



**Progress and final reporting template
(for grants awarded in 2009 and prior)**

| | |
|---|--|
| Grant reference number: 2009/EG0068 | Total grant amount: \$ 87,500 |
| Project title: | Building Sustainability For the Trades |
| Grantee organisation: | TAFE NSW Western Institute |
| Person submitting this report: | Sandra Gray |
| Contact number: | 0459821 427 |
| Are you the primary contact? | Yes |
| If 'no', what is your role in the project? | |
| Report type: | Final |
| What stage of the project are you reporting on: | Stage of stages |
| Actual period covered in this report: | From 30/3/2010 to 30/3/2011 |
| Note that final reports should cover the life of the project | |

Use this template to complete your progress and final reports for grants under Restoration and Rehabilitation; Environmental Education; and Protecting our Places Programs. If necessary, please provide additional information as an attachment to this report.

For 2008 and 2009 grantees you must submit with this report an updated **Schedule C – Project Measures** as outlined in the reporting guidelines attached to your Grant Agreement.

Grantees must also complete the Environmental Trust's relevant **Financial Reporting Spreadsheet**.

Note: you should still refer to your reporting guidelines which are included in Schedule B of your Grant Agreement prior to completing your report.

You are required to submit **2 hard copies plus an e-copy** of your report (including attachments). For progress reports please include a **tax invoice** for the next instalment of your grant (plus GST if applicable). Late submission of an invoice could delay your next payment.

Post your report to: Grants Administrator, NSW Environmental Trust, PO Box 644, Parramatta NSW 2124

Email to: info@environmentaltrust.nsw.gov.au (limit 10MB per email) and include your grant reference number in the subject line.

If at any stage you require assistance please contact your Grants Adm (02) 8837 6093.

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ID no: 20120395

Note that the following text boxes will expand to the length required as you write your report.

1. Summary

Provide a summary of progress to date, approximately 100-200 words (cover the life of the project if this is your final report). This may be used for promotional purposes.

The Building Sustainability for the Trades project has provided innovative and accessible learning opportunities for Western NSW

2. Background to and objectives of the project

Complete the table below which shows your original objectives and your progress in achieving them

| Objectives as per the application | Progress towards achieving objectives |
|--|---|
| Commence and implement Marketing Strategy | All marketing was completed for this project with a dedicated brochure and web page developed. The project was promoted wuthrough community groups, local governemnt, media outlets, schools and TAFE Colleges See Brochure in Green Skills Hard copy report. |
| To devleop a Green Skills on the Road trailer | This trailer was designed and built locally in Orange and incorporated features such as solar panles, water tanks, shelving and displays in the trailer. The trailer was decorated with signage . |
| Identify specialist equipment and displays | A project team worked closely with industryto identify the latest sustainable materials in the building, electrical, renewable energy and plumbing industries. TAFE Western was able to partner with these industries to gain samples to use for displays and to also collect valuable written data/brochures on these new products . Once this research component was completed information was incorporated into the Green Skills on the Road brochure and CD |
| To plan and deliver community education sessions | A calendar of events was initially developed to ensure coverage of the region and access to the specific target groups . A total of 3063 people participated in learning experiences with the Green Skills on the Road trailer. See Hard copy report with details and photos of the sessions |
| | |

| | |
|--|--|
| | |
| <p>To plan and deliver apprentice training sessions</p> | <p>A calendar was developed in conjunction with TAFE Western Trades sections to ensure students gained access to the Green Skills on the Road trailer</p> |
| <p>To Plan and deliver Try a trade sessions</p> | <p>TAFE Western worked with Central West Group Apprentices and aligned delivery of session to schools with the CWGA Try a Trade displays plus the Green Skills Trailer was actively involved in the delivery of Orange Sustainable Living Week displays where schools visited the TAFE Green Skills Trade Education Centre in August 2010. This activity occurred again in Sept 2011</p> |
| <p>To identify Green Skills speakers/industry experts</p> | <p>TAFE Western worked collaboratively with industry to identify specialist speakers in the building, renewable energy and plumbing industry areas. These speakers supported some of the learnign sessions and delivered workshops as part of Orange Sustainable Living Week in 2010.</p> |
| <p>To commence development of Renewable Energy online units</p> | <p>TAFE Western has now developed online units for the Renewable Energy industry courses and these courses are conducted regularly. Over 35 local electricians have now completed these units to enable them to apply to become accredited installers of PV .</p> |
| <p>To build skills of TAFE teachers in TAFE Western delviery areas</p> | <p>TAFE Western teachers partipcated in range of learnign activities including: 1. A workshop conducted by the green Building Council of Australia for building</p> |

| | |
|--|--|
| | trade teachers 2. Attendance at specialist industry expos focused on Green building, Green plumbing ,renewable energy 3, Accreditation of 4 TAFE Western plumbing , teachers by the Master Plumbers to enable teachers to teach the Green Plumbing courses |
|--|--|

3. Project outputs and activities

This should report against the Project Management Plan outputs from your original application. Provide a summary of activities undertaken to date and the progress on each and outline the 3 most important outputs during this reporting period (cover the life of the project if this is your final report).

The Building Sustainability for the trades projects was targeted on skills development in passive solar house design, low energy housing, usage of renewable energy, solar, wind and water efficient technologies for tradespeople and the general community in the central west and Orana regions of NSW. As reported earlier 3063 people participated in learning opportunities and had opportunities to increase their knowledge about sustainability. The highlight of this project was the development of Green Skills Trailer which was used during the project but also has been used since the project completion to support sustainability initiatives in the region. Another highlight of this project was the development of the Green Skills on the Road brochure and CD which provided ongoing access to information to the community. TAFE Western is still distributing these resources as part of our ongoing commitment to building skills in sustainability in Western NSW. Another major highlight of the project was the skills development opportunities for our TAFE Western trade teachers and the development of the online resources to support the teaching of renewable energy

4. Project outcomes

Describe any outcomes that have been achieved during this reporting period (with evidence) or alternatively how you are progressing towards achieving those outcomes identified in your Application and your Monitoring and Evaluation Plan. Compare the outcomes with those outcomes projected in Schedule C.

TAFE Western has clearly demonstrated that the Building for Sustainability for the trades project has met the project outcomes

Key outcomes achieved:

1. 3063 people participated in community education opportunities
2. 35 electricians have been trained to become accredited installers of PV equipment
3. 12 TAFE Western teachers have participated in additional training or attended professional development opportunities to enable these teachers to build their knowledge of the green skills and sustainability new initiatives and equipment
4. Sustainability units are now delivered as part of TAFE trade training programs

and annually over 500 trade apprentices gain additional skills in this area
5. TAFE Western was successful in gaining media coverage for some events and our Green Skills on the brochure is available from our web site and is distributed through teaching sections, community organisations, local government

5. Reflection on the monitoring and evaluation plan (for grants awarded in 2008 and 2009)

Provide a brief summary on the implementation of your Monitoring and Evaluation Plan. You should include:

- how monitoring has been established
- how data has been obtained
- reflect on what the data is showing
- stakeholder involvement.

TAFE Western has met all Objective and activities that were documented in the Monitoring and Evaluation plan
See additional hard copy report which includes a detailed photos of events conducted by the Green Skills on the Road team
Now that the project is completed TAFE Western is being contacted regularly to be part of events and community initiatives. Ongoing it is difficult for TAFE Western to have the funding available to cover the costs of manning the Green Skills resource and it is unfortunate that this may reduce ongoing exposure to this innovative learning resource.

6. Project evaluation

This section gives you an opportunity to evaluate the project as a whole rather than against individual objectives/activities (cover the life of the project if this is your final report).

6.1 Progress

How the project is progressing / has progressed overall.

TAFE Western is extremely pleased with the project and we have clearly demonstrated the outcomes achieved. See information provided above
See additional Hard copy report

6.2 Issues/challenges

Any problems you have encountered and how you have dealt with, or intend to deal with them. Please include any issues that the Trust, as the funding body, should know about. Include any significant variations from planned approach as outlined in your application. You should refer to the risk management section of your Monitoring and Evaluation Plan (where applicable) and/or any other issues that have arisen.

TAFE Western did not encounter any difficulties during the project except for some confusion re the reporting requirements and minimal contact during the funding period.

6.3 Opportunities

Lessons learned, other opportunities and how benefits from the project could be spread more widely.

TAFE Western has greatly benefited from the funding obtained through the Environmental Trust and we are keen to continue to promote green skills and sustainability. Ongoing TAFE Western is investigating how we can utilise the Green Skills trailer for ongoing education purposes and have the funding available to man the trainer to support community events

7. Issues raised from previous progress report(s)

Did you receive specific points to address in this report from the technical review of your previous progress report? If so, please complete the table below.

| Points to address | Response/action |
|-------------------|-----------------|
| None to address | |
| | |
| | |

8. Other

Is there anything else you would like to raise in this report?

