 **Green Industry**

 **Due Diligence**

 **July 2010**



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## Introduction

Definition

<http://en.wikipedia.org/wiki/Green_job>

A **green job**, also called a **green-collar job** is, according to the [United Nations Environment Program](http://en.wikipedia.org/wiki/United_Nations_Environment_Program), "work in agricultural, manufacturing, research and development (R&D), administrative, and service activities that contribute(s) substantially to preserving or restoring environmental quality. Specifically, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high efficiency strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste and pollution."

Environmental green-collar workers (or Green Jobs) satisfy the demand for green development. Generally, they implement environmentally conscious design, policy, and technology to improve conservation and sustainability

Green collar workers include professionals such as conservation movement workers, environmental consultants, environmental or biological systems engineers, green building architects, solar energy and wind energy engineers and installers, nuclear engineers, environmental lawyers, ecology educators, and sales staff working with these services or products. Green collar workers also include vocational or trade-level workers: electricians who install solar panels, plumbers who install solar water heaters, construction workers who build energy-efficient green buildings and wind power farms, construction workers who weatherise buildings to make them more energy efficient, or other workers involved in clean, renewable, sustainable future energy development.

Now, thanks to WPC Group’s GreenSkills initiative, green collar workers also include trainees and apprentices who undertake work and vocational learning in the following industry sectors:

• Business and Administration
• Conservation and Land Management
• Water Industry Operations
• Asset Maintenance and Waste Mgt
• Horticulture
• Renewable Energy
• Sustainable Planning
• Government (Local, State and Federal)

ClimateQ program

<http://www.climatechange.qld.gov.au/pdf/factsheets/3planbuild-e2-greenbuildingskillsfund.pdf>

<http://www.greenfutures.com.au/content/apply_is_it_for_you>

## Join a National Green Jobs Corps team

National Green Jobs Corp is a fantastic experience for anyone aged 17 - 24 looking for new skills and a way forward to work or study. You'll also have lots of fun and make new friends along the way.

“It really has been an absolute blast. The team and I have had heaps of fun working together. We're leaving with more than just a certificate.”

To participate in National Green Jobs Corps, you must be an Australian citizen or resident and between 17 and 24. For full [conditions](http://www.greenfutures.com.au/content/apply_conditions), click here.

To apply to be part of a National Green Jobs Corps project, you need to be referred by Centrelink or your Job Services Australia provider. Contact them, or [phone or email](http://www.greenfutures.com.au/content/contact_us) Job Futures, and we'll let you know who to talk to.

As a part of a National Green Jobs Corps team, you'll get an supplementary payment, accredited training and experience working on environmental and heritage projects and green energy initiatives.

“It's being part of a team and working together to make a difference, knowing that you really can make things happen. It's hard work but at the end of the day when you look back on what you've done you know it was worth the effort.”

Most National Green Jobs Corps projects involve environmental work, but some National Green Jobs Corps teams take on a community projects as well. This could mean learning new skills in public relations, marketing, event management, education, media relations and website production.

You'll receive accredited training that will help you into further study or work. It shows employers that you're willing and able to follow structured training to get real results. You'll also receive training in First Aid and Occupational Health and Safety. We'll also give you career counselling and training in job search skills to suits your individual needs.

“Being a Green Corps team member has given me the opportunity to explore my identity, learn new skills and be comfortable expressing my views.”

We'll give you lots of other support too. This might be helping you find people who can get you into work after the program, or help with a disability, or literacy and language difficulties.

We work with all kinds of young people from all kinds of different backgrounds. We can help you get what you want to out of National Green Jobs Corps.

“I learnt what it meant to be part of a team, working together for a common goal.”

[Contact us](http://www.greenfutures.com.au/content/contact_us) to find out more

**Conditions**

Participants in National Green Jobs Corps must be Australian citizens or residents, and aged between 17 and 24.

National Green Jobs Corps is a free program open to Income support recipients aged 17-24 years who are:

* Receiving Youth Allowance (other), Newstart Allowance or Parenting Payment and not working more than 15 hours per week, or
* Disability Support Pension recipients willing to work 15 hours per week or more, and
* 17-20 year olds who are **not** in receipt of Income Support Payments and not working more than 15 hours per week or in full-time education.

Participants work on a 26 week (6 month) project.

Participants must be referred through Centrelink or Job Services Australia providers.

Participants will receive an allowance of $41.60 in addition to regular payments to cover the costs of participation in the program such as transport.

You should talk to Centrelink or your local Job Services Australia provider about being referred to National Green Jobs Corps. If you're not sure who that is, [contact us](http://www.greenfutures.com.au/content/contact_us), and we'll let you know who you need to speak to.

## The Green Industry

<http://www.cpaaustralia.com.au/newsletters/28_31_Green_industry.pdf>

## Green Jobs and Green Skills

04 March, 2009 | Speeches & Opinion by Sharan Burrow:

Australia, indeed the world is facing the double crunch.

How to achieve a low carbon economy must be seen as both an imperative and an opportunity. As we rebuild our economy from the financial crisis, we can set Australia up for a sustainable future.

Australia must position itself to ensure that we have the knowledge and skills to capture at least a quarter of a trillion dollar share of what will be a global green products market of more than three trillion dollars.

The challenge is to re-skill workers in existing blue collar jobs to ensure they can manufacture, install and operate new technologies and to educate generations of students and young workers to take up new green jobs.

Industry, being business and unions, must drive demand for an intensity of skills effort like never before and governments must be a partner in this endeavour.

Phillip Bullock, our chair this morning, is, as you know the chair of Skills Australia, and Skills Australia is well placed to deepen workforce planning and frame the necessary priorities for skills development in partnership with the VET community.

These measures are essential for competitive advantage in a low carbon future.

Professor Garnaut’s report tells us that decisive and early action is needed if Australia is to enjoy sustained economic growth and prosperity.

We can and must grow jobs for our economy and reduce our environmental footprint at the same time.

