

Environmental Sustainability Report 2009

Produced by Environmental Services Property and Facilities Division The University of Queensland on behalf of the Sustainability Steering Committee



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FOCUS ON ENVIRONMENTAL SUSTAINABILITY



In 2009 the University of Queensland took crucial steps toward embedding sustainability into its teaching and research programs and operational activities. A key element was to establish a Sustainability Steering Committee that comprises senior University Executive with a clearly stated priority of carbon management.

This report gives an overview of the outcomes of our focus on environmental sustainability over the past 12 months.

Achievements include:

- UQ signed up to the Talloires Declaration for sustainability in higher education
- · Sustainability Steering Committee of senior University executives was established
- · A university-wide carbon strategy was developed
- The Global Change Institute was formed
- Purchase of 2.5% renewable energy continued
- Staff and student engagement at the Environment Day breakfast focused on carbon management
- Further emphasis on biodiversity added three St Lucia campus locations to the 'Land for Wildlife' program
- The installation of water tanks at the renovated Health Sciences building at Herston campus brought UQ's total rainwater storage capacity to 764,000 litres.
- The Green Office Program expanded to 80 representatives in 69 UQ Schools, Centres and Administrative units.

My thanks to the many UQ staff and students, as well as external stakeholders, for their continued commitment and contributions to environmental sustainability at UQ.

Jane 7 emograph

Professor Paul Greenfield AO Vice-Chancellor

SUSTAINABLE UQ



UQ Commitment

The University of Queensland recognises that it has an important role in addressing climate change and is committed to leading in environmental sustainability.

Signing of Talloires Declaration

As part of UQ's commitment to environmental sustainability, UQ is one of about 400 universities internationally to become a signatory to the Talloires Declaration for sustainability in higher education. This is a 10-point action plan (see Page 15) for incorporating sustainability and environmental literacy in teaching, research, operations and outreach at colleges and universities.

UQ signs Universitas 21 Sustainability Agreement

UQ signed the Universitas 21 sustainability statement in May 2009. Universitas 21 is an international network of 21 research-intensive universities in 14 countries. The state-



ment emphasises the important role universities play in facing the challenges of climate change, the decline of biodiversity, the need for energy, food and water security, economic sustainability and human health.

Global Change Institute

Global change encompasses the interactions of natural and human induced changes in the global environment and their implications for society. These changes are occurring at an unprecedented scale and speed.

In 2009 the Global Change Institute (GCI) was established to provide a vehicle for collaborative research, learning, engagement and advocacy in major global change issues as diverse as:

- climate change (carbon mitigation and adaptation)
- human population growth and shift
- resource consumption and security (i.e. food, energy, water and minerals)
- technological innovation
- stewardship of biodiversity and natural ecosystems.

The University of Queensland has demonstrated leadership in many of the issues associated with global change, and is well positioned to provide national and international leadership in these areas.

Focusing on high level engagement and partnerships internally within the University of Queensland and



externally, through national, regional and international partnerships, the GCI will harness the significant strengths at UQ through the facilitation of collaborative multi-disciplinary approaches to understanding and solving major global change issues and challenges.

The GCI will deliver high impact, synergistic research to provide workable solutions to global change issues. In doing so, it will lead the way for the University to engage in research in areas of national priority in a way that cannot be readily achieved in the context of the existing organisational structure.

The Institute will play an important role in raising awareness of global change issues and solutions. It will engage with all UQ staff and students, as well as key external stakeholders from government, institutions, business, industry and the community. It will play a key advocacy role in ensuring that global change issues are prominent in public debate and that research findings directly inform policy at each level of government.

Sustainable Steering Committee (SSC)

In 2009 the Sustainability Steering Committee of senior University executives, chaired by the Executive Director (Operations) was established to oversee the University's sustainability strategies. Initially the SSC is focused on implementing the University's carbon strategy.



UQ CARBON STRATEGY SETS DIRECTION



UQ's Carbon Strategy

In 2008, UQ started developing a Carbon Strategy. This included compiling a comprehensive inventory of UQ's greenhouse gas emissions and developing an overall plan for greenhouse gas emissions management across the University.

In 2009 the University concentrated on analysing its carbon footprint and implementing systems to meet our legislative obligations under the National Greenhouse and Energy Reporting Act.