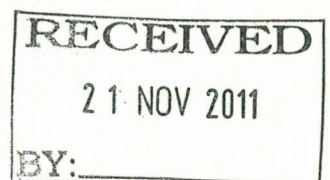
No other information. Additional data and photographs included i our hard copy report

| Checklist | Attached? |
|--|---|
| <p>9 Will you be seeking a variation and/or an extension to this project? (Progress reports only)</p> <p>Select</p> <p>If yes, please attach Variation Proforma(s) plus any additional information</p> | <input checked="" type="checkbox"/> |
| <p>10 Updated Schedule C (for grants awarded in 2008 and 2009) Ensure you update <i>Schedule C</i> and provide it as an attachment.</p> | <input checked="" type="checkbox"/> |
| <p>11 Communication Ensure you provide copies of media coverage, publications and materials produced as an attachment.</p> | <input checked="" type="checkbox"/> |
| <p>12 Other attachments Provide any other attachments that are relevant to your project.</p> | <input checked="" type="checkbox"/> |
| <p>13 Financial reports</p> | |
| <p>Progress reports Ensure you use the Environmental Trust's Progress financial reporting proforma and provide as an attachment.</p> | Proforma <input checked="" type="checkbox"/> |
| <p>Include a tax invoice for the next instalment of your grant (plus GST if applicable).</p> | Invoice <input type="checkbox"/> |
| <p>Final report Ensure you use the Environmental Trust's Final financial reporting proforma and provide as an attachment.</p> <p>Please ensure that the financials are properly certified. Improper certification could delay the acquittal of your grant. Please refer to the Trust's reporting guidelines for details regarding the proper certification of financials, dependent on the amount of funding received and the organisation type.</p> | Proforma <input checked="" type="checkbox"/> |
| <p>Unspent grant funds Ideally, all grant funds should be expended at the time of submitting your final report.</p> <p>Are there any unspent grant funds remaining? Select</p> <p>If yes, please return any unspent funds to the Trust. To return funds you should include a cheque for the amount of unspent grant funds, (plus GST if you are registered for GST), made payable to the Environmental Trust OR contact your Grants Administrator prior to submitting your report to discuss your options.</p> | Independent certification (community organisations) <input type="checkbox"/> |
| | Cheque for unspent grant funds <input type="checkbox"/> |



GREEN SKILLS ON THE ROAD

TAFE NSW Western Institute



Green Skills Training Resource

Response to the Green Skills on the road training resource has been overwhelming since it was commissioned in August 2010. Peak community representatives and politicians of State and Federal level have been present at various events to assess its immense value. The trailer has continued to attract attention at community gatherings such as

- Agricultural Shows
- Master Builders Association Meetings
- School Try-A-Trade Days
- Carbon Reduction Expo's
- Rotary Sustainability Week
- Construction Industry Apprentice Days

During its time on the road, over 2800 people have visited the trailer at selected events, with over 2000 school children, teachers and general public taking part during the open day/week of the \$4 million dollar Green Skills Trade Education Centre (GSTEC) in Orange.

Green Skills Trade Education Centre

When fully functional, the GSTEC will be seen as leading the way in the use of passive solar design, low energy building materials, and renewable energy and water efficient systems in an educational environment. The centre will provide current technologies and increased skills development for apprentices, trades people, school students and the general community.

With TAFE Western committed to playing a leadership role in supporting the skills and knowledge development in **Sustainability and Green Skills** learning, the resource trailer will ensure that all communities will have access to the latest information relating to sustainability and sustainable building products through carefully planned

- Awareness sessions
 - Displays of building products
 - Displays of water efficient products
 - Displays of renewable energy products
-

Learning Resources

Every visitor to the learning resource trailer is provided with an information package which contains a specially produced CD containing links to:

- Sustainable building design
- Building products
- Water saving devices
- Recycling information
- Printed media on sustainability
- Links to State and Federal agencies

At various locations, local council productions in the form of CD's and brochures are also included in the packs, giving the recipient a host of valuable and easy accessible information.

Interactive Displays

TAFE Western has increased their delivery methods of providing information on sustainability through the installation of a 22in state of the art **Touch Screen System**. The system will be shared by the GSTEC and the learning resource trailer.

The user friendly portable touch screen contains information on:

- The construction of the GSTEC
- Sustainable building design
- Water efficiency
- Low energy heating and cooling
- Sustainable waste
- Sustainable gardens

Each section contains colour slides, or video clips with small chunks of information relating to that topic, which encourages the user to further research the topic. It also gives ample opportunity to retrace information in a timely manner.

Events covered by the Green Skills Trailer

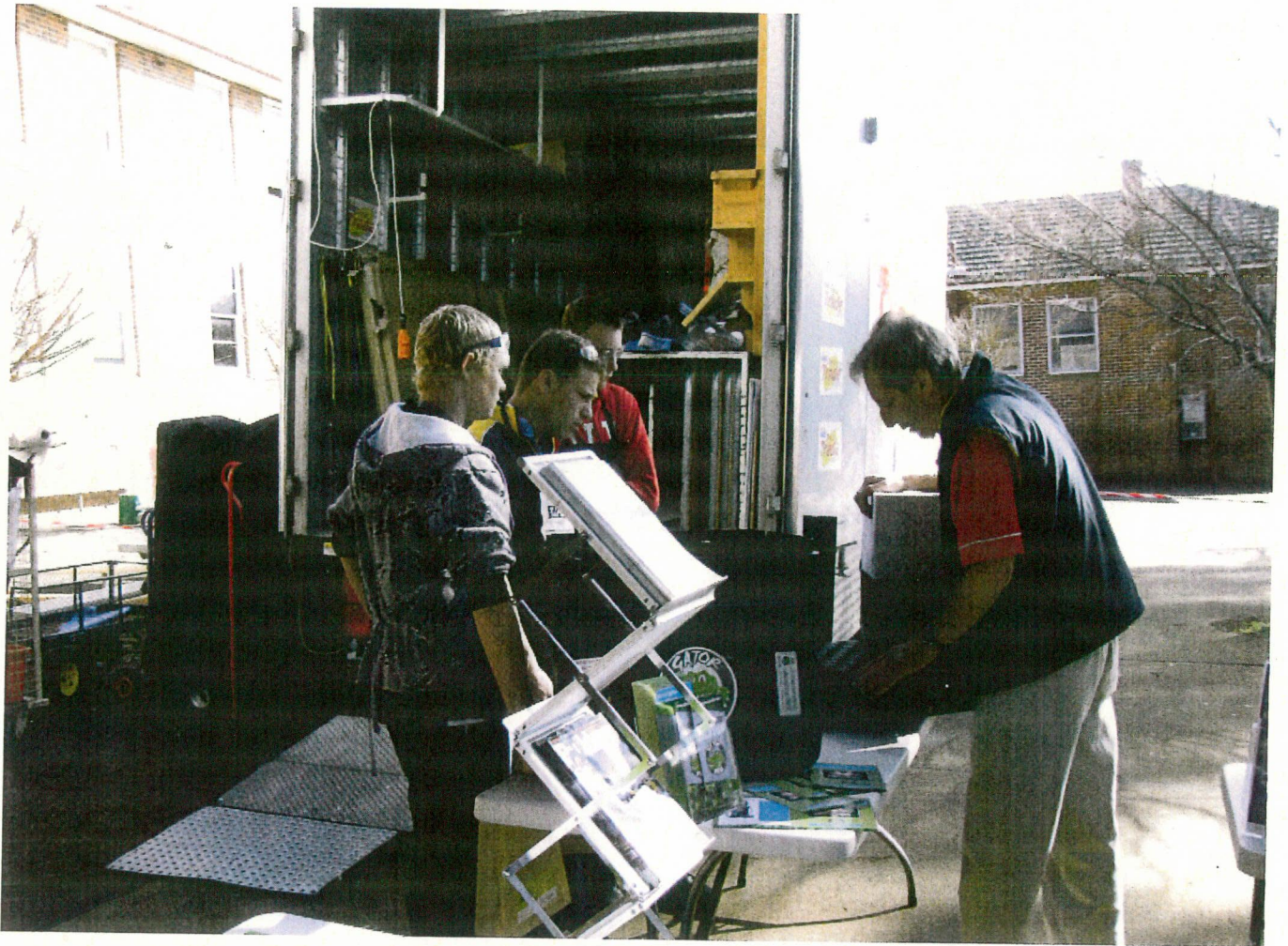
| | |
|---|-------------|
| Molong Central School Try A Trade | 70 |
| Master Builders Association Orange | 15 |
| Master Builders Association Dubbo | 14 |
| CENTROC Sustainability Expo Bathurst | 43 |
| Netwaste program Condobolin | 14 |
| Netwaste program Parkes | 54 |
| Bunnings Try A Trade Orange | 30 |
| Rotary sustainability Week, general community | 309 |
| Rotary sustainability Week, school based | 2100 |
| Growers markets Orange | 97 |
| Australian national Field Days | 113 |
| C&J trade apprentice's day Dubbo | 28 |
| C&J trade apprentice's day Orange | 11 |
| P&D trade apprentice's | 10 |
| Signcraft trade apprentice's day | 9 |
| C&J apprentices day Bathurst | 16 |
| Bricklaying Apprentices day Bathurst | 8 |
| EEPT event at TWGTEC | 16 |
| TAFE Western Quality Awards Bathurst | 72 |
| CENTROC Orange at TWGTEC | 18 |
| Tafe Western Animal Studies | 16 |
| Total | 3063 |

Figures quoted relate to information packages signed for on participation and are not indicative of overall participation in the program. There were many who elected to not sign the participation sheet for personal reasons.

Molong Central School

Seventy students from Molong Central School participated in groups of three during the Try-A-Trade day held in conjunction with Central West Group Apprentices. The students participated in awareness projects on grey water harvesting. Information packages were distributed to those taking part. The vast majority of students were from rural locations such as Molong, Cumnock, Manildra, Cudal and Stuart Town. Water conservation and harvesting were high on the student's agenda.











Master Builders Association

The Master Builders meetings in both Orange and Dubbo were attended by trade's people from throughout the Central West, including Orange, Dubbo, Canowindra, Parkes, Forbes, Oberon and Gilgandra.