Yet far too little attention has been paid so far in Australia to the skill requirements for a more sustainable economy.

**The Challenge**

To understand the green skills we need now and into the future, we need to have some idea of what employment in a sustainable Australia will look like.

People talk of a new ecological industrial revolution, and of the potential for extraordinary growth in new “green” markets.

This has been reinforced by China’s massive spend of more than one fifth of its six hundred billion dollar stimulus package on renewable energy and related construction, products and services.

And before President Obama declared a US spend of $115 billion, he stated the following:

“…everywhere we look there is work to be done. The state of the economy calls for action, bold and swift and we will act…We will harness the sun and the winds and the soil to fuel our cars and run our factories”.

If Australia is not to be left behind, to miss out on a solid share of these new economic and environmental imperatives, then we need the policy settings that:

* drive increasing demand for the design and construction of energy and water efficient buildings, infrastructure and transport systems,
* ensure jobs are created in new eco industries – solar, wind, hydro, biofuels and hybrid combinations of these, and
* plan for additional jobs – in design, development, installation and operational pursuits.

Australia is well placed to benefit from increasing demand for clean technologies.  '[The Green Gold Rush](http://www.actu.org.au/Images/Dynamic/attachments/6211/Green_Gold%20_Rush_final.pdf)’ is a study commissioned from Cambiar by the ACF and the ACTU. Based on the premise that by focusing on the segments with existing competitive advantages Australian policy makers and industry will maximise the chances of Australia succeeding in green markets, Cambiar assessed 30 potential green industries.

As a results Australia’s best bets are in six sectors:

* renewable energy
* energy efficiency
* biomaterials
* green buildings
* waste and recycling

Projections for a Green Collar Economy

|  |  |  |  |
| --- | --- | --- | --- |
|  | Now | 2030 – BAU scenario | 2030 – Clean greengrowth scenario |
|  | Market($US billion) | Jobs(thousands) | Market($US billion) | Jobs(thousands) | Market($US billion) | Jobs(thousands) |
| Renewable energy | 1.4 | 20 | 15 | 150 | 38 | 375 |
| Energy Efficiency | 1.25 | 5 | 10 | 15 | 50 | 75 |
| Sustainable watersystems | 2.5 | 25 | 9 | 30 | 25 | 66 |
| Biomaterials | 0.02 | 0.2 | 1 | 14 | 12 | 36 |
| Green Buildings | 2 | 23 | 31 | 77 | 81 | 230 |
| Waste and recycling | 8.3 | 39 | 13 | 42 | 37 | 45 |
| Total | 15.5 | 112 | 79 | 328 | 243 | 847 |

<http://www.actu.org.au/Images/Dynamic/attachments/6211/Green_Gold%20_Rush_final.pdf>

It is also our assessment that, based on Australia’s capacity, we can, with the right policy settings, achieve an extra 800,000 jobs within 15 years.

There are small but viable operations in all these sectors and they are set to expand.

Demand is also increasing for measures to make existing structures and processes more environmentally friendly.

This market for “retro-fitting” is enormous and government policy setting can drive this to new heights.

The residential initiatives for insulation and solar in the recent stimulus package …the pink bat strategy…for more than 2 million houses is a great boost to our effort in energy efficiency to lowering utilities costs for vulnerable households and for the demand for skills.

Likewise the green screen for schools will drive demand for renewed skills from more and more workers in construction and related manufacturing and services.

Then consider the potential for retro-fitting existing commercial buildings.

Buildings account for around 23 percent of Australia’s green house gas emissions. Ninety-eight percent of Australia's office blocks are regarded as energy inefficient.

According to the Intergovernmental Panel on Climate Change, retrofitting and replacing equipment in buildings has the largest potential within the building sector for reducing greenhouse gases by 2030.

Even with the continued growth of the building sector, most of the structures that will be built in 2030 have already been built. Retrofitting will play a critical role in reducing emissions.

The industry argues that “accellerated depreciation” or a “green depreciation” incentive for a transition period will kick-start a major effort. We urge government to consider this as a matter of some urgency.

**The skills challenge**

Sustainability will become central to business strategy. Integrating sustainability into all aspects of their business – into the products they make, into their operations and processes, and into their accounting practices, they will increasingly demand green skills and knowledge.

Are we up to it?  As an education and training community can we do it.

As I said earlier, in preparing for a greener economy today and into the future, we face two major skills challenges.

The first is to green existing jobs. This is crucial to meet current demand for retrofitting and the re-tooling of industry so vital to ensure our existing industries continue to grow.

The second is to train new workers in the appropriate skills, so we can meet the demand for employees with the right skills in renewable industries and new green technology as they develop.

**Greening old jobs**

A greener, more sustainable economy doesn’t mean that we just train up some new workers in green skills and they clean up after the rest of us.

Greening existing jobs is critical to reducing greenhouse emissions.

It is particularly important in sectors with a high environmental impact – including building and construction, energy, transport and agriculture.  Activities in these high-impact areas account for around 70-80% of overall resource use and emissions. They employ around 3 million workers.

A recent report by the CSIRO suggests that, even with major environmental reforms, employment in these industries will continue to grow strongly.

As these industries respond to the demands of a greener economy and policy environment, jobs will require new skills.

Workers in these industries need training and up-skilling so that they can adapt to new technology and new ways of working.

And it has already been said that we need to up-skill existing workers so that we can respond to the present and ever-growing demand for retrofitting.

Demand for energy efficient alternatives is already outstripping the number of workers who can do this kind of work.

A good example was the government subsidy to encourage the conversion of cars from petrol to LPG. People who were keen to take up this opportunity found themselves waiting in a long line, because there simply weren’t enough mechanics with the skills to do this work.

There is a similar story on the take-up of solar energy. And, as we have noted, we don’t have nearly enough skilled workers in the range of occupations needed to retrofit buildings.

