



Green Team

WorldSkills Australia Green Team -
Driving excellence in skills for sustainability

A partnership between:



ARUP



Dusseldorp Skills Forum

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1. WHY - Why the Green Team

The skills to make a difference

The [Growing the Green Collar Economy Report](#), commissioned by [Dusseldorp Skills Forum](#) (DSF) in 2008, concludes that green skills are key elements of the transition to a sustainable economy.

DSF sought a partner equal to the scale of this challenge, a partner with the reach to influence the whole of the Australian skills economy and the agility to drive change. [WorldSkills Australia](#) (WSA) is a national, not-for-profit organisation that has provided young Australians the opportunity to compete against their peers in their chosen skill at a regional, national and international level over 30 years.

Using projects aligned to National Training Packages, WSA National Competitions typically feature skills categories ranging from Hairdressing to Diesel Mechanics. The 3 days of competition attract large numbers of visitors (80,000 in 2010) and feature elite trainees and apprentices, supported by the most experienced and committed trainers from industry and the training sector (including TAFE).

Introducing the “Green Team”

The WSA competitions are some of the most logistically complex events held, filling Australia’s largest venues (25,000sqm at the Brisbane Convention & Exhibition Centre in 2010) with equipment for Panel Beating, Baking, Beauty Therapy, Precision Machining, Animal Husbandry and IT Support, amongst many other skills categories (video - Attachment One). Testing all these skills requires the water, energy and materials (and creates waste streams) representative of the entire Australian skills economy. Faced with these challenges, DSF and WSA worked together on an innovative project for the 2008 WSA National Competition in Sydney – the Green Team!

The inaugural 2008 Green Team comprised of TAFE Event Management students and university Environment Management students, trained to conduct an Environmental Review. An Environmental Management Plan (EMP) guided the Review, allowing the Green Team’s work to conform to internationally recognised ISO14004 standard. The 2008 EMP provided WSA with an event sustainability blueprint for continuous improvement.

At its 2010 competition in Brisbane WSA renewed the ‘Green Team’ project based on 2008 learnings. Under the guidance of the lead auditor, ARUP, the Green Team 2010 audited each competition area, considering the sustainability of project designs, the efficient use of materials, water and energy and waste management at the competition. The most innovative category was recognised with a hotly contested ARUP Skills for Sustainability Award –showcasing outstanding leadership in skills for sustainability.



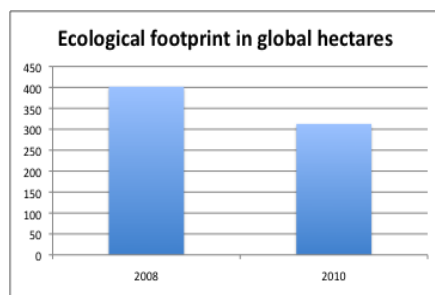
2. WHAT - What difference has the Green Team made?

Benchmarks for Success

The success of the Green Team project is indicated by:

1. A 22% reduction of the overall event environmental footprint witnessed by 80,000 visitors
2. Engagement of 500 competitors and 300 trainers in sustainability at the 2010 National Competition
3. Take up of projects as national skills for sustainability best practice by some TAFEs
4. Adoption of a Sustainability Award at WorldSkills International competitions
5. 30 TAFE and University students gained real life experience of sustainability as the Green Team 2010.

Over 3 days in 2008, and then again in 2010, the 25 members of the Green Team conducted a high visibility audit of 52 competition categories, where almost 300 judges were assessing close to 500 competitors. In Sydney, and again in Brisbane, over 80,000 visitors witnessed the Green Team in action – many were secondary school students considering their career options.



The Green Team used the [Victorian EPA's Event Footprint Calculator](#) to calculate the impact of the event in 2008 and again in 2010. These results showed that the biggest environmental impacts of the competitions were also those that WSA were least able to influence, impacts associated with bringing competitors and judges together, accommodating them and providing lighting and climate control at the venue. In 2008 WSA decided that rather than simply offsetting these relatively unavoidable impacts, its limited resources would be better focused on systemically reducing the energy, materials, water consumed

and waste generated by the competitors, as this has a much larger eventual impact in the vocational education system and in workplaces across Australia. The success of this strategy is shown at the 2010 nationals by a **22% reduction in the event footprint** despite a 42% growth in the scale of the event (17,500sqm in 2008 compared with 25,000 sqm in 2010), largely achieved by recycling 88% of the waste generated (p.7. Attachment Four).

The ARUP auditors noted “a healthy and innovative competition between categories occurring, probably due to the awareness raised from the Green Team program and the previous event audit.” (Page 1. Attachment Three) This finding was supported by evidence such as:

- 70% of categories having energy efficiency procedures; and
- 64% of relevant categories using a water efficiency judging criteria and water saving devices.

Some eco-positive initiatives at the WSA 2010 Nationals:

- Eliminating energy requirements (eg. Welding)
- Substituting cold for hot water (eg. Hairdressing)
- Using settling tanks to reuse water (eg. Bricklaying)
- Using biodegradable towels to avoid washing (eg. Beauty Therapy)
- Wash water limited to 1 bucket (eg. Painting)
- Designed to maximise reuse of all materials (eg. Bricklaying)
- Donation of competition pieces to local charities (eg. Carpentry)
- Reuse of packaging (eg. IT)



Preparing for Green Team 2012

The 2008 Environmental Review (p.10. Attachment Two) flagged the need for consideration of sustainability in design. The 2010 Sustainable Event Audit (p.2. Attachment Three) reiterated this need to move beyond compliance audit phase and to encouraging best practice.