Information on sustainable building products was the most sort after during the events. The Green Skills display was commended as being the most informative stand at the meeting.







NetWaste Carbon Expo

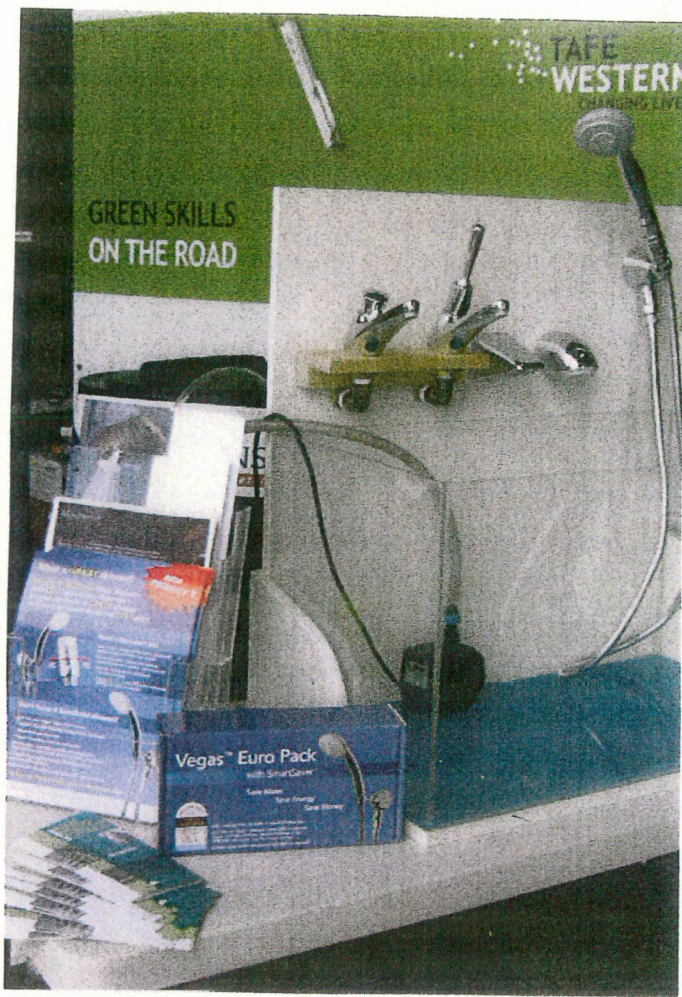
The day-night Carbon Expo held during the Parkes Agricultural Show was an outstanding success. Held in one indoor location, information on sustainability was available from a wide range of agencies including water, soil, flora and fauna.

The demographic location of participants was extended to a large portion of the State of New South Wales as well as Interstate. Information sample bags were distributed, and much interest was shown in wind and solar power during the twelve hour session.









Bunnings Warehouse

Bunnings Warehouse was the location in September, 2010 for a very successful sustainability awareness session. The event was held in conjunction with the Central West Group Apprentices Try-A-Trade day. Schools from the Orange area were invited to participate.

The general public were able to join in, as staff members from Bunnings Warehouse were on hand to talk about products on display. The gathering was spoiled by wind and rain; however a re-staging is planned in the future. Solartube was extensively featured during the program. Participants were able to compare displayed products with those on display in the warehouse.





BUNNING'S warehouse







Condobolin Agricultural Show

Only the inclement weather conditions could spoil this awareness session which was held in conjunction with the NetWaste Program. Solar and wind power comparisons were at the high end of enquiries. Alternative water harvesting information also featured in conversation, as water evaporation is a major factor in this area due to the extended high heat period. Day two of the show, which would have been the main day was cancelled (trailer exhibit) because of wind and rain which persisted. This signalled the breaking of the long drought.







Orange Growers Market

This event is held monthly in Orange, and brings a mix of people from agricultural and business backgrounds from Orange and surrounding areas. Genuine interest was shown in wind and solar power by the ninety-seven people who signed the participation sheet located on the stand.

Market organisers have asked that the learning resource trailer return to the markets, as the awareness program was well received by the general public.











Centroc Summit

Local, State and Federal Government agents were in attendance at this meeting held in Bathurst in 2010. The interest and feed back from local council representatives in the resource trailer was encouraging, as it represented what each council area is trying to achieve – "Awareness in Sustainability".

The Green Skills on the Road Awareness Trailer was presented with the Shiny Halo Award at the presentation evening for innovation in sustainability.







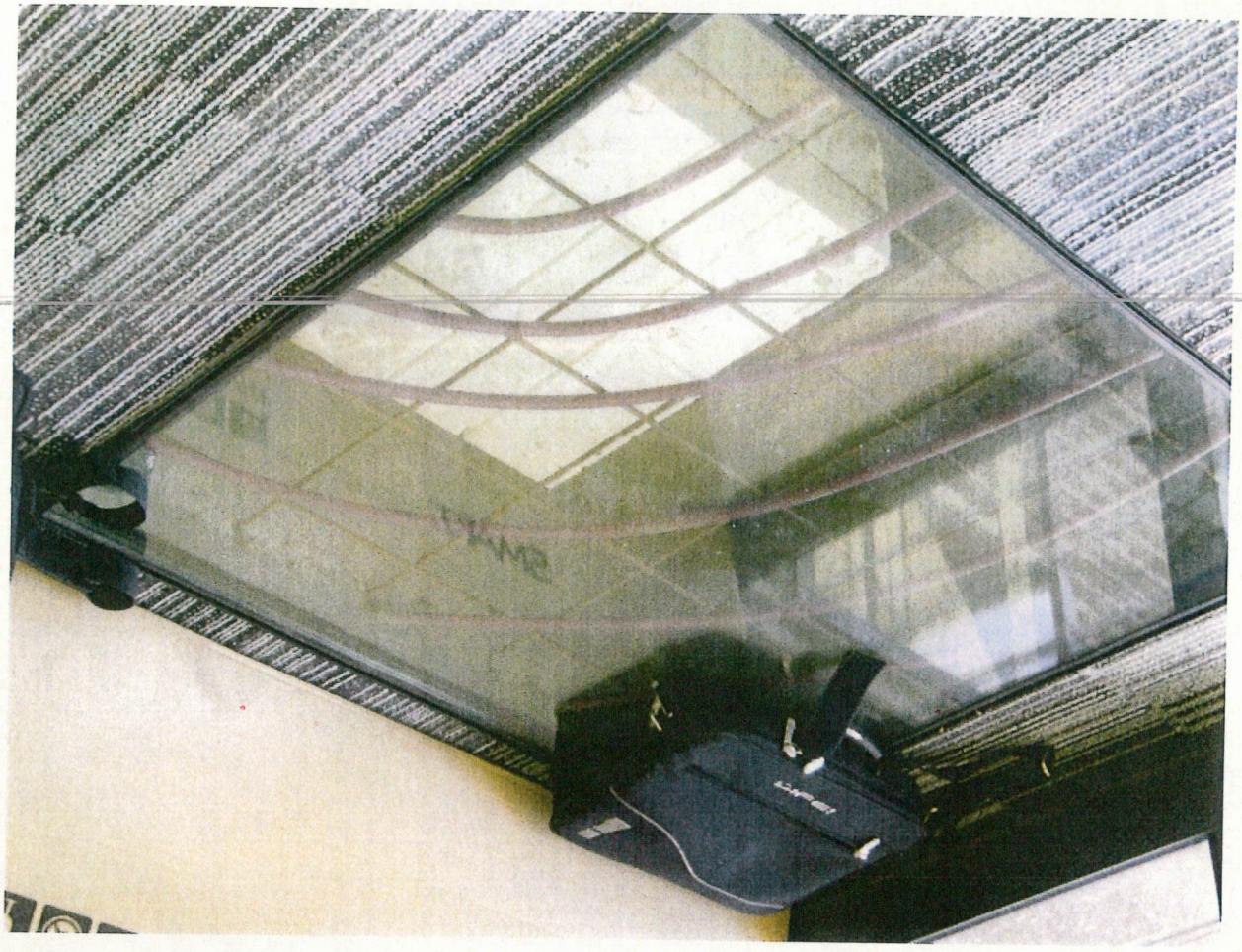
Centroc Meeting

The annual Centroc Meeting was held at the Tafe Western Green Skills Trade Education Centre in Orange. Delegates from council areas of Orange, Bathurst, Dubbo, Cowra, Oberon, Lithgow, Cabonne and Blayney were treated to a fact finding tour of the GSTEC, before taking time to browse the training resource trailer.

Delegates witnessed first hand, how Tafe Western were able to use sustainable building products, water saving devices and innovative ideas in the construction of the GSTEC building, and how the Green Skills on the Road Trailer complements their Sustainability Awareness Program.