**New green jobs**

Our second skills challenge will be in anticipating the future demands for green skills in emerging industries.

We need to prepare new workers for the skill requirements inherent in green jobs.  We also need to ensure that our transition to a greener more sustainable economy is not stymied by a shortage of adequately trained workers.

A recent report by the CSIRO for the Dusseldorp Skills Forum found that our current approaches to green skills are grossly inadequate. No-one collects systematic data on the skills and knowledge base of the workforce necessary to sustain the shift to a low carbon economy. Yet a good understanding of green skill requirements in a range of industries is a precondition to taking action.

We also need much better data on consumer demand for green products and services. We need this so we can anticipate future demand and ensure we train an adequate number of workers in green skills.
Unlike nations like Germany or the UK, we do not have a green skills jobs target. We must rectify this to drive ambition, investment, planning and skills demand.

**Our response**

The massive mobilization of skills and training required will require commitment and efforts by everyone - by governments, businesses, unions, the community sector, environmental organisations and VET institutions.  We all need to do our bit.

And we need to deepen our efforts now.

There are already a lot of good initiatives and efforts out there. Industry Skills Councils have begun to respond to the growing need for VET to accommodate green skills and knowledge.  There are now specific, industry-based competency standards for sustainability and guideline competency standards that can be taken up in any industry sector.  Green apprenticeships exist in a range of industries, including in construction and manufacturing.

A number of the states have provided funding to industry associations to develop green plumbing initiatives, which assist plumbers to become trained and accredited in household water and energy efficiency. There is also great demand for ‘eco-smart’ electricians.

In July this year, the ACTU issued a Joint Statement with the Australian Conservation Foundation, the Australian Council of Social Services and the Climate Institute. This statement called for a fair and effective response to climate change. It recommended the following for greening Australian jobs:

* Skills Australia should lead a national program to identify and stimulate the green skills, knowledge and work needed for a low-carbon economy;
* By the end of 2010, at least 40,000 training opportunities in the Productivity Places Program should be allocated to the development of green skills in priority areas. This includes building and construction, energy, agriculture, and green finance, auditing and accounting;
* Australia’s universities, TAFE and training sectors should create ‘green collar partnerships’ to advance the workplace and industry skills, knowledge and innovations required for the transition to a low-carbon economy;
* Funds should be allocated immediately for sustainability training, skills and workplace programs. This should be boosted from 2010 with a proportion of revenues from the proposed Emission Trading Scheme.

As we propose in the Green Gold Rush, we need to:

* Expand green education in executive, strategy and finance roles, to meet needs from increases in corporate responsibility for environmental management and risk, and enable integration into business strategy and planning.
* Assist in the penetration of skills and tools to comprehend environmental impacts and mitigation measures with model ‘organisational environmental management systems’.
* Support the funding needed for professional development training to address environmental challenges and their solutions - for example, skills shortages in environmental impact and cost benefit analysis was brought to our attention in roundtables.
* Integrate environmental education across all curricula.   Greater awareness of environmental issues and their solutions helps drive regulatory, consumer and business responses, and
* Share best practice across sectors.  Government can help ensure the many examples of best practice are shared across the diverse group that provides environmental education and skills training.   An important part of this process is ensuring the transfer of best practice across the interface between education, training and industry.

**Conclusion**

Climate change and the environment is the challenge of  this era. The ACTU rejects the notion that climate change solutions are a growth deficit. If we’re smart about it, responding to climate change can mean massive opportunities for the creation of sustainable, quality jobs.

We now stand at the beginning of a major structural transition towards a greener, more sustainable Australia. We need to intensify our efforts to ensure that we have the right policies in place.

The right policies are fair ones – ones that ensure that working Australians and their families are not put at risk and that assist low-income households with the costs associated with transition.

The right policies are also ones that make the most of the opportunities that the transition to a low carbon economy will bring for working Australians and for the Australian economy.

Green skills shortages already exist. The pace of green job creation will only accelerate in the years to come.

As we intensify effort and investment in skills we need to strike the right balance between re-training and up-skilling existing workers and investing in skills for new green jobs.

Because in a more sustainable, environmentally friendly Australia, all jobs must be varying shades of green.

Thank You

For joint statement paper click link below:

<http://www.actu.org.au/Images/Dynamic/attachments/6252/Green%20New%20Deal%20statement%20-%20081202.pdf>

## **Australia and the Green Gold Rush**

[Green Gold Rush report: almost a million green jobs for Australia by 2030](http://www.actu.org.au/Media/Mediareleases/GreenGoldRushreportalmostamilliongreenjobsforAustraliaby2030.aspx)

In October 2009, the Australian Conservation Foundation (ACF) and the Australian Council of Trade Unions (ACTU) released a report outlining the potential benefits for Australia in developing green industries. It says that if Australia is proactive, its green sector could be worth US$243 billion and employ 847,000 people by 2030. The authors believe the opportunities for Australia are so vast they labelled the report *Green Gold Rush*. They are not alone in predicting the possibilities of an amazing future. Australia is facing “the perfect storm of opportunities”, according to Dr James Bradfield Moody, the Commonwealth Scientific and Industrial Research Organisation’s (CSIRO) executive director of development.

....

According to the *Green Gold Rush* report, Australia’s green sector is currently worth US$15.5 billion and provides just 112,000 jobs. If the Australian government’s policy continues as it is, by 2030 the sector will grow to US$79 billion and 328,000 jobs. But to create a US$243 billion green industry will require “bold action to protect the environment and stimulate green industries”, according to the report. The good news is that Australia has excellent competitive advantages in six key areas: renewable energy, energy efficiency, bio-materials, green buildings, sustainable water systems, and waste management and recycling.