WSA have responded by organising the project design teams, working with sustainability advisors and venue operators, to consider the environmental, social and economic impacts of their project designs. The resulting WSA Nationals 2012 Sustainability Plan will have a significant impact on the footprint and social reach of the 2012 National Competition.

In particular the reconsidered project designs should effectively communicate the practice of skills for sustainability to a large audience and proportionally reduce the 25,000m² floor space and the 40,000 km of equipment transport needed to deliver the nationals in 2010.

3. INFLUENCE - Who has noticed green team?

WSA has seen over 75,000 young Australians participate in the various competitions over 30 years. A longitudinal study of WSA National competitors, the [2008](#) and [2011 Gen Green survey](#), commissioned by DSF, shows that their active support for WSA to adopt and promote skills and sustainability has more than doubled in the last 3 years, since the Green Team project started. Qualitative research leading up to 2010 National Competition showed that the Green Team process has made WSA project designers and judges aware of sustainability trends emerging in many industries.

Beyond the substantial WSA movement, there is now evidence that vocational educators are adopting Green Team outputs as best practice. For example, the award winning 2010 Bricklaying Category project, which significantly reduced water use, eliminated toxic chemicals and reduced materials use, is being taken up by Queensland TAFEs.

All this indicates that the Green Team project is on track to influence the 440,700 apprentices and trainees in-training nationally [NCVER December 2010] by providing practical demonstration of skills for sustainability and peer leadership amongst students and vocational educators. WSA is raising the standards of sustainability in vocational education and training, equipping a new generation of business leaders with the skills for sustainability that will drive our future economy.



Troy Everett, receiving the ARUP Skills for Sustainability Award for the Bricklaying Category



4. WHAT'S NEW - Green Team: Leading the world

The WorldSkills International (WSI) General Assembly in Calgary, representing 53 Countries, considered Project 'Green Team 2008' in designing the process behind the inaugural WSI Sustainability Award in Calgary, Canada 2009. This is an acknowledgement that the Green Team Project is international best practice in realising skills for sustainability.

Recognising that building sustainability capacity in an organisation is as much about engagement as it is about technical knowledge, the Green Team project pairs people skills with science. On top of their training, the student auditors are learning from each other and their auditees, establishing a context of communal skills learning that engages rather than threatens. This innovative experiential learning approach bridges the vocational and tertiary systems, building sustainability capacity in the audit team's host institutions as well. For instance, since the Green Team 2010 project, the event management course at a Brisbane TAFE incorporates green event management content.

The research program that informs the Green Team exemplifies a variety of multi-disciplinary methodologies to understand the project's economic, environmental and social context and to evaluate and enhance its effectiveness. **Continuous improvement of sustainable event delivery has been informed by:**

- An independent environmental review (Attachment Two) and an independent sustainability audit (Attachment Three)
- A series of event ecological footprint analysis (Attachment Four) informed by energy carbon, waste and water accounting.

Capacity building of WSA has drawn on a range of action-learning tools, including:

- The [2008](#) and [2011 Gen Green survey](#) of WSA competitors experiences of sustainability;
- Guided interviews of judges in the lead up to the 2010 Competition to identify and enhance the level of sustainability knowledge in particular categories;
- Facilitation of a project design workshop by a team of sustainability experts in preparation for the WSA 2012 National Competition, which will deliver a suite of Category Sustainability Reports (Template provided as Attachment Five, final reports work in progress).

The effectiveness of this approach in engaging stakeholders can be gauged from the enthusiasm and commitment displayed by WSA staff and volunteers. The impact of this engagement is measurable and continues to grow.



5. WHO WITH – Who is the Green Team

Since the Green Team project's inception in 2007, and building on a 30 year history of collaboration, DSF & WSA have been project partners. In the lead up to Green Team 2010 [ARUP](#) joined the partnership. Other organisations have made specific contributions to the Green Team project:

- TAFE NSW Northern Sydney Institute has provided expert support, including calculation of the ecological footprint.
- UNSW and University of the Sunshine Coast contributed the environmental management students and NSW and Queensland TAFEs the event management students who made up Green Team 2008 and 2010;
- Sydney Convention Centre at Darling Harbour sponsored green power in 2008 and, like the Brisbane Convention and Exhibition Centre in 2010, actively assisted in green event delivery by providing streamed waste disposal and non-potable water supplies.



Brisbane Convention & Exhibition Centre streamed waste disposal

All these organisations' substantial contributions would not be effective without the hundreds of WSA volunteers who help to make the competition possible as trainers, judges, and convenors. Many of these volunteers are generously supported by their employers (often TAFE colleges) through staff release. TAFEs and businesses contribute the tens of millions of dollars worth of materials and equipment for the competitions. Of course ultimately, the success of the Green Team depends on young Australians' commitment to excellence in the skills that will deliver a sustainable future.

"We're their mentors, their experts and their role models. We help them understand and grasp the gravity of sustainability."

*Daniel Karanaes, WorldSkills International 2009
Bronze Medallist, presentation to the WSA 2012
Nationals Planning Workshop*