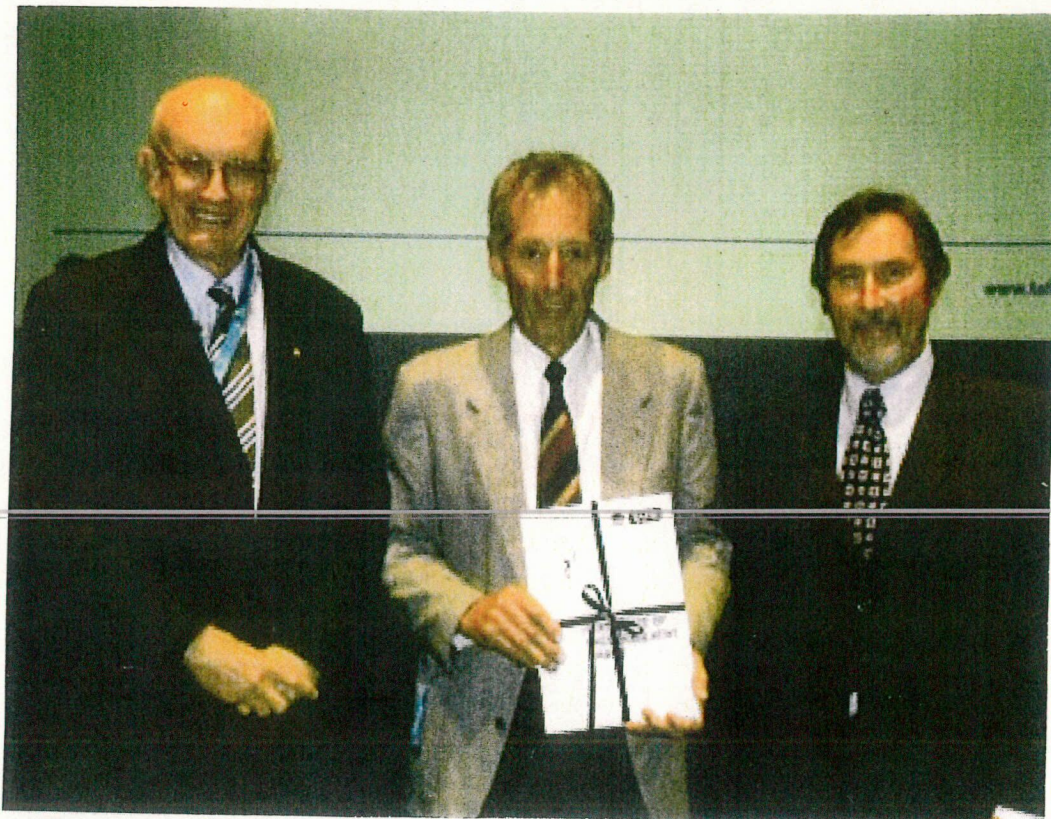




TAFE NSW Quality Awards

The TAFE NSW Quality Awards were held at Mt Panorama, with the awards presentation staged at the Bathurst Memorial Entertainment Centre. Along with projects from statewide TAFE Institutes, the Green Skills on the Road trailer displayed information and products and showed why TAFE Western is leading the way in Sustainability Awareness programs. Seventy two delegates to the awards received information packages from the trailer with many more electing to admire only. Over 500 delegates, teachers and students came from as far away as Coffs Harbour, Sydney, Canberra, Riverina, Newcastle, Far North Coast and the Blue Mountains areas, as well as throughout the Western Institute area.

The presentation of awards that evening saw the Green Skills on the Road project receive a Certificate of Encouragement for Green Skills Innovation.



GREEN SKILLS ON THE ROAD



ABOUT THE GREEN SKILLS ON THE ROAD PROJECT

TAFE Western is committed to playing a leadership role in supporting the skills and knowledge development of the communities of western NSW about sustainability and Green Skills.

The Green Skills on the Road mobile learning resource will be conducting a number of community and industry awareness raising workshops / displays in 2010/2011.

The Green Skills on the Road learning resource will contain the following:

- Displays of sustainable building materials
- Displays of water efficient products
- Displays of renewable energy products
- Information brochures
- Interactive computer activities
- DVD presentations

Our Green Skills On The Road mobile learning resource will be conducting awareness raising workshops and displays for schools, apprentices, tradespeople and the general community.

To book a workshop or display phone **6391 4000** or email sandra.gray@tafensw.edu.au

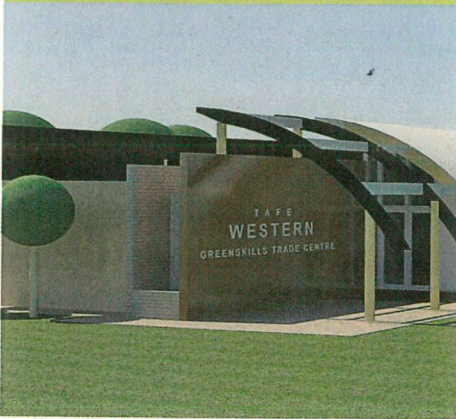
To view the Green Skills on the Road Calender go to www.wit.tafensw.edu.au

TAFE Western would like to acknowledge the support of the NSW Environmental Trust

GREEN SKILLS

The following list is provided for information purposes only. TAFE Western does not endorse specific products or services. The following websites may be useful when seeking information regarding sustainable products or services available in this region.

MANAGING YOUR CARBON FOOTPRINT



It is possible for households and business to make effective changes to reduce your carbon footprint. One of the first steps is to calculate how much water and energy you use either by using an independent assessor or by using some of the online calculators that are available.

useful websites for more information:

Good Environmental Choice

Independent assessment of environmentally sensitive products.
www.geca.org.au/

Carbon Offsets Watch

An independent review of and guide to carbon offset programs available in Australia.
www.carbonoffsetwatch.org.au/

Energy Rating

A free site to assist you to select products with the best energy rating.
www.energyrating.gov.au/appsearch/

Energy Star

Energy Star is an international standard for energy efficient office equipment including computers, printers and photocopiers as well as home electronics like TVs, VCRs, audio products or DVD players.
www.energystar.gov.au

Energy Rating

Explains the energy star rating label program for electrical appliances and includes a database of appliances and their energy ratings. You can also search for the most energy efficient products in their class.
www.energyrating.gov.au

Switchwise

A free service offering comparisons between gas and electricity suppliers including Green Power options.
www.switchwise.com.au/

Green Power

Green Power is a nationally accredited scheme whereby householders can purchase renewable energy from their energy retailers.
www.greenpower.com.au

Ecohouse Footprint

Quiz to check your eco footprint.
www.ecohousefootprint.com/Ecological-Footprint-Calculators/

Windows Energy Rating Scheme

This website provides unbiased information on the benefits of energy-efficient windows, window films, skylights and window-furnishing & shading products
www.wers.net

Country Energy

Handy energy and water calculator to help get an indication of areas in which you could be using your energy more wisely.
www.countryenergy.com.au/content/energyanswers-calculator

Country Energy

Product allowing business and residential customers to opt for GreenPower as part of the Country Energy service.
www.countryenergy.com.au/content/countrygreen

Energy Smart

The latest news and articles on renewable energy systems.
www.energysmart.com.au/

Your Home Energy Efficient Lighting

Energy saving calculator.
www.yourhome.gov.au/tools/lighting.html

NABERS

The National Australian Built Environment Rating System – is a national initiative managed by the NSW Department of Environment, Climate Change and Water.
www.nabers.com.au/

GreenPass Australia Pty Ltd

A simple and easy to use tool to enable you to determine your carbon footprint.
www.greenpass.com.au/content/learnmore/calcs.html

Green Homes Australia

The home of the Step-by-Step to Building Green Downloadable Guide, the Building Green Checklist, Green Builders Directory, Green Products and much more to help turn your life green.
www.greenhomesaustralia.com.au/

BASIX

Introduced as part of the NSW planning system, BASIX (the Building Sustainability Index), is a web-based planning tool that measures the potential performance of new residential dwellings against sustainability indices.
www.basix.nsw.gov.au/information/about.jsp

Philips Dynalite Smart Home

Smart home integrates lighting, security, heating, ventilation, air conditioning etc to give you simple, complete control.
www.philipsdimension.com.au/the-smart-home/

Be Green

Comprehensive portal for environmental products, services, educational resources and more.
www.begreen.com.au

REBATES AND FINANCIAL INCENTIVES



There are an extensive range of rebates and incentives available from the Australian, State or local governments that can reduce the costs of introducing renewable energy, insulation and water efficient strategies to your home or business.

Australian Building Greenhouse Rating Scheme

The Australian Building Greenhouse Rating (ABGR) Scheme is a 'world first initiative' to help commercial building owners and tenants across Australia benchmark their greenhouse performance.
www.abgr.com.au

Green Star

Developed by the Green Building Council of Australia, Green Star is a comprehensive sustainability assessment of existing and proposed commercial buildings.
www.gbca.org.au

Financial Incentives

Federal Department of Climate Change and Energy Efficiency.

Programs and initiatives to support householders, industry and the community to save energy and reduce emissions.
www.climatechange.gov.au/government/programs-and-rebates.aspx

Federal Department of the Environment, Water, Heritage and the Arts

Energy and water efficiency rebates.
www.environment.gov.au/rebates/index.html

Federal Government

Rebates and assistance are provided by the Australian Government and most state and territory governments.
<http://www.livinggreener.gov.au/rebates-assistance>

NSW Department of Environment and Climate Change: Residential Rebates

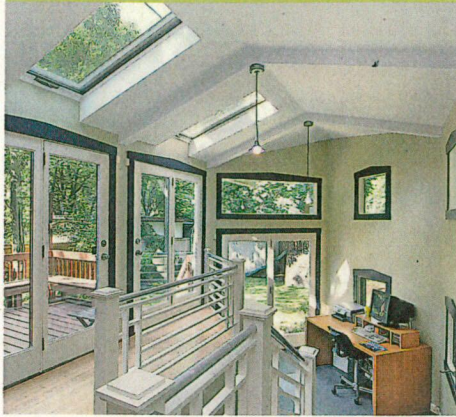
www.environment.nsw.gov.au/rebates/index.htm

For information about rebates available through local government see your local council website.

i need
up-to-date
information

The following list is provided for information purposes only. TAFE Western does not endorse specific products or services. The following websites may be useful when seeking information regarding sustainable products or services available in this region.