## Queensland’s Green Army

**We want you: More troops to be recruited to Queensland's Green Army**

[http://www.mysunshinecoast.com.au/articles/article-display/we-want-you-more-troops-to-be-recruited-to-queenslands-green-army,16884](http://www.mysunshinecoast.com.au/articles/article-display/we-want-you-more-troops-to-be-recruited-to-queenslands-green-army%2C16884)

Treasurer and Minister for Employment and Economic Development
The Honourable Andrew Fraser

14/04/2010

We want you: More troops to be recruited to Queensland's Green Army

An additional 50 environmental traineeships will be offered in Queensland's Green Army this year, providing jobseekers with much sought after green skills to enter the workforce.

Treasurer and Minister for Employment and Economic Development Andrew Fraser today announced funding for the additional traineeships that would be based with community organisations.

"Despite a more positive outlook in the global economy, we can't lose focus. This government remains committed to saving and creating Queensland jobs," Mr Fraser said.

"Queensland's Green Army is doing exactly that. It will create 3000 jobs over three years and it will prepare participants with the skills they need to step into jobs in areas that are likely to suffer from shortages.

"These traineeships will give long-term unemployed people and recently-retrenched workers a year of work and nationally-recognised training.

* "The training will be at either Certificate II or III level i n areas such as horticulture, agriculture, conservation and land management or waste management.

"They will be working on wide range of environmental projects and tasks including revegetation, conservation, developing natural recreational facilities, traditional knowledge recording, environmental rehabilitation and recycling and waste management.

"These trainees will join the 259 previously approved environmental trainees who will work with 48 local councils across the state."

People wanting to register for Green Army projects should phone the Green Army hotline on 1800 249 215 or visit [www.greenarmy.qld.gov.au](http://www.greenarmy.qld.gov.au).

Queensland's Green Army is a $57 million initiative to enhance our natural assets, strengthen our tourism industry and promote increased environmental awareness for all Queenslanders.

The Green Army is part of the Skilling Queenslanders for Work initiative. During 2009/10 the Queensland Government will invest $101 million in Skilling Queenslanders for Work to provide more than 21,000 long-term unemployed and underemployed people job related assistance and skills training.

For more information on the Skilling Queenslanders for Work initiative visit [www.employment.qld.gov.au](http://www.employment.qld.gov.au) or call 1300 369 925.

## Education and Training

The Moreton Bay Environmental Education Centre

<http://education.qld.gov.au/schools/environment/outdoor/moretonbay.html>

The Moreton Bay Environmental Education Centre, at Wynnum, uses its vessels “Heritage” and “Noogoon” to access a diversity of sites across Moreton Bay, its islands, shoreline and estuaries as well as local creek catchments and the Brisbane River

The Industry Skills Councils initiated ‘Environmental Sustainability an Industry Response’ report which looked at the eleven ISC’s industry concerns/issues. The following table gives a summary from that report.