Legal requirements

National Greenhouse and Energy Reporting Act (NGER)

In late 2009, UQ submitted its first report to the Federal Government

under the National Greenhouse and Energy Reporting scheme to comply with the University's statutory reporting obligations. Comprehensive monitoring of the University's greenhouse gas emissions is an ongoing requirement and UQ will submit a report to Government annually.

For the financial year 2008/09, the University emitted 122,293 tonnes of reportable carbon dioxide equivalent emissions including consumption of 509 GJ of energy. The graph below shows the breakdown.

Energy Efficiencies Opportunities Act (EEO)

In addition to the National Greenhouse and Energy Reporting Act, UQ triggered the Energy Efficiency Opportunities Program in 2008/09.

The University will be required to undertake comprehensive energy

assessments and report (publicly and to government) on energy saving opportunities identified in 2011.

This will involve developing and implementing business processes that assess, evaluate and implement energy management opportunities across all University campuses and sites.

Carbon offsets

UQ continued to purchase 2.5% of its energy from certified renewable energy sources in 2009.

Emissions produced by the University's fleet vehicles and plant were offset by the University's continued subscription to Greenfleet. Over the past year, Greenfleet planted 5764 native trees on behalf of the University and sequestered 1,544.53 tonnes of carbon dioxide equivalent.



NGER Reportable Emissions 2008/09

Scope 1 Emission Sources		
Gas	Natural gas consumption across UQ cam- puses and sites	
Fleet Vehicles and Plant Fuels	Gasoline, diesel and LPG used in the Univer- sity's fleet vehicles, plant and back-up power generators	
Pinjarra Hills Incinerator	LPG consumption to fuel and stack emissions released to atmosphere from the incinerator	
Gatton Sewage Treatment Plant	Methane and nitrous oxide emissions from the on-site wastewater treatment plant serving Gatton campus	
SF6	Sulphur hexafluoride (SF6) leakages from SF6 used in electric transformers and electron microscopes	
Scope 2 Emissions Sources		
Electricity	Electricity purchased from the grid for UQ's four campuses and over 20 other teaching and research sites and electricity purchased from the Heron Island Resort	

ANALYSING OUR CARBON FOOTPRINT



Greenhouse Gas Emissions

Six gases have been identified under the Kyoto Protocol as the main greenhouse gases that need to be reduced. The gases are carbon dioxide, hydrofluorocarbons, methane, nitrous oxides, perfluorocarbons and sulphur hexafluoride. As part of standard emission measurement practices these gases are mainly reported as carbon dioxide equivalent (CO_2 -e) emissions.

For the University of Queensland the key greenhouse emissions are those that are linked to the following business activities:

- vehicle usage
- electricity consumption
- air travel
- waste

In addition to these, UQ has also calculated its emissions for natural gas, embodied energy in paper, SF6 used in electrical transformers and microscopes, on and off-site waste incineration, waste to landfill and on and off-site wastewater treatment. These are included in the provided emissions table.

UQ Carbon Footprint

The University emitted a total of 179,065 t CO_2 -e which included 122,293 tonnes of reportable carbon dioxide equivalent for 2008/09.

The graph to the right provides a breakdown of UQ's Total Emissions for 2008/09.

Electricity accounted for 76% of the University's carbon footprint. The remaining emissions are largely generated through air travel. The following table outlines the emissions relating to UQ during the period 1 July 2008 to 30 June 2009.

Activity	Greenhouse gas emissions (tonnes of CO ₂ -e)
Vehicle and plant usage UQ-owned vehicles UQ-owned plant	1,350 143
Electricity consumption Purchased directly from an electricity retailer Sources through a third party Sourced from back-up power generators	118,929 181 1
Gas consumption Purchased natural gas directly from a retailer	350
Air travel Domestic air travel on commercial airlines International travel on commercial airlines	7,523 27,566
Waste General waste to landfill On-site incineration Off-site incineration On-site wastewater treatment (Gatton campus) Off-site wastewater treatment	1,488 1,049 72 480 2,539
Paper Embodied energy from paper purchased	398
Sulphur hexafluoride Electric transformers Microscopes	4



ADVANCING ENERGY EFFICIENCIES

Switch Off Save Energy

With UQ's energy consumption continuing to rise, energy efficiency has become a high priority. The chart below illustrates that over the last 10 years the gross floor area of UQ buildings has increased from 453,000 m² to 681,000 m². It also shows the projected growth in floor area over the next few years and that we expect this to exceed 800,000 m² sometime during 2012.