SUSTAINABLE BUILDING DESIGNS



The use of sustainable building design can make a major difference to the energy and water usage of your construction. Important strategies to consider are: site orientation, glazing, sustainable materials, energy efficient heating and cooling, natural lighting and ventilation.

useful websites for more information:

Selector.com

Developed in partnership with the Royal Australian Institute of Architects, this website presents detailed product information for thousands of building products in an easy-to-read, standardised format. www.selector.com.au

Ecospecifier

Knowledge base of over 1,000 environmentally preferable products, materials and resources. www.ecospecifier.org

Outdoor design source

Comprehensive external works directory of products and services. www.outdoordesign.com.au

Spec-Net Building Index

Online Building & Construction Directory with information about building, construction, engineering products and services. www.spec-net.com.au

Infolink

Contains information on Australian architecture, building, construction and design: www.infolink.com.au

Energy Smart Allies

Directory of over 270 organisations that can provide energy efficient products and services, from air conditioning and lighting specialists to engineering consultants and architects. www.energysmartallies.com

Australia Home Ideas Centres

Free entry to permanent exhibitions of products for building, extending, renovating, decorating, landscaping, architecture and interior design. Located in all States of Australia (and NZ) and offer many services, and offer large onsite displays of building products and provide other services including conference facilities and expert advice on timber use. www.homeideas.com.au

Home Builders Australia

Suggestions for eco friendly building practices. www.homebuildersaustralia.com.au/eco-building.html

The Building Centre

The Building Centre offers online access to information for building products, ideas, information, books and free brochures to help with your building, renovation, extension, home improvement or real estate needs. www.buildingcentre.com

Sydney Building Bookshop

Based at the Home Ideas Centre in Alexandria (Sydney) the Sydney Building Bookshop carries a large range of books related to sustainable building. ABSA members are entitled to a 10% discount when purchasing books over the counter. www.buildingbookshop.com

HIA Greensmart

The Housing Industry Association's GreenSmart Display Villages and estates, across Australia, give people the chance to view environmentally friendly homes. www.greensmart.com.au

MyLook Home Green Design

Newsletters, reports, tips and TV for green homes. www.lookhome.com.au/

econstruct Australia

Eco building affordable sustainable project homes. www.e-construct.com.au/econstruct/Econstruct_Sustainable_Buildings.html

Orange City Council Environmental Learning Facility

www.orange.nsw.gov.au/site/index.cfm?display=147099



SUSTAINABLE BUILDING MATERIALS

There are many different building materials to consider, when planning your construction, that will assist to build a more sustainable dwelling.

These materials include: use of recycled materials, energy efficient building products such as mud bricks, rammed earth, straw bale construction, Hebel, Thermwall, Benex Blocks and Reverse Brick Veneer.

useful websites for more information:

Rammed Earth

Information about rammed earth construction practices. www.rammedearth.davis.net.au/

Rammed Earth by Design

Energy efficient rammed earth homes. www.rammedearthbydesign.com/Homes_Built.html

Reducing the Footprint

Designing and building a sustainable, energy efficient house. www.reducingthefootprint.com/

Mud Bricks

www.lightearthbricks.com.au/
www.makeitmudbricks.com.au/

Paint

www.infolink.com.au/z/Coatings-Paints
www.bioproducts.com.au/
www.thenaturalpaintplace.com.au/setup.htm
www.house-paint.com.au/
www.architectureanddesign.com.au/Uploads/PressReleases/infoday/media/757.pdf

Straw Bales

www.ausbale.org/fusion/news.php

Solar panels

www.neco.com.au/index.php/solar-power/
www.neco.com.au/index.php/solar-hot-water/
www.stratco.com.au/services/solar/solar.asp
www.energymatters.com.au/solar-panels-suntech-c-148_173.html
www.solarquotes.com.au/indexNSW.html
www.enviro-friendly.com/solar-panels.shtml
www.solahart.com.au/about-solahart/why-choose-a-solahart.aspx?gclid=CM6t_J2-pqCFQTDbwodbCf4QQ
www.hotwater.modernsolar.com.au/default.aspx?Ad=2262-eeYYvFUsPq&gclid=www.phifer.com/

Solar screens

<http://www.markiluxawnings.com/>
<http://www.youtube.com/watch?v=NVyO-019ahQ>
<http://www.solar-screen.com/>
<http://www.rpc.com.au/products/panels/pvmodules/pvmodules.html>
<http://www.solazone.com.au/PVpanels.htm>
<http://www.originenergy.com.au/2029/Photovoltaic-cells>

Steel

<http://coolmax.colorbond.com/>

Wall products

<http://www.hebelaustralia.com.au/>
<http://www.thermawallplus.com.au/>
<http://www.benexblock.com.au/>
<http://www.austech.com.au/Home.aspx>
http://www.boral.com.au/claybricks/brickInsights/energy_efficiency.asp
<http://www.enviroboard.com/>

i need
relevant training

GREEN SKILLS

The following list is provided for information purposes only. TAFE Western does not endorse specific products or services. The following websites may be useful when seeking information regarding sustainable products or services available in this region.

RENEWABLE ENERGY



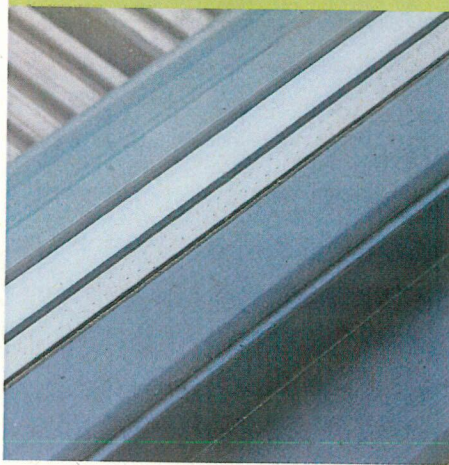
As energy costs are rising it is important that more renewable energy resources are utilised by households and business. Renewable energy systems such as Solar and Wind are becoming more common.

useful websites for more information:

Renewable Energy

www.energymatters.com.au/
wind power and solar energy products and services
www.centralwestsolar.com.au/
www.enviro-friendly.com/default.shtml
www.countryenergy.com.au/
www.ingenero.com.au/
www.squidoo.com/wind-generators-for-home
www.yourhome.gov.au/technical/fs68.html
www.smartnow.com.au/index.html
www.efergy.com/
www.greenfinder.com.au/eco/Solar-Hot-Water
www.neco.com.au/index.php/fuel-cell/

GLAZING



Windows are a key element in sustainable building design. Issues to be considered are positioning, size and heat loss. There are many new glazing designs and products that can make your building more efficient these include double glazing, low e-glass.

useful websites for more information:

Windows, Glazing and Solar Screens

www.seebeyondwindows.com.au/home/
www.solar-screen.com/
<http://tristate.apogee.net/res/rewsols.asp>
www.supershades.com.au/blinds.html
www.sustainability.vic.gov.au/resources/documents/Window_protection.pdf
www.sunbloxsolarscreens.com/
www.magnetite.com.au/
www.energywisewindows.com.au/
www.winsulation.com/home.htm
www.thermalheart.co.nz/page/5-Home
www.vantagealuminium.com.au/fabricat/taberner.html

ELECTRICAL AND LIGHTING

www.ecosmartelectricians.com.au/starter-kit/a00_01.html
[www.saveenergy.vic.gov.au/common/files/Fast_Facts_on_Energy_Efficient_Lighting_\(PDF_532KB\).pdf](http://www.saveenergy.vic.gov.au/common/files/Fast_Facts_on_Energy_Efficient_Lighting_(PDF_532KB).pdf)
NSW government website
www.yourhome.gov.au/tools/lighting.html
www.todae.com.au/LEDLighting/LEDLighting
www.tigerlight.com.au
www.overship.com.au/energy_saving_light_bulb_sale/bayonet_light_globes
www.beaconlighting.com.au/energy_globes.php
lightingpro.com.au/catalog/energy_saving_lamps.php
www.skydome.com.au/images/energy_efficiency.pdf
www.skydome.com.au/
www.solatube.com.au/homeowner/solatube_tv.php
www.regentskylights.com.au/
www.neco.com.au/index.php/led-lighting/

HEATING AND COOLING



Selecting the right heating and cooling system for your home or business can make a major difference to your energy costs. New systems such as hydronic water heating, natural gas and the new types of reverse cycle systems are now available.

useful websites for more information:

Air Conditioners / Cooling / Heating

www.greenfinder.com.au/eco/Green-Heating
www.coolerado.com/
www.mullerindustries.com.au/home/3C_cooler.shtml
www.vergolansw.com.au/trade.html
www.cbus-enabled.com/default.html
www.air-change.com/
www.ecosmartfire.com/en/home
www.infolink.com.au/c/EcoSmart-Fire/EcoSmart-Fire-eco-friendly-heating-systems-available-n746842
www.infolink.com.au/c/Comfort-Heat-Australia/Floor-Heating-Systems-Warmth-from-The-Floor-Up-from-Comfort-Heat-p14741
www.ambiencecofires.com.au/
www.rinnai.com.au/index.php?option=com_products&Itemid=36
www.elgas.com.au/appliances
www.rehau.com.sg/construction/building.technology/heating.and.cooling/underfloor.heating.and.cooling.shtml
www.infolink.com.au/c/REHAU/REHAU-supplies-Geothermal-Technology-for-heating-cooling-and-ventilation-in-New-n784210
www.envirop Plumbers.com.au
www.geoexchange.com.au/
www.ecorate.com/products/150/heating
www.directenergy.com.au/

TAFE WESTERN

The following list is provided for information purposes only. TAFE Western does not endorse specific products or services. The following websites may be useful when seeking information regarding sustainable products or services available in this region.