<http://www.pagegangster.com/p/Al04O/>

|  |  |  |  |
| --- | --- | --- | --- |
| ISC | Key Drivers | Sustainability in Training Packages | Sustainability Initiatives |
| AgriFood Skills Australia | Viability:-water managementproductivity support technologiesimprove environ’t not restricted to impact | **RTE4203A**Implement a property improvement program**RTE5524A**Develop and implement sustainable land use**RTE4603A**Implement an irrigation related environmental protection program**RTD2202A**Conduct erosion and sedimentation control activities**RTC2401A**Treat weeds**RTD4504A**Monitor biodiversity**RTD5003A**Manage natural area restoration programs**RTC5504A**Develop a management plan for a designated area**RTE4814A**Provide information and referrals on environmentally responsible fertilizer and ameliorant use**RTC4513A**Supervise acid sulphate soil remediation and management projects**RTD2502A**Maintain wildlife habitat refuges**RTD3034A**Implement revegetation works**RTD3132A**Survey pest animals**RTD3205A**Construct conservation earthworks**RTD3212A**Implement erosion control and sedimentation measures | 1 Incorporation in Evidence Guide2 Research of gov’t land care & farming initiatives3Mapping of units to the NRM & ESD programs4Devel’t of a range of Skill Sets5 Training package used to support Green Crops & Greening Aus.6 Analysis of key learning & skill objectives of the Farm Ready program7 Devel’t of pre-vocational Weed Manag’t Skill Set8 Incorporation of performance criteria re: workplace environmental stds.9Input into irrigation skill sey10 Incorporation of guideline sustainability units into the Food Processing Training Package.11 Collaborating with RDCs to incorporate VET in their research an development opportunities. |
| Community Services and Health ISC | Waste manag’tEfficient design & construction of buildingsSustainable practices wrt hazardous substances | **HLTPOP216B**Monitor and maintain septic or on-site systems**HLTPOP217B**Monitor and maintain sewerage or effluent systems**HLTPOP218B**Monitor and maintain water supply**HLTPOP220B**Monitor and maintain rubbish collection and disposal systems**HLTPOP319B**Conduct testing and interpretationof results of community water supply | 1 Industry consultation2 Invitation to industryto participate in environmental sustainability research. |
| Construction and PropertyServices ISC | Better work practicesMore efficient use of resourcesImproved waste manag’tMore efficient design & construction of buildingsSustainable practices re: hazardous substances | **CPCCBC4019A**Apply sustainable building design principles to water management systems**CPCCBC4020A**Build thermally efficient and sustainable structures**CPCCBC4021A**Minimise waste on the building and construction site**CPCCPB3015A**Install acoustic and thermal environmental protection systems**CPPCMN4001A**Develop workplace policy and procedures for sustainability**CPPCMN4002A**Implement and monitor environmentally sustainable work practices**PRMPFES43A**Prevent ozone depleting substance and synthetic greenhouse gas emissions**PRMPFES50A**Monitor storage operations for ozone depleting substances and synthetic greenhouse gases**PRMWM01B**Conduct a waste management audit**PRMWM04B**Develop waste management strategies**PRMWM57A**Develop landfill rehabilitation plan**CPPCMN3001A**Participate in environmentally sustainable work practices**CPCSUS4001A**Implement and monitor environmentally sustainable work practices**CPCSUS5001A**Develop workplace policies and procedures for sustainability**CPCCCM1002A**Work effectively and sustainablyin the construction industry | 1 Analysis of plumbing units to assess suitability2 Examination of need a qualification on assessing home suitability3 Development of resources to support Government stimulus initiatives4 Asset Maintenance Training package review5 Up dating fire protection units, and drafting of new units to meet ozone depletion substance and synthetic greenhouse gases compliance regulations.6 Upgrade of painting units (completed) to incorporate sustainability skills in water use7 Review and customization of guideline sustainability units to make them more relevant to the CPS industries.8 Examination into the need for a Certificate IV in ‘Green’ Plumbing. |
| ElectroComms and Energy Utilities ISC | Gov’t initiatives drive focus on energy efficiency20% share of energy from renewable energyRoll out of ‘smarter meters’Electricity generators adopting more efficient supercritical boiler technology.Biomass energyNatural gas technologies | **UEENEEK012B**Provide basic sustainable energy solutions for energy reduction in domestic premises**UEENEEK013B**Apply sustainable energy practice in daily activities**UEENEEK014B**Promote sustainable energy practice in the community**UEENEEK032B**Develop strategies to address sustainability issues**UETTDRIS23A**Implement and monitor environmental and sustainable energy management policies and procedures**UEGNSG104A**Comply with environmental policies and proceduresUEGNSG120A Manage gas system environmental complianceUEPOPS246A Operate Waste and Contaminated Water PlantUEPOPS325AOperate and Monitor Water Quality Control Systems**UEENEEK042A**Participate in environmentally sustainable work practices**UEENEEK045A**Implement & monitor, policies & procedures for environmentally sustainable electrotech work practice**UEPOPS356A**Apply Environmental and Sustainable Energy Procedures**UETTDREL01A**Apply environmental and sustainable energy procedures**UEPOPS356A**Apply Environmental and Sustainable Energy Procedures**UEPOPS417A**Monitor and Implement Environmental Plans and Procedures**UEPOPS504A**Develop Implement and MonitornEnvironmental Management Systems | 1 Alignment of nationally endorsed competencies and industry accreditations for sustainable energy systems, and the National Electrical and Communications Association Ecosmart electrician.2 Review and updating of units that target skills required to deliver on Government incentive schemes3 Development of new units to cover skill needs in new technologies4 Development of new units to cover skill needs in energy auditing and performance monitoring, assessing and providing advice on energy efficiencies.5 Development of existing workers to address skill gaps6 Development of Skill Sets linked to current Business Centre for Sustainable Energy7 Review of the Certificate III in Renewable Energy8 Develop a new Certificate IV in Renewable Energy9 Research ‘Clean Energy’technologies and requirements for units and qualifications addressing the same10 Engagement of international research on renewable/ sustainable energy systems and training. |
| Government Skills Australia | Gov’t policyResources managementManagement of natural disasters | 1 **NWP101A**Investigate sustainable water cycle management2 **NWP202B**Apply environmental and licensing procedures3 **NWP315B**Investigate and report breaches of water industry legislation4 **NWP706A**Review and evaluate water and wastewater sustainability objectives5 **NWP707A**Analyse and review water treatment plant technology6 **LGAGOVA410B**Monitor council procedures to ensure compliance with relevant legislation7 **LGAEHRH305A**Present environmental health education information8 **LGAEHRH403A**Operate waste transfer, collection station or landfill facility9 **LGAEHRW505B**Implement strategies to minimise the impact of waste on the environment10 **LGALAND401A**Apply the principles of ecologically sustainable development to council decisions11 **LGAPLEM606B**Develop ecologically sustainable land management systems12 **LGAPLEM501A**Achieve an efficient and sustainable use of natural resources13 **PSPSCI701A**Create innovation and change through extension14 **PSPLAND506A**Identify and manage contaminated sites15 **NWP301B**Implement, monitor and coordinate environmental procedures16 **NWP401B**Coordinate and monitor the applicationof environmental plans and procedures17 **NWP505B**Implement and manage environmental management policies, plans, procedures and programs | 1 Development of the technical and para-professional components within the Water Training Package2 Development of higher level units and qualifications for trade waste and hydrography3 Implementation of a Workplace Innovation Project to develop skills for the national coordination of natural disaster4 Analysis of cross sector skill requirements for safety officers called to respond to incidents involving radiation.5 Examination of environmental sustainability coverage within the Defence Training Package6 Examination ofenvironmental sustainability coverage within the Public Safety Training Package.7 Development of two new units to cover the new National Standards for Water Metering.8 Examination of Training Package coverage in the areas of compliance law and brief preparation.9 Examination of Training Package coverage of new technologies in water resource management10 Development of skill sets to address new work areas associated with Murray Darling catchment management.11 Examination of Training Package coverage of auditing.12 Analysis of all components of the Water Training Package |