Many of these new facilities have complex services and higher than average energy needs. There are also upgrades of existing buildings to accommodate, for example, more computers, air-conditioning of all work areas and longer opening hours, all of which increase demand for energy.

Pilot Energy Efficiency Project in Michie Building

Air-conditioning is the single biggest source of energy consumption on campus, estimated to account for 50-65% of energy use. A pilot project to reduce air-conditioning in the School of Social Science, Michie Building began at the end of 2009. This included reducing air conditioning run times to incorporate normal working hours, as well as 30 minutes either side of these hours. An awareness campaign included promoting after hours buttons for staff to use if they required air-conditioning outside of normal working hours. Staff were also encouraged to switch off non-essential equipment at the end of the day.

Solar Energy Plant at Heron Island Research Station

The University of Queensland with Voyagers Resort and Queensland Parks and Wildlife have been successful recipients in a Federal Government Green Precincts Fund project prepared and submitted by Wide Bay Water Corporation.

UQ has contributed \$260,000 to the Solar Power component of the project with the balance being provided by Wide Bay Water Corporation and



the Federal Government. The solar project is expected to be completed by June 2010 and will comprise an installed capacity of approximately 50 kW which represents about 45% of the Research Station peak demand. The new installation will significantly reduce the carbon footprint of the Research Station which relies on diesel generators for its electricity.

Renewable Energy Project Control Group and Photovoltaic Solar project

A Renewable Energy Project Control Group, chaired by Professor Max Lu, Deputy Vice Chancellor (Research Linkages), was formed in 2009. The group, consisting of some of UQ's best renewable energy researchers as well as Property and Facilities staff, has been busy getting a large on-site solar project off the ground at St Lucia campus.

With its desire to 'walk the talk', the University is planning to install a 1.2MW grid of photovoltaic solar panels.



Gross Floor area of UQ Buildings and projected growth



Image of proposed on-site solar project at St Lucia campus

ONGOING COMMITMENT TO ENVIRONMENTAL SUSTAINABILITY

Environmental Risk Management (Aspects)

UQ continues to identify and assess its operational environmental hazards (environmental aspects) annually through its risk assessment process.

This year, UQ stakeholders identified:

- Twenty-seven previously unidentified aspects that were subsequently included in the register.
- Forty-seven registered aspects where changes in legislation, operation, scope, or risk management processes required reassessment.
- Three aspects related to discontinued operations for removal from the register.

These changes to the register typically reflects UQ's emerging and expanding research activities with aspects from nanotechnology, Indooroopilly Mine and the Centre for Advanced Animal Science. It also captured many common, low risk aspects that have been overlooked, such as; water and diesel storage on farms, testing eye washes and showers in laboratories and even use and breakdown of paint in road marking.

The register now consists of a total of 291 aspects, a nine percent increase on 2008. The percentage of "High Risk" to "Acceptable" risks has not changed. Eighty-eight percent, or 236 of the risks were assessed as acceptable.

The remaining high risk aspects continue to be attributable to four hazards:

 Greenhouse gases: The emission of greenhouse gases and the attributed effect on climate change dominated the high risks; related to the amount of nonrenewable energy used for the required plant and equipment for teaching, research and support activities, climate control systems and lighting. The use of UQ fleet vehicles was also an aspect.

- Waste and waste management: Use of non-recyclable materials and landfilling compostable materials were the issue for waste management
- Noise: A recent change in legislation changed the previously acceptable risk of nuisance noise associated with operating climate control plant (particularly air cooled chillers at night), and
- Water management: Introduction of permanent water conservation measures in South East Queensland and the large volumes of potable water required to maintain UQ's operations were aspects here.

Addressing High Risk Aspects

The University has established and worked towards objectives and targets to manage high risk aspects for the past fifteen years.

In 2009, the University's efforts were dedicated to understanding and quantifying our carbon footprint to set meaningful and achievable reduction targets in 2010. This will address UQ's greatest environmental risk.

However, a target to meet all legislative requirements and objectives to reduce greenhouse gas emissions, water consumption, and waste to landfill remain current and UQ continues to work towards these.

Technical Audits

The University of Queensland monitors its environmental performance through its ongoing technical auditing program. In addition to the monitoring required for development approvals, UQ also voluntarily monitors water quality in lakes at both St Lucia and Gatton campuses and sewage from the St Lucia campus. The lakes are monitored for algal blooms and other indicating factors such as nutrient and dissolved oxygen levels. Although it did not prevent a fish kill at the St Lucia lakes early in the year, it did confirm that low dissolved oxygen levels were the cause and was used to develop and check the adopted corrective actions. At Gatton, this work also lent itself to ongoing occupational health and safety advice for the use of water from the Gatton lakes due to ongoing algal blooms.