INSULATION

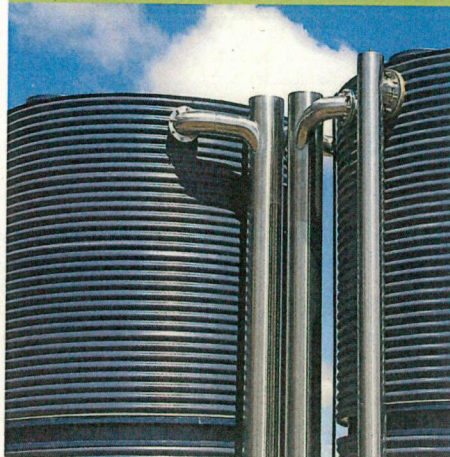


Installing insulation can reduce your energy consumption and improve the heating and cooling efficiency of your building by up to 30%. There is an extensive range of products available including: wool insulation, foil, polystyrene, ceiling and wall batts, foil blankets.

useful websites for more information:

www.insulation.com.au/
www.bradfordinsulation.com.au/home.aspx
www.icanz.org.au/
www.higginsinsulation.com.au
www.foilboard.com.au/docs/Foilboard%20Tech%20Brochure%208pg.pdf
www.onestoproofing.com.au/pdfs/insulation/envirseal_roof/eSealBrochure.pdf
www.neco.com.au/index.php/insulation-page/

WATER EFFICIENCY



Water saving is becoming more and more critical and there are a range of strategies that can be implemented by households and business.

Strategies include: water tanks, dual flush toilets, grey water systems, water efficient taps and shower heads, low water garden plants and designs, use of garden mulches.

useful websites or more information:

Bathroom and Kitchen / Taps

www.caroma.com.au/
www.ecologicalsolutions.com/
www.reece.com.au/sustainability
www.thornthwaite.com.au/about-us.aspx

Water Tanks

www.tankworld.com.au
www.clark_tanks.com.au
www.bushmantanks.com.au
www.stratco.com.au/products/rainwater_tanks/rainwater_tanks.asp
www.enviro-friendly.com/default.shtml
www.neco.com.au/index.php/water-conservation/

SUSTAINABLE WASTE STRATEGIES

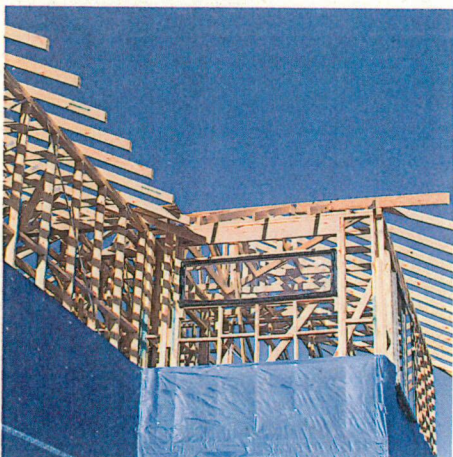


Managing the waste for your household and business can make a major contribution to reduction in land fill. Strategies such as reduction in consumption, recycling, composting, use of natural cleaning products can easily be introduced by everyone.

useful websites or more information:

Waste Management and Water Treatment

www.gardenmaster.com.au/
www.greywater.com.au/greywater.html
www.enviro-friendly.com/eco-care-grey-water.shtml
aussan.com.au/?gclid=CM3599G1pqlCFQQmbwodHWMGRw
www.nubian.com.au/
www.ecoflo.net.au/index.html
www.biocyclejowagroup.com.au/
www.nature-loo.com.au/
www.abc.net.au/gardening/stories/s855732.htm
www.bokashi.com.au/
www.cleanup.org.au/au/LivingGreener/composting.html
www.environment.nsw.gov.au/downtoearth/composting.htm
www.kizanworms.com/index.htm
www.tumbleweed.com.au/
www.getprice.com.au/buy-best-biocyte.htm



ORGANIC CLEANING PRODUCTS

useful websites or more information:

Organic Cleaning Products

www.aussan.com.au/Cosmetic/CosmeticMain.html
www.recyclingnearyou.com.au/documents/2005125_natclean_eng.pdf
www.naturalcleaningproducts.com.au/
www.envirochemicals.com.au/enviro/
www.cheap-and-easy-recipes.com/hints-tips-green-cleaning.htm
www.pioneerthinking.com/homecleaning1.html

OTHER USEFUL INFORMATION SITES

The following list is provided for information purposes only. TAFE Western does not endorse specific products or services. The following websites may be useful when seeking information regarding sustainable products or services available in this region.

Regulations and Standards

Australian Building Codes Board

The ABCB is responsible for developing and managing a nationally uniform approach to technical building requirements, embodied in the Building Code of Australia (BCA).
www.abcb.gov.au

Australian Standards

Through this web store you can buy all Australian, ISO and IEC Standards, plus a range of publications from other national and international organisations.
www.standards.com.au

Government Departments

State Government

NSW Department of Energy, Utilities and Sustainability
DEUS promote the sustainable, safe, reliable and affordable supply and use of energy and urban water in NSW.
www.deus.nsw.gov.au

NSW Department of Environment, Climate Change and Water (DECCW)

The Department is one of the agencies that form the new Environment, Climate Change and Water super agency cluster, along with Sydney Catchment Authority, Zoological Parks Board, Royal Botanic Gardens, Jenolan Caves Reserve Trust & Lord Howe Island Board and the Catchment Management Authorities which are separate statutory authorities.
www.environment.nsw.gov.au/aboutdecc.htm

Commonwealth Government

Office of the Renewable Energy Regulator (ORER)
Features information on Renewable Energy Certificates for solar hot water systems and solar power systems.
www.orer.gov.au

Australian Greenhouse Office (AGO)

The AGO is a Commonwealth Government agency established in 1998 to reduce Australia's greenhouse gas emissions.
www.greenhouse.gov.au

Environment Protection and Heritage Council (EPHC)

The EPHC is responsible for environment protection and heritage (natural, historic and indigenous heritage). Council members are ministers from participating jurisdictions – Commonwealth, State and Territory governments, as well as the NZ and PNG governments.
www.ephc.gov.au

Department of Environment and Heritage (DEH)

DEH develops and implements national policy, programs and legislation to protect and conserve Australia's natural environment and cultural heritage.
www.deh.gov.au

Department of Climate Change and Energy Efficiency

Established 8 March 2010, information on government initiatives to address climate change.
<http://www.climatechange.gov.au/>

Department of the Environment, Water, Heritage and the Arts

Developing and implementing national policy, programs and legislation to protect and conserve Australia's environment and heritage and to promote Australian arts and culture. www.environment.gov.au/

Industry Groups / Associations

Association of Building Sustainability Assessors

A not-for-profit incorporated association representing building and design professionals who specialise in assessing the environmental impact of buildings.
www.absa.net.au/about.aspx

Housing Industry Association (HIA)

Information on the latest developments in the housing industry.
www.hia.asn.au

Building Designers Association of Australia

The Building Designers Association of Australia is the peak coordinating body for Building Designers Associations in Australia. BDA members can produce the design for your residential, commercial or industrial project.
www.bdaa.com.au

State Building Designers Associations

Northern Territory: www.bdant.com
NSW: www.bdansw.com.au
Queensland: www.bdaq.com.au
Tasmania: www.bdat.com.au
South Australia: www.bdasa.com.au
Victoria: www.bdav.org.au
Western Australia: www.bdawa.com.au

Royal Australian Institute of Architects

By promoting better, responsible and environmental design, the Institute actively lobbies to maintain and improve the quality of our built environment.
www.architecture.com.au

Master Builders Australia

Master Builders is the major Australian building and construction industry association.
www.masterbuilders.com.au

State / Regional Master Builders Association

ACT: www.mba.org.au
Newcastle: www.newcastle-mba.com.au
NSW: www.mbansw.asn.au
Northern Territory: www.tcant.com.au
Queensland: www.masterbuilders.asn.au
South Australia: www.mbasaa.com.au
Tasmania: www.mbatas.org.au
Victoria: www.mbav.com.au
Western Australia: www.mbawa.com

Planning Institute Australia

Information on planning to create livable communities.
www.planning.org.au

Urban Development Institute of Australia (UDIA)

The UDIA has an important national voice in development matters, particularly in relation to initiatives for homebuyers, urban developers, professionals and others involved in property development.
www.udia.com.au

Archicentre

Provides architectural services to home buyers, new home builders and renovators, with more than 900 architects Australia-wide available in almost every suburb and region.
www.archicentre.com.au

Institute for Sustainable Futures

The Institute for Sustainable Futures (ISF) was established by the University of Technology, Sydney in 1996 to work with industry, government and the community to develop sustainable futures.
www.isf.uts.edu.au

Green Plumbers

GreenPlumbers® is an innovative initiative developed by the Master Plumbers and Mechanical Services Association of Australia (MPMSAA). A series of workshops have been designed to enhance plumbers skills and knowledge about the environmental considerations of their work.
www.greenplumbers.com.au/index.php

Interesting Links

Ecodirectory

Australia's online guide to green
www.ecodirectory.com.au

Greenlivingpedia

a free resource for sharing information on green living, now and for the future.
www.greenlivingpedia.org/Greenlivingpedia

Greenfinder

Australia's most comprehensive Green Business Directory, showcasing Australian Green businesses and the eco products and services they provide.
www.greenfinder.com.au/

National Energy Directory

Information on building products, energy savings tips, rebates.
www.nationalenergy.com.au