| ForestWorks ISC | Carbon reduction strategies.Forest management and protection. | **FPICOR2203A**Follow environmental care procedures**FPICOR3201A**Implement SHE policies and procedures (SHE: safety, health and environment)**FPIFGM4205A**Monitor regeneration rates**FPIFGM5206A**Develop a native forest regeneration plan**FPICOT5201A**Implement sustainable forestry practices**FPICOR3203A**Evaluate fire potential and prevention**FPICOR4201A**Monitor SHE policies and procedures**FPICOR4202A**Monitor and review forestry operations**FPIFGM4201A**Implement a forest establishment plan**FPIFGM5202A**Manage **FPIHAR4204A**Plan and coordinate fire salvageOperations tending operations in a native forest**FPIWPP3217A**Process production effluent | 1 Research into the needfor Skill Sets in the areas of Timber manufactured products (targeting licensing requirements for installationin the frame and truss industry), Sawmilling and processing (drying timber), Wood panel products (resource efficiency), Harvesting and haulage (fire salvage) and others.2 Research into skill needsto support product development of by-products and waste in order to more efficiently and completely use forest resources.3 Research into skillimplications of new types oftimber treatment and preservation4 Analysis of upskillingrequirements for new harvesting techniques5 Analysis of upskillingrequirements for new forestmanagement techniques6 Analysis of unit level requirements to target changed work practices.7 Analysis of skill needs tosupport the growth of short rotation hardwood plantations. |
| Innovation & Business Skills Aus. | Voluntary actionComplianceClear communications | **BSBSUS201A**Participate in environmentally sustainable work practices**BSBSUS301A**Implement and monitor environmentally sustainable work practices**BSBSUS501A**Develop workplace policy and procedures for sustainability**BSBEBUS508A**Build a virtual community**TAADES503B**Research and design e-learning resources**TAADES504B**Develop and evaluate e-learning resources**TAADEL405B**Coordinate and facilitate distance based learning**TAADEL501B**Facilitate e-learning | 1 Examination of environmental sustainability coverage within the Telecommunications Training Package2 Examination of environmental sustainability coverage within the Financial Services Training Package3 Review of the CertificateIV in Training Assessment4 Examination of NCVERdata to determine the take up of the three BSB07 environmental sustainability units.5 Examination of environmental sustainability coverage within the Printing Training Package6 Examination of environmental sustainability skill needs within the IT sector |
| Manufacturing Skills Aus. | Harnessing opportunity.Emissions trading and compliance costsCost implications of emission schemes | **MCMT272A**Participate in environmentally sustainable work practices**MCMT472A**Implement and monitor environmentally sustainable work practices**MCMT672A**Develop workplace policy and procedures for sustainability | 1 Establishment of an environmental sustainability position paper2 Development of an extensive and comprehensive learning and assessment support resource3 Development of Competitive Manufacturing Vocational Graduate qualifications4 Development of a sustainability pathway5 Analysis of all MSA unitsof competence to determine their suitability to support sustainable manufacturing practice and identification of skill gaps |
| Resources and Infrastructure ISC | Emissions trading schemeCarbon Capture and storage | **MNCO1120A**Establish waste and by-product management system**MNCO1121A**Implement site waste and by-product management plan**MNCO1122A**Apply and monitor site waste and by-products management plan**MNMMEN304A**Take environmental samples and measurements**MNMMEN501A**Develop site environmental policy**MNMMEN502A**Undertake process or project environmental impact assessment**MNMMEN503A**Implement mining operations environmental management system**MNMMEN505A**Monitor and correct activities having impact on the environment**MNMMEN506A**Review environmental management system performance**MNMMSM601A**Establish and maintain the environmental management system**MNQOPS402A**Apply site water management plan**MNQOPS403A**Apply site plant and resource management plan**MNQOPS405A**Supervise site rehabilitation operations**MNQOPS424A**Apply site waste and by-productsmanagement plan**MNQOPS426A**Supervise recycled materials operations | 1 Implementation ofSkillsDMC’s ‘systems approach’ to using empirical and anecdotal information to identify emerging skill needs.2 Deployment of SkillsDMC officers in each state and territory to assist stakeholders and identify workforce development needs.3 Implementation of the Future Workforce Manager (workforce planning tool)4 Application of the SkillsMaximiser™ software program which can be used to add enterprise specific value to units of competency.5 Collapsing of five Training Packages into one Resources and Infrastructure Package to support flexibility and portability of skills.6 Development of trainingresources to improve uptake of Resources and Infrastructure Training Packages. |
| Service Skills Aus. ISC | Purchasing powerLifestyle impacts | **SISOOPS201A**Minimise environmental impact**SISOOPS304A**Plan for minimal environmental impact**SISOOPS506A**Manage natural resources**SITTPPD004A**Plan and implement minimal impact operations**SITTPPD006A**Plan and develop ecologically sustainable tourism operations**SISOOPS202A**Use and maintain a temporary overnight site**SIBBSPA001A**Work in a spa therapies framework**SIFBGM006A**Evaluate building and grounds maintenance and development needs**BSBSUS201A**Participate in environmentally sustainable workplace practices**BSBSUS301A**Implement and monitor environmentally sustainable workplace practices**SITXENV001A**Participate in environmentally sustainable work practices**SITXENV002A**Implement and monitor environmentally sustainable work practices**SITXENV003A**Develop workplace policy and procedures for sustainability | 1 Examination of environmental sustainability skill and technology requirements for the hairdressing industry2 Examination of environmental sustainability skill and technology requirements for the retail industry3 Development of professional development workshop with Sydney Water for trainers in hospitality. |
| Transport and Logistic ISC | Emissions Trading Public perception | **TLIU707B**Care for the environment– this unit is available for all Certificate II level qualifications**TLIU107B**Implement and monitor environmental protection policies and procedures – this unit is available for all Certificate IV qualifications**TLIU607B**Conduct environmental audits – this unit is available for all Diploma qualifications | 1 Analysis of the delivery of key units that target environmental sustainability to determine which work roles are targeted, how they are incorporated into training strategies and their suitability to the transport industries.2 Identification of skill gaps for emerging environmental sustainability work roles covered within TLISC Training Packages3 Consultation with NSW Road Transport sector as part of the ‘Green Skills Initiative’4 Examination of environmental sustainability coverage within the road transport and warehousing sectors as part of review processes.5 Industry consultation to determine environmental priorities. |