No issue has been identified with the St Lucia sewage, however the data collected from this program is now proving useful in providing a basis for sewerage and trade waste applications for other University sites.

Environmental Management System (EMS) Audits

In 2009, EMS Internal Audits were conducted in eight UQ Schools and Centres at the St Lucia campus and one at the Experimental Mine site located at Indooroopilly.

Generally staff that work with hazardous materials are aware of the environmental policy and procedures. The audits highlighted that chemical management continued to be the area requiring attention by Schools and Centres.



ONGOING COMMITMENT TO ENVIRONMENTAL SUSTAINABILITY



Environmental Legal Management

UQ maintains numerous environmental activities requiring environmental licenses or approvals. Most of these activities, such as the Gatton campus sewage treatment plant, incineration of non-infectious animal wastes and the storage of bulk supplies of flammable and combustible liquids in laboratories, are critical to the ongoing and smooth operations of The University's core activities.

The University aims for 100% compliance with all environmental legal activities. After two failures in 2008, and a number of near misses, the process improvements implemented to address these issues have attributed to no penalties being incurred in 2009.

Ongoing monitoring of legal compliance processes and procedures in 2009 identified other potential weaknesses where compliance may not be achieved. These were altered to address the immediate risk, but it is recognised that a comprehensive audit and review of all activities and management processes is required within the next year. In 2010, management processes for significant legal activities will be streamlined to reduce the risk of breaches through procedural failure. The only new activity requiring licensing in 2009 was the storage of Flammable and Combustible Liguids at the new Pharmacy Australia Centre of Excellence (PACE) located off site at Woolloongabba. Being an off site development the process and timing for obtaining the licence was different to that when developing on a UQ campus. The project manager, working with the School of Pharmacy, easily obtained the licence ready for the new occupants to move in.

2009 also saw UQ trigger both the National Greenhouse and Energy Reporting Scheme (NGERS) and Energy Efficiencies Opportunities Act (EEO). Thanks to a member of Environmental Services identifying this emerging requirement several years earlier, UQ was well placed to meet its obligations, particularly under NGER in 2009.

In 2010 many of UQ's existing licensed activities will be revisited. This includes motor vehicle workshops, storing petroleum products, poultry farming, and printing. These legacy activities received deemed approvals when the requirement for licences was first introduced. These approvals will soon lapse and all activities will require new development approvals. In some instances, this will require UQ to upgrade facilities to meet more stringent conditions or look at the ongoing need for certain activities and possible alternatives.



Incinerator - Pinjarra Hills site



Sewage Treatment Plant - Gatton campus



The new Pharmacy Australia Centre of Excellence (PACE) located at Woolloongabba

INTEGRATING SUSTAINABILITY INTO UQ FACILITIES



Building Works

Expansion of the UQ Lakes Bus Station – St Lucia campus

It is just under three years since the opening of the Eleanor Schonell Bridge and UQ Lakes Bus Stop. The bridge link and bus service has been an overwhelming success, reducing travel time to the CBD and providing improved access to the St Lucia campus from the eastern and southern suburbs. Patronage has been so good that Translink have increased their services and consequently it is necessary to expand the existing UQ Lakes Bus Station. This is scheduled for 2010.

This development, combined with the completion of the Boggo Road busway link to Buranda in mid-2009, has created a dedicated busway to the City with a travel time of approximately 13 minutes and a 'metro' link bus every 5 minutes.

The new 1.5km Boggo Road Busway provides dedicated public transport to UQ St Lucia from the whole of the busway network. This equates to about 600 buses and 13,000 passagers per day in both directions.

Upgrade to Duhig North Building air conditioning - St Lucia campus

In mid 2009 a \$148,500 upgrade of the air-conditioning to the Duhig North building to make it more sustainable by enhancing energy efficiency, without affecting the climatic conditions, was carried out. The system installed is called the SMAC, Shaw Method of Air-Conditioning. It was developed by Dr Shaw in South Australia in 1998 and has been adopted in art galleries, hospitals and offices.

The upgrade included the installation of a second cooling coil on each air handling unit, with associated chilled water modifications, plus modifications to the Building Management System controls.