Green Building Council of Australia

Information about green building practices.
www.gbca.org.au/

Your Home

Resources for sustainable building and renovations including rainwater, solar panels and building material use.
www.yourhome.gov.au/

Your Development

Resources for sustainable urban residential developments.
www.yourdevelopment.org/

Netwaste

Collaborative approaches to regional resource management and general information on waste management including e-waste.
www.netwaste.org.au/

Clean Energy Council of Australia

Information about renewable and alternative energy and lists of accredited installers.
www.cleanenergycouncil.org.au/

The Green Directory

Environmental Services and Products Directory.
www.thegreendirectory.com.au/
www.environment.gov.au/sustainability/energyefficiency/index.html Energy efficiency programs

Federal Department of Climate Change

Information for households, community and industry on adapting to climate change and reducing overall impact.
www.climatechange.gov.au/

Central West Catchment Management Authority

Landholder incentives for creek restoration, and vegetation protection and management.
www.cw.cma.nsw.gov.au/cwma_incentives.htm

Save Power NSW

Useful information on cutting your power and energy bills and reducing your greenhouse gas emissions
www.savepower.nsw.gov.au/

Australian Government Green Living Guide

www.livinggreener.gov.au/rebates-assistance

Choice online magazine

<http://search.choice.com.au/search?w=Sustainable%20building>

Search sustainable building

<http://www.environment.gov.au/greenloans/households/apply.html>

Find out about the Free Households Assessments and Green Loans

Expos – 2010

www.designbuildexpo.com.au/

GreenPower

Accredited Renewable Energy
www.greenpower.gov.au/accredited-products.aspx

NSW Government Water4Life

www.waterforlife.nsw.gov.au/recycling/residential

Education program and information

NSW Government Eco Living

www.nsw.gov.au/news/eco-living-display-homes

Eco living display homes

www.thegreendirectory.com.au

One Earth

For locating genuine green business, products and services.
www.oneearthoutlet.com.au/Home/

Recycling Near You – Planet Ark

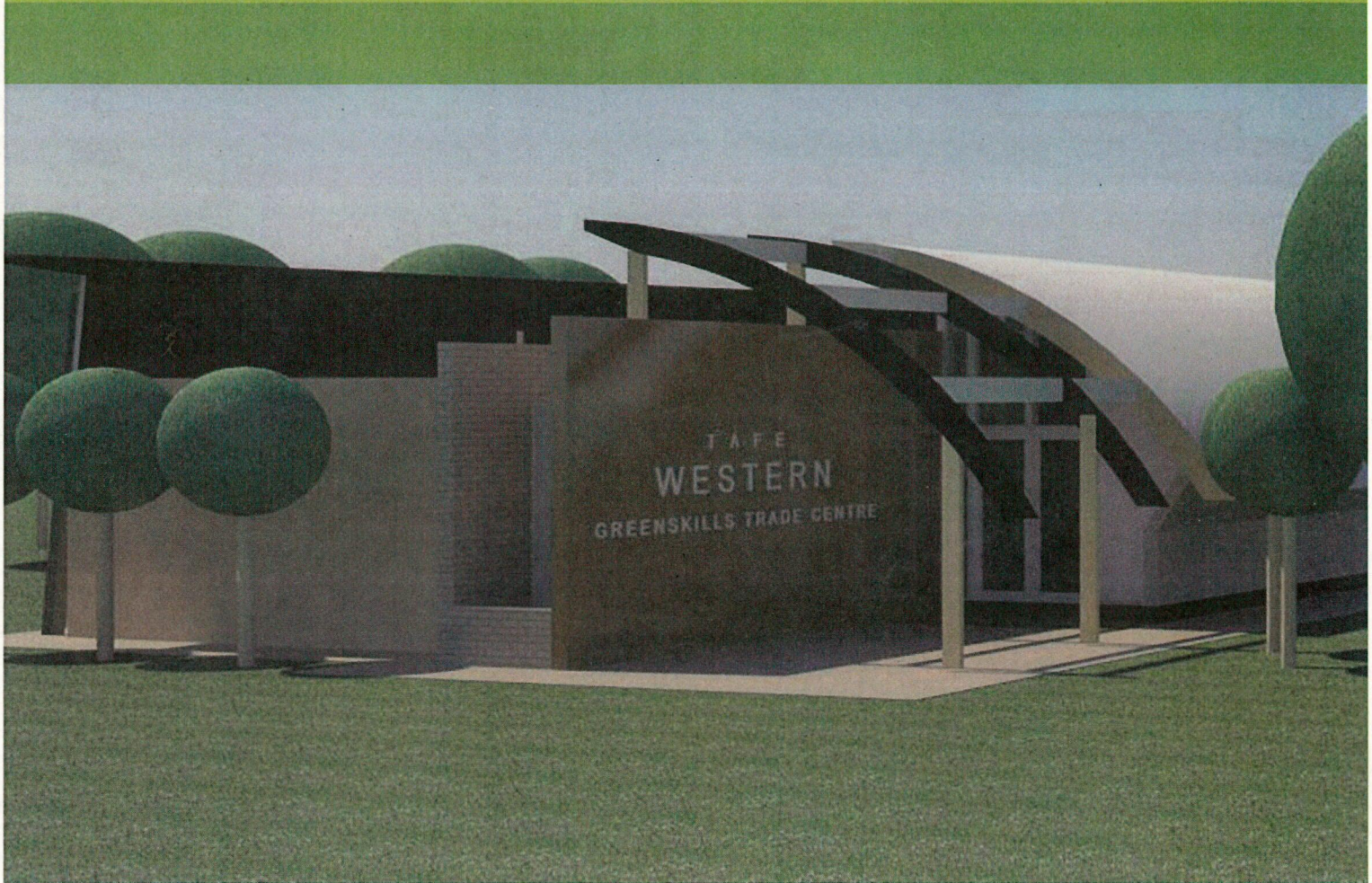
Search for information about the recycling and waste services offered by your council.

www.recyclingnearyou.com.au/

WNS Environmental Solutions

WSN Environmental Solutions provides reliable and responsible recycling, resource recovery and solid waste processing and disposal services to councils, commercial and industrial customers, small businesses and households.
www.wsn.com.au/

GREEN SKILLS TRADE EDUCATION CENTRE



Funding provided by:

- The Commonwealth Government – Training Infrastructure for Tomorrow Program
- NSW Department of Environment, Climate Change and Water – Public Facilities Program

OUR COMMITMENT TO GREEN SKILLS

According to its Strategic Directions 2009-2012, "TAFE NSW Western Institute is committed to fostering social and economic development by providing innovative and relevant training aligned to job opportunities and community needs."

In meeting this mission the Institute services an area covering more than half of New South Wales, taking in the Central West, North Western and Far West regions, including some of the most isolated and remote communities in Australia.

TAFE Western is a Registered Training Organisation (RTO) which manages 24 Colleges and more than 34,000 student enrolments each year. More than 500 courses are offered and a flexible approach to delivery incorporates recognition for prior learning, online and distance learning, workplace delivery and assessment.

TAFE Western focuses on the important geographic, economic and social attributes of western NSW and is achieving real employment outcomes for a changing and diverse community, supporting economic development and ensuring all segments of the community have the opportunity to participate in education and training.

To ensure TAFE Western is meeting the emerging needs of our communities we are developing an increasing focus on Green Skills training. Green Skills training will play an integral part in new skills development needed by employers, our students and communities. To ensure TAFE Western is playing a leadership role a new Green Skills Trade Education Centre is being constructed in Orange.



TAFE WESTERN'S SUSTAINABILITY INITIATIVES

TAFE Western's approach to environmental sustainability is working at three levels;

Initiatives to reduce the footprint of the Institute

Specific training in Greens Skills, and environmentally sustainable practices

Increasing the awareness of environmental sustainability issues throughout the community

TAFE Western is committed to reducing its expenditure on utilities such as water, gas and electricity and encourages other initiatives that reduce resource usage, undertake better recycling processes for not just paper but e-waste, green waste, metals and plastics and of course reduce fuel consumption through owning a greener fleet and spending less time on the road.

ABOUT THE GREEN SKILLS TRADE EDUCATION CENTRE

The Green Skills Trade Education Centre (GSTEC) will be a purpose built Green Star Accredited educational facility focusing on the delivery of training in renewable energies, electrical engineering, water efficiencies and low energy building design.

The centre will be a leader in the use of passive solar design, low energy building materials and renewable energy and water efficient systems in an educational centre. The Centre will provide access to current technologies and increased skills development for apprentices, tradespeople, school students, industry and the general community.

