVES, 29% CITED GREEN BUILDINGS AND GREEN SKILLS CENTRES, 19% WATER CONSERVATION, AND 15% INSTALLATION OF PHOTOVOLTAIC PANELS (RENEWABLE ENERGY).

FIGURES 2 AND 3 SHOW THE EXTENT OF GROWTH IN THE NUMBER OF STUDENTS UNDERTAKING ONE OR MORE GREEN SKILLS UNITS OF COMPETENCY OR ACCREDITED COURSE MODULES ACROSS ALL AUSTRALIAN JURISDICTIONS THROUGH ALL RTOs.

THERE WAS A 57 PERCENT ANNUAL INCREASE IN THE NUMBER OF LEARNERS ENROLLED IN ONE OR MORE UNIT OF COMPETENCY OR COURSES IN THE 2010-2011 PERIOD (FROM 83,000 IN 2009 TO 130,000 IN 2010).

THERE WAS ALSO A SIGNIFICANT GROWTH IN GREEN SKILLS ENROLMENTS IN ELECTRO-COMMUNICATIONS, SERVICE INDUSTRIES, MANUFACTURING, AND INNOVATION AND BUSINESS SKILLS

AT LEAST FOUR OF THE PARTICIPATING INSTITUTES IDENTIFIED COMPREHENSIVE PROGRAMS OF GREEN SKILLS DELIVERY AND COMMENSURATE PROFESSIONAL DEVELOPMENT PROGRAMS IN EDUCATION FOR SUSTAINABILITY. SEVERAL OTHERS APPEARED TO BE PROGRESSING QUICKLY TO ACHIEVE A SIMILAR STATUS.

THE CHALLENGES

• WORKFORCE DELIVERY AND COMMUNITY ENGAGEMENT. THERE WERE A FEW EXCELLENT EXAMPLES OF WORKPLACE TRAINING IN GREEN SKILLS, AND CLOSE INDUSTRY AND/OR COMMUNITY PARTNERSHIPS, BUT THESE WERE NOT COMMON.
• **Building Institutional Capability.** Ramping up green skills delivery in institutions requires resources to support teaching and VET practitioners with the appropriate industry and/or pedagogical skills.

• **Demand:** For TAFE (and other) institutions to develop quality and profitable programs in green skills delivery, there needs to be demand. In some industries (e.g., electrocommunications), the demand is already evident although often embryonic. In others, the demand is weak.

**The Opportunities**

• **Since 2010,** there has been a proliferation of teaching resources and related materials for green skills programs to support institutions and teachers, mostly available through sustainability websites. These have been developed through Commonwealth and State Government initiatives, and through industry programs and the ISCs.

• **Similarly,** professional development opportunities across Australia for VET practitioners in embedding and teaching sustainability have grown significantly in 2012, particularly through Commonwealth and State Government initiatives.

• **The Australian Campuses Towards Sustainability (ACTS) has launched a sustainability benchmarking (but not rating) tool for Australian TAFEs and Universities (LiFE) that integrates the elements of culture, campus, curriculum and community.**

• **Communities of Practice in Sustainability, and the potential development of Green Skills Networks between Australia and the USA Community College network, offer significant opportunities to address the first two challenges above.**

**Benchmarking is incredibly important** – especially if we all aim to develop education and training with focus on quality.

**Wider collaboration is 'the go'.**

**Quality training is what industry is demanding.**

**Quality collaboration – including symposia as defined by APEC here in Washington this week – will be critical to our success.**

**Thank you.**

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