It is estimated that the upgrade will reduce energy consumption by 35% which is equivalent to 850 t CO_2 -e.

Mill Road Carpark and Bush Stone-curlews

The Mill Road carpark was upgraded in 2009 and a large area has been set aside as a future habitat for the Bush Stone-curlews. An environmental firm, Natural Solutions, was employed to initiate guidelines on how to manage and protect the Bush Stone-curlews during construction. At last count 13 were sighted, so their recommendations have been most successful. The Bush Stone-curlew family has moved back into the specifically-built sanctuary garden on the Hartley Teakle side of the carpark.

UQ Health Science Building – sun-shading structures

In 2009 the University's Health Science building at the Royal Brisbane and Women's Hospital was rehabilitated. This included new, fully glazed facades to the eastern and northern faces of the building.



Isometric view of the UQ Lakes Bus Station expansion

New habitat for UQ's Bush Stone-curlews at St Lucia campus

INTEGRATING SUSTAINABILITY INTO UQ FACILITIES



Traffic and parking projects

In order to reduce the number of vehicles driven to the University, activity in 2009 focussed on providing infrastructure at St Lucia campus to support people who decided to ride or utilise public transport. This included:

- New bicycle storage areas were provided near the Hartley-Teakle, Otto Hirschfeld, and Sir Llew Edwards buildings.
- A secure storage room was made available on level one of the Student Union building.
- Bicycle storage racks put in place near the UQ Lakes bus terminal proved to be very popular.
- A motorcycle parking area near the Parnell building was refurbished, and a new area was provided on level one of multi-level carpark II.

Initiative was also taken to encourage local government to improve infrastructure for cyclists, pedestrians and commuters, with the University providing input to proposals to complete the St Lucia bikeway and to construct a pedestrian-cyclist bridge from West End to St Lucia. Other discussions resulted in additional services on some existing bus routes, and several new services. Plans to expand the UQ Lakes bus terminal were finalised, and works are expected to be finished by the beginning of Semester One in 2010.

A new parking management system made it possible to provide part-time permits for staff who wished to have more flexibility in their travel options. They are now able to drive on some days, and use public transport on other days without having to pay for their permit on a full-time basis. In order to gather information on the effectiveness of initiatives to reduce private vehicle travel, it is important to measure the number of vehicle trips to the University. Data has been gathered by means of electronic vehicle counters to indicate base data that can be compared to future data.

University Senate approved a policy to link minimum parking fees to the cost of a two zone public transport return trip so that drivers would pay at least the same as people who catch a bus, train, or ferry. Any other parking fee structure would otherwise provide a financial incentive for people to drive and park. It is thought that the hidden cost of driving (fuel, registration, insurance, etc) would provide an additional incentive not to drive.

Waste Minimisation

The University of Queensland seeks to minimise waste going to landfill. This is achieved through the implementation of recycling initiatives to divert waste from landfill. Wise purchasing practices and reuse of products to avoid generating waste in the first place are also an important element to waste minimisation.

Current recycling strategies include:

- Paper
- Cardboard and Polystyrene
- E-Waste (computers and other electronic equipment)
- Fluorescent tubes and other lamps
- Toner & ink jet printer cartridges
- Mobile Phones
- Co-mingled (glass, aluminium cans and plastic)

Property and Facilities Division's Central Store has been working with suppliers to increase the proportion of sustainable goods available for sale to University Schools and Centres. The store's catalogue highlights environmental friendly products with a green symbol.

Products include:

- Pencils made from recycled
 newspaper
- Paper with recycled content (A4 and A3)
- Envelopes 100% Recycled
- Eco Manilla Folders 100% Recycled
- Ecotrend Toner Cartridges
- Retractable highlighters and ballpoint pens
- Paper towel rolls 100% recycled
- Unigreen thermal mugs

Over 50% of the paper supplied to UQ Schools, Centres and Administration areas by the Property and Facilities' Store is now paper with recycled content.





Waste minimisation encompasses both wise purchasing decisions and targeted recycling initiatives.

ECOLOGICAL VALUE AND SPECIES DIVERSITY



St Lucia campus – Land for wildlife program

In January the St Lucia campus became a member of the Wildlife Conservation Partnerships Program – Land For Wildlife. The three areas that have been registered are the lakes precinct, the river bank (along John Oxley walk) and the Alumni Teaching Gardens.