[Griffith University](http://www.griffith.edu.au/)

## Programs and courses

* [Architecture](http://www.griffith.edu.au/environment-planning-architecture/architecture)
* [Atmospheric Environment Research Centre](http://www.griffith.edu.au/environment-planning-architecture/atmospheric-environment-research-centre)
* [Australian Rivers Institute](http://www.griffith.edu.au/environment-planning-architecture/australian-rivers-institute)
* [Centre for Environment and Population Health](http://www.griffith.edu.au/environment-planning-architecture/centre-environment-population-health)
* [Environmental Futures Centre](http://www.griffith.edu.au/environment-planning-architecture/environmental-futures-centre)
* [EcoCentre](http://www.griffith.edu.au/environment-planning-architecture/ecocentre)
* [Environmental Science](http://www.griffith.edu.au/environment-planning-architecture/environmental-science)
* [Griffith Centre for Coastal Management](http://www.griffith.edu.au/environment-planning-architecture/griffith-centre-coastal-management)
* [Griffith School of Environment](http://www.griffith.edu.au/environment-planning-architecture/griffith-school-environment)
* [Future students](http://www.griffith.edu.au/environment-planning-architecture/griffith-school-environment/future-students)
* [Programs and courses](http://www.griffith.edu.au/environment-planning-architecture/griffith-school-environment/programs-courses)
	+ [Bridging and Short Courses](http://www.griffith.edu.au/environment-planning-architecture/griffith-school-environment/programs-courses/bridging-and-short-courses)
* [News and Events](http://www.griffith.edu.au/environment-planning-architecture/griffith-school-environment/news)
* [Research](http://www.griffith.edu.au/environment-planning-architecture/griffith-school-environment/research)
* [Staff](http://www.griffith.edu.au/environment-planning-architecture/griffith-school-environment/staff)
* [Student Opportunities](http://www.griffith.edu.au/environment-planning-architecture/griffith-school-environment/student-opportunities)
* [Contact us](http://www.griffith.edu.au/environment-planning-architecture/griffith-school-environment/contact-us)
* [International Centre for Ecotourism Research](http://www.griffith.edu.au/environment-planning-architecture/international-centre-ecotourism-research)
* [International Centre for Management of Pest Fruit Flies](http://www.griffith.edu.au/environment-planning-architecture/international-centre-management-pest-fruit-flies)
* [Southeast Queensland Fire and Biodiversity Consortium](http://www.griffith.edu.au/environment-planning-architecture/southeast-queensland-fire-biodiversity-consortium)
* [Urban and environmental planning](http://www.griffith.edu.au/environment-planning-architecture/urban-environmental-planning)
* [Urban Research Program](http://www.griffith.edu.au/environment-planning-architecture/urban-research-program)

We offer a range of study options in all areas of the environment, natural sciences and planning at the undergraduate, honours and postgraduate levels as well as research and higher degrees.

* [All programs and courses offered in the Griffith School of Environment](http://www17.griffith.edu.au/cis/p_cat/school.asp?element=ENV&display=open&campus=all&level=all)1

**Architecture**

This degree will provide you with an understanding of both the practical and theoretical aspects of architecture. The focus will be on the sustainable design of buildings, urban systems, public places, transport nodes, recreation and conservation areas.

* [The Bachelor of Environmental Design](http://www.griffith.edu.au/environment-planning-architecture/architecture)2

**Ecology and Conservation Biology**

You will develop practical field skills as well as laboratory and analytical expertise and be prepared for a career in conservation management, the management of threatened animals and plants, threatening and invasive species and local, regional and global biodiversity.

* [Ecology and Conservation Biology Programs and Courses](http://www17.griffith.edu.au/cis/p_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=ecology&display=open)3

**Ecotourism**

You will study in the areas of environmental biology and ecology with tourism management and business practice to produce a unique combination of skills across the fields of applied biology, environmental science and commerce with a tourism focus.

* [Ecotourism programs and courses](http://www17.griffith.edu.au/cis/p_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=ecotourism&display=open)4

**Environmental Education**

This postgraduate area of study allows you to learn skills in such areas as reorienting education for sustainable development; adult and community education; public communication and social change; planning and evaluating projects; and environmental education research.

* [Environmental education programs and courses](http://www17.griffith.edu.au/cis/p_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=environmental_education&display=open)5

**Environmental Management and Policy**

You will receive a background in environmental sciences, while focusing on core areas in environmental management, to develop an understanding of the physical, chemical, mathematical, biological and social dimensions of environmental problems and issues.

* [Environmental management and policy programs and courses](http://www17.griffith.edu.au/cis/p_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=environmental_management&display=open)6

**Environmental Modelling**

This area of study is provided through the Bachelor of Environmental Management and is a major within that degree. You will graduate well equipped to succeed in a field where specialist knowledge and a broad appreciation of complex environmental issues are required.

* [Environmental modelling programs and courses](http://www17.griffith.edu.au/cis/p_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=environmental_modelling&display=open)7

**Environmental Planning, Urban Planning**

You will develop the skills and knowledge you will need for a career as a professional regional, urban or environmental planner covering such topics as conservation planning, environmental impact assessments, environmental quality and pollution management, land planning for Indigenous people, rural planning and tourism and recreational planning

* [Environmental planning, urban planning programs and courses](http://www.griffith.edu.au/environment-planning/urban-environmental-planning)8

**Environmental Science**

You will develop skills in the analysis and understanding of environmental problems, and graduate prepared for a successful environmental career. You will study a broad range of courses in the biological, physical, and social sciences with an emphasis on the contribution of these fields to understanding environmental issues.

* [Environmental science](http://www.griffith.edu.au/environment-planning-architecture/environmental-science)9

**Marine Biology and Marine Science**

This area of study covers detailed study of sandy shore and rocky headlands biology, estuarine environments such as seagrass and mangroves, marine animals and coastal processes. By combining environmental management and in-shore marine biology, this is a highly employment-focused area of study with extensive fieldwork components.

* [Marine biology, marine science programs and courses](http://www.griffith.edu.au/science/marine-science-marine-biology)10

**Pollution Science**

This study area with its unique interdisciplinary approach allows the development of skills which will prove attractive to potential employers at all levels of government and with many diverse organisations in the private sector.