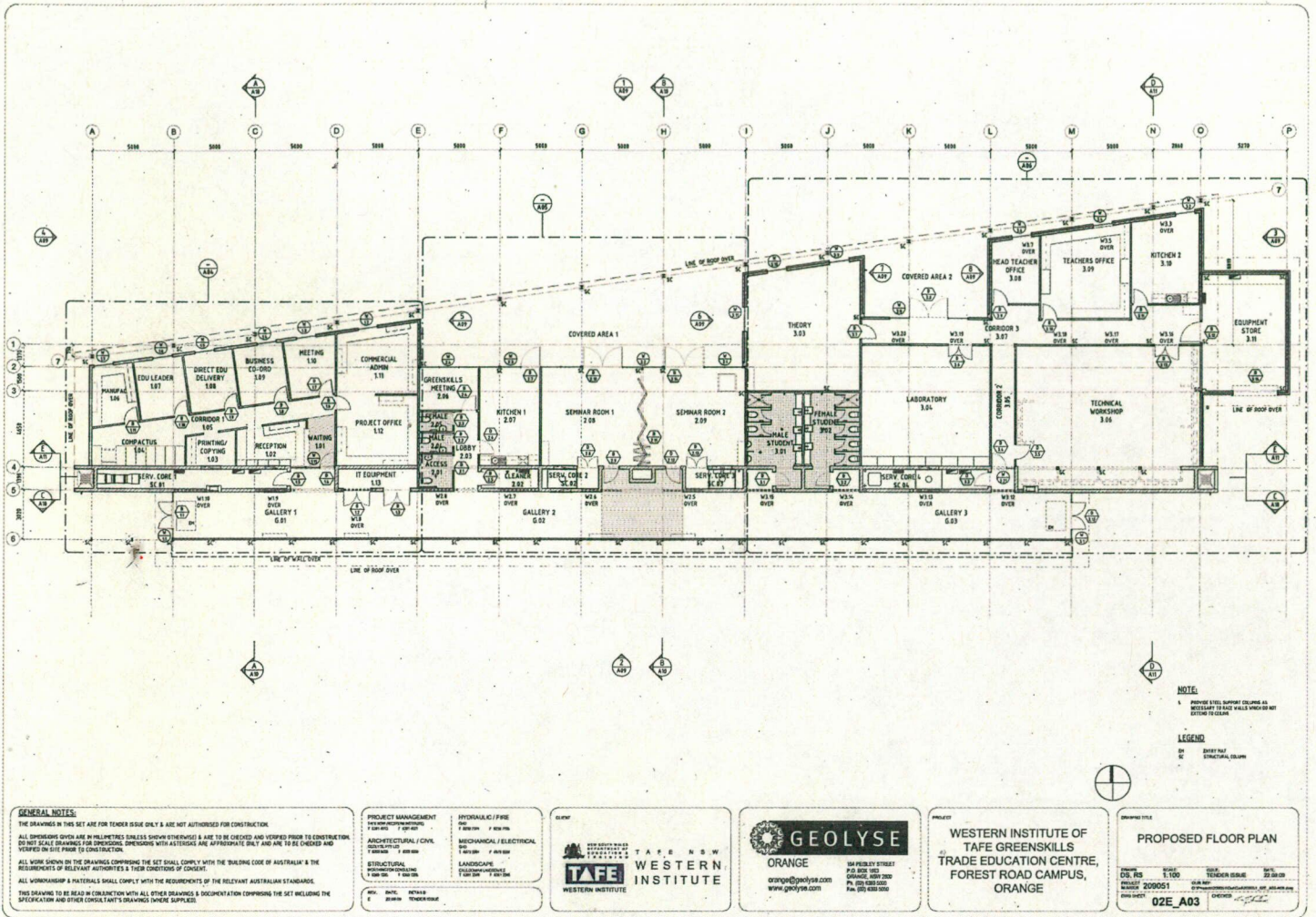
The Green Skills Trade Education Centre will have the following features:

The building has been designed by our project partner Geolyse with extensive Ecologically Sustainable Design (ESD) and environmentally friendly systems and materials to ensure the sustainability of the project but more importantly provides the user with a comfortable and exciting experience.

Utilisation of several passive systems to provide heating and cooling and ventilation have been incorporated together with the expansive northern elevation which will allow solar passive heating and natural light to the majority of the building.

The project will have extensive educational benefits both through the construction phase as TAFE Western pre-apprenticeship construction students will be playing an active role working collaboratively with our building partner Bathurst based Hines Construction.



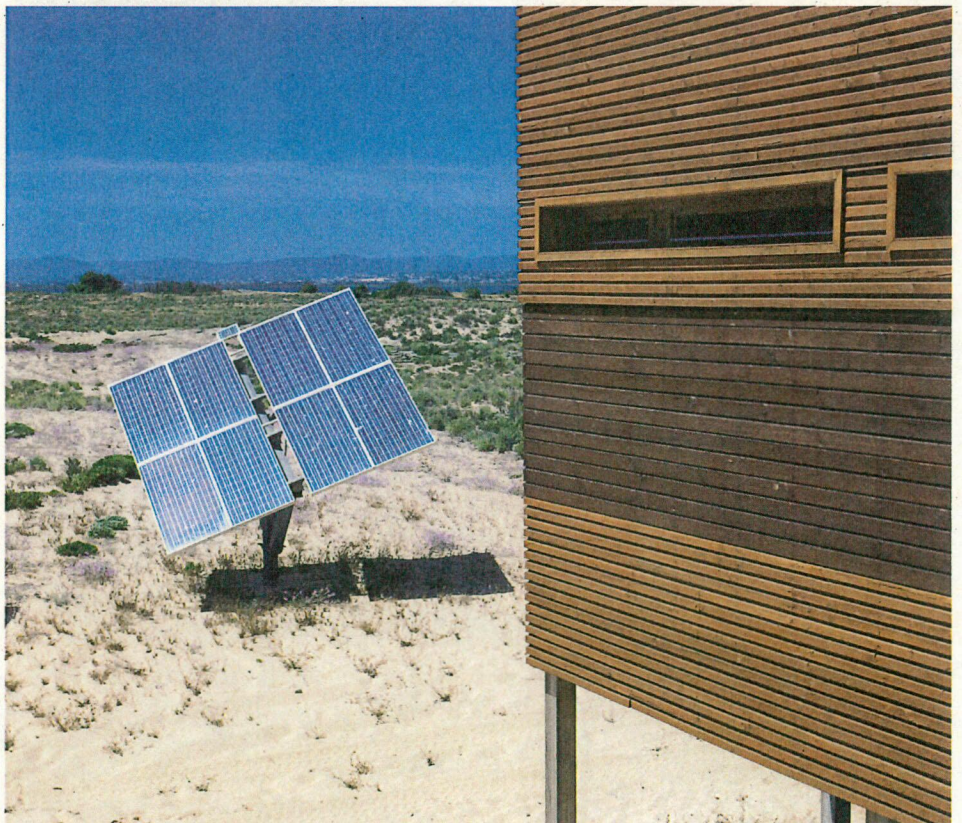


WHAT BENEFITS WILL THE GREEN SKILLS TRADE EDUCATION CENTRE PROVIDE TO WESTERN NSW?

The Green Skills Trade Education Centre will ensure TAFE Western is able to provide industry relevant Green Skills training and will incorporate a new electrotechnology training facility with a focus on renewable energy technologies.

Courses will include:

- Certificate III Electrotechnology Electrician
- Grid Connect Photovoltaic Courses to gain industry accreditation as an installer of PV
- Diploma in Electrical Engineering
- Sustainable Building Design and materials
- Industry showcases of green building materials and techniques
- Water Efficiencies



ABOUT OUR PROJECT PARTNERS

TAFE Western is pleased to be partnering with local organisations to construct the first Green Star Accredited Educational facility in western NSW – The Green Skills Trade Education Centre.

GEOLYSE

Geolyse is a progressive, value-based company with offices located in Orange and Dubbo, New South Wales, who aim to ensure clients are provided with a team of the most highly skilled professionals, providing innovative solutions, socially responsible outcomes and quality service.

The Geolyse team of town planners, environmental consultants, architectural designers, civil and environmental engineers and surveyors are well known for innovation within their respective fields. This vast skills portfolio allows Geolyse to undertake projects regardless of complexity, scale or geographical location.

The Geolyse architectural team includes architects and designers who can provide a one stop service for educational, industrial, commercial or residential projects. Architectural Services provided by Geolyse include full project management – involving conceptual, sketch and detailed design, working drawings, contract administration and construction management. Further services offered include feasibility studies, master planning, design advice and project guidance.

Geolyse have a strong Environmentally Sustainable Design (ESD) ethic and can offer BASIX energy reports, Statements of Environmental Effects and can incorporate Green Star design philosophies into your project.

HINES CONSTRUCTION

Bathurst based Hines Construction specialise in construction management and the building of commercial and industrial projects including: residential and retail developments, educational and aged care facilities, sports complexes, office buildings, factories and warehouses, restoration and commercial refurbishments.

Hines Construction are supporting TAFE Western to achieve the first Green Star – Educational v1 design rating for a regional education facility in NSW.

CENTRAL WEST SOLAR

Orange based company Central West Solar, a BP Solar partner has played an important role in supporting TAFE Western to incorporate cutting edge solar technologies into the design of the Green Skills Trade Education Centre. Central West Solar will be providing ongoing support to TAFE Western to develop its new Renewable Energy Grid Connect training programs. Central

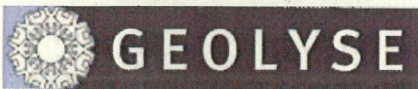
West Solar has recently gained BP Solar certified Installer status and demonstrates a commitment to ongoing training, superior product knowledge, combined with BP Solar quality and performance.

BENEXBLOCK

Bathurst based company BenexBlock has developed an alternative wall construction method that achieves significant results for designers, builders and developers. Its interlocking design and mix produce exceptional performance properties. BenexBlock recently was awarded the 2009 Australian Business Award for Best New Product and TAFE Western is pleased to be working with BenexBlock to increase the thermal properties of the Green Skills Trade Education Centre.

REHAU

TAFE Western has incorporated Rehau Heating and Cooling systems into the design of the Green Skills Trade Education Centre. These systems will link with the solar systems incorporated into the building design and will ensure the Centre provides low energy and sustainable heating and cooling options.



More Information

Green Skills Trade Education Centre
please contact 02 6391 4000
or email sandra.gray@tafensw.edu.au