The detail of our membership covers the restoration of wetlands, the restoration of the eucalypt woodland along the Brisbane River and to improve ecological, academic and social values. As a member we can now receive conservation training and plants as well as being able to interact with local catchment groups. St Lucia is the second UQ site signed up to the program, following – the Indooroopilly Mine site.

300 Trees planted at Ipswich campus

Staff from Property and Facilities Grounds planted approximately 300 Spotted Gums (Corymbia maculata), between Carpark 2 and the Sandy Gallop Golf Course on 29 May. This species was selected as it is endemic to the region – fast-growing, tolerates poor soil well, drought-resistant and a strikingly attractive tree with its pinkish bark.

The planting served a dual purpose of providing a barrier to reduce the risk of errant golf balls injuring people or damaging property and to provide valuable habitat and food for a range of endemic fauna including koalas, lorikeets, cockatoos and many other birds which are known to frequent the area.

Monthly audits on wildlife – St Lucia campus and Indooroopilly Mine

Monthly audits are conducted at the lakes precinct at St Lucia campus and the Indooroopilly Mine site of wildlife that inhabit these areas. Property and Facilities' specialist gardeners count the numbers of species seen on that day and compare the number to that of previous audits. The lakes area has recorded more than 40 species of birds, 2 species of turtles, water dragons and 3 species of fish. The Mine site has recorded more than 25 species of birds, 3 species of possum and a deer. Along with the daily audits, night-time spotlight auditing has recorded gliders and owls.

These two natural areas have also had interest from local community groups and student groups on how we are managing them. Three information sessions have been held at the Mine, where local community and catchment groups have been briefed on our objectives and on what work has been done onsite. A session has also been held at St Lucia discussing how the area is maintained and species managed. These information sessions have provided a great level of interaction with the students and the local community.

Critically endangered Cooneana Olive obtained and planted

Over the past few years a number of plants of the Cooneana Olive, Notelaea ipsviciensis - an extremely rare plant native to the Ebbw Vale to Dinmore area of Ipswich, have been obtained by the Gatton campus. There are only about 18 known specimens in the wild and this plant has recently been listed as Critically Endangered under the Federal Government's Environmental Protection and Biodiversity Conservation Act 1999. We are therefore guite privileged to have a number of these shrubs planted at both the Ipswich and Gatton campuses. They have been planted in the Environmental Park at Gatton and in the garden near Building 1 at Ipswich.

Due to their listing, no further collection of plant material from the wild is permissible, but the fact that we have some in cultivation allows us to propagate more from this stock at the Gatton Nursery. Initial experience indicates that they have promise for cultivating in a native garden setting. Given the long-term water conservation measures these plants are excellent as they are very drought tolerant and handle very poor soils well.



The University registered three additional areas for its Land for Wildlife site at St Lucia. Monthly wildlife audits are conducted at St Lucia campus and Indooroopilly Minesite. Approximately 300 Spotted Gums were planted at Ipswich campus.

ADVANCING WATER EFFICIENCY PRACTICES



Water Efficiency Management Plans

The University continued ongoing implementation, monitoring and reporting on progress of its water consumption and Water Efficiency Management Plans.

Despite recent rain, the university continued to embrace water saving activities. 2008/09 saw a slight drop in consumption from the 2007/08 levels. Most sites continued to reduce or maintain consumption at 2008 levels. St Lucia campus saved 6% more water than predicted and has reduced water consumption by 48% since 2004.

The installation of three new water tanks at the renovated Health Sciences building at Herston campus raised UQ's total rainwater storage capacity to 764,000 litres. Building occupants on the St Lucia campus can now access information on how much water their building is using, by obtaining a password from Property and Facilities Environmental Services. Data includes water consumption for most buildings and key performance indicators including consumption per square meter and average daily consumption. Staff are able to see how their building compares to others of the same type and to the UQ average.





Renovated Health Sciences Building at Herston campus included the installation of three new water tanks.

PROMOTING A SUSTAINABLE WORKPLACE



Earth Hour

The University of Queensland joined many notable landmarks across the city, as well as businesses and residents, in turning off its lights for Earth Hour on 28 March. The 'lights out' operation, between 8:30pm and 9:30pm, targeted non-essential lighting and equipment at UQ's St Lucia, Gatton, Ipswich and Herston campuses, as well as Indooroopilly Mine and Moreton Bay Research Station on North Stradbroke Island.