* [Pollution science programs and courses](http://www17.griffith.edu.au/cis/p_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=pollution_science&display=open)11

**Water Resource Management**

This area of study is designed to meet the growing demand for professionals in water reseource management, aquatic ecosystems and monitoring and improving water quality. The only undergraduate degree of its kind in Australia, graduates will provide leadership in developing solutions to Australia's water challenges.

* [Water resource management programs and courses](http://www17.griffith.edu.au/cis/p_cat/programsubarea.asp?cat=Science&subcat=water&display=open)12

**Wildlife Studies**

You will be able to study biology, ranging from physiology and biochemistry to whole organism and population biology while also being able to focus on wildlife biology and/or wildlife health.

* [Wildlife studies programs and courses](http://www17.griffith.edu.au/cis/p_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=wildlife&display=open)13

**Pathways to Environmental and Natural Sciences**

If you are not successful in obtaining a place in the Griffith Environmental program that most interest you, there are a number of 'pathways' to increase your chances of gaining a future place.

* [Pathways to Griffith](http://www.griffith.edu.au/future-students/how-to-apply/pathways-to-griffith)14

**Links**

1. http://www17.griffith.edu.au/cis/p\_cat/school.asp?element=ENV&display=open&campus=all&level=all
2. http://www.griffith.edu.au/environment-planning-architecture/architecture
3. http://www17.griffith.edu.au/cis/p\_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=ecology&display=open
4. http://www17.griffith.edu.au/cis/p\_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=ecotourism&display=open
5. http://www17.griffith.edu.au/cis/p\_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=environmental\_education&display=open
6. http://www17.griffith.edu.au/cis/p\_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=environmental\_management&display=open
7. http://www17.griffith.edu.au/cis/p\_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=environmental\_modelling&display=open
8. http://www.griffith.edu.au/environment-planning/urban-environmental-planning
9. http://www.griffith.edu.au/environment-planning-architecture/environmental-science
10. http://www.griffith.edu.au/science/marine-science-marine-biology
11. http://www17.griffith.edu.au/cis/p\_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=pollution\_science&display=open
12. http://www17.griffith.edu.au/cis/p\_cat/programsubarea.asp?cat=Science&subcat=water&display=open
13. http://www17.griffith.edu.au/cis/p\_cat/programsubarea.asp?cat=Environment,%20Planning%20and%20Architecture&subcat=wildlife&display=open
14. http://www.griffith.edu.au/future-students/how-to-apply/pathways-to-griffith

## Project Opportunities

Grants

http://www.juniorlandcare.com/Grants.htm

Through the Junior Landcare Grants Program, any school or organisation that would like to involve their students in landcare projects, in conjunction with local landcare groups, can apply for grants to assist them with the cost of their projects.

**2010 Closing Dates**

Round 1: 5pm **Friday 5th March** (Yates and Coles)
Round 2: 5pm **Friday 14th May** (Yates and Coles)
Round 3: 5pm **Friday 6th August** (Yates and Coles)
Round 4: 5pm **Friday 22nd October** (Yates Only. Please note there are NO COLES grants available this round

**Coles and Junior Landcare**

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| Since 2008 Coles has been providing School Garden Grants of up to $1,000 to schools and youth groups to help create gardens in their grounds or community, such as bush tucker gardens, waterwise gardens or vege gardens.These programs encourage students to learn about the environment through “outdoor learning” and interaction in developing their own school gardens.This year Coles will embark on a special Indigenous gardens project with Junior Landcare. This project will help to establish bush tucker and vege gardens in 30 Indigenous pre schools all over New South Wales. The bush tucker garden programs aim to assist indigenous students and communities through developing vege gardens to learn about the importance of nutrition and fruit and vegetables in lead a healthy lifestyle.For more information on how Coles and Landcare are working together head to the [Coles website](http://www.coles.com.au/about/community/charity/landcare_australia.asp) for more information.**NOTE: All schools, kindergartens, daycare centres, and youth groups (i.e. Scouts) are eligible to apply for a Junior Landcare grant.** |
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**Yates and Junior Landcare**

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| Yates launched its School Environmental Management Planning (SEMP) grant with Junior Landcare in 2009. In addition to its small grants program, Yates also funded the highly sucessful Junior Landcare Watermelon Challenge in 2008 and the Great Australian Dung Beetle Challenge in 2007.The SEMP grants of $1,000 are awarded quarterly during the school year and help students produce a plan for sustainable environmental practices. Funds from the Yates SEMP grant can be used to improve the school environment and encourage life-long learning for sustainability. Projects range from developing a SEMP for the school or identifying and protecting significant natural assets, to implementing actions from an existing SEMP - for example, carrying out energy, waste and water audits.Head to Yates [Garden Greenies website](http://www.yates.com.au/kids-gardening/) for garden and growing information, games and cool projects galore!**NOTE: All schools, kindergartens, daycare centres, and youth groups (i.e. Scouts) are eligible to apply for a Junior Landcare grant.** |
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**EnergyWise**

The Queensland Government is working to promote energy conservation to all Queenslanders and improve their understanding of how to use energy wisely, by reducing our energy consumption. All consumers, whether they be householders, in small business, or industry, are being encouraged to make energy conservation part of their everyday lives.

Education plays a key role in addressing the impacts of energy use. It is important to begin educating consumers about energy conservation at a young age, to ensure future generations use energy resources wisely.

The Office of Clean Energy, in partnership with the Department of Education, Training and the Arts, has developed a $300,000 school based program to build energy efficiency and energy conservation into the curriculum and operations of Queensland schools until the end of 2012. Through the EnergyWise Schools program, education facilitators from Queensland Environmentally Sustainable Schools Initiative (QESSI) regional Hubs are helping school communities to audit their energy use, plan energy saving activities and monitor the energy performance of their cluster schools. The EnergyWise Schools program build's on the [Environmental Education for Sustainability process in schools](http://education.qld.gov.au/curriculum/learning/sustainability.html).

Information on the [2010 - Year of Environmental Sustainability in Queensland Schools](http://deta.qld.gov.au/yes/)