UQ achieved a 6.5% energy reduction during Earth Hour, with an estimated total saving of 730kg of carbon dioxide. Earth Hour provides an awareness of what can be done if we switch off non-essential lighting and equipment. Wherever possible Property and Facilities is seeking to switch off central items on a regular basis to reduce energy usage. UQ staff are also encourage to switch off their non-essential equipment whenever possible.

Environment Day Event

A breakfast was held on Environment Day (June 5) to engage staff and students on the university's role in climate change and carbon strategy direction and to celebrate the continued success of the Green Office Program.

Approximately 90 people from the University community attended the Environment Day Event, hosted by Property and Facilities Division. The group included representatives from UQ Faculties and Schools, Research Centres, Libraries, Administrative sections, Institutes, and Students.

Keynote speaker, Professor Andrew Griffiths, Director, Sustainable Busi-

ness Unit, UQ Business School, gave an interesting and informative presentation on Climate Change and Corporate Strategy. Property and Facilities Acting Director, Geoff Dennis, spoke on UQ's Carbon Strategy and Sustainability.

Green Office Program Awards were also presented with best new area going to the UQ Boilerhouse, Ipswich campus. Architecture and Music Library received the award for most improved Green Office area over the past 12 months and received a certificate of achievement and the Green Office Perpetual Award.

With the changeover of student Green Office Coordinators, Jess Walsh was thanked for her enthusiasm and commitment over the past 12 months, and Vanessa Losada was welcomed to the role.

Environmental Training and Awareness

Environmental training and awareness activities are conducted across UQ campuses as required. Activities carried out in 2009 included:

- Environmental training sessions through the University's Staff Development program
- Environmental training sessions through UQ Schools and Institute Induction programs
- Contractor Induction Program
- Green Office Program Information and Update sessions
- Unigreen stalls at Orientation
 Week Market Days
- Earth Hour and Environment Day activities and events.



UQ Staff switched off non-essential lighting and equipment for Earth Hour on 28 March 2009.



Student Green Office Coordinators - Vanessa Losada (Incoming) and Jessica Wash (Outgoing Coordinator) at Environment Day Event



Professor Andrew Griffiths, Director, Sustainable Business Unit, UQ, spoke at UQ's Environment Day Breakfast on 5 June 2009



Unigreen stall at O-Week Market Day 2009

PROMOTING A SUSTAINABLE WORKPLACE

Green Office Program

UQ's Green Office Program promotes sustainable work practices at the local level. The program operates through a network of Green Office representatives located in UQ Schools, Centres and Administrative Units and is coordinated by Environmental Services, Property and Facilities Division. The Program's objectives are:

- Raise environmental awareness in offices on campus
- Reduce the amount of recyclables going to landfill
- Reduce energy and water consumption
- Increase the purchase of environmentally preferred products.

The program provides encouragement and resources to staff through:

- Monthly Green Office newsletters
- Quarterly Green Office Update sessions
- Posters, brochures and other resource materials
- Green Office webpage
- Annual Green Office Awards presentation and activity held on World Environment Day (5 June)

In 2009, a number of Guest Speakers were also invited along to speak at Update sessions on diverse topics

such as Changing Culture, Disposing of Electronic Waste and Eco Tourism.

Green Office representatives conduct assessments in their areas. This includes baseline assessments for new areas and annual assessments for areas already involved. The assessments develop baseline data for schools and centres from which they can continually improve their environmental performance in the following areas:

- Energy management
- Waste management
- Environmentally responsible purchasing
- Environmental awareness.

In 2008/09, 17 baseline assessments and 39 annual assessments were conducted. The results are announced each year at an Environment Day activity in June.

Most improved Green Office area for 2008/09 was awarded to the the Architecture and Music Library, achieving an improvement of 24% for the Green Office overall rating.

The best New Green Office area was the UQ Boilerhouse, Ipswich campus, scoring an average overall rating of 85% which is the highest result so far for baseline assessments.



Staff and Students work together

A unique element to UQ's Green Office program is the employment of UQ students by Environmental Services, Property and Facilities Division to coordinate the program. This provides the students with valuable experience and gives Environmental Services a resource that can focus solely on the Green Office Program.

The result has seen the Green Office program expand from the involvement of 10 staff in 7 areas in 2005 to 80 staff in 69 areas in 2009.

Staff initiatives at the local area have also been a valuable element of the program. The Green Team in the Human Resources Division are a group of three staff that work together to promote the Green Office Program in their division. A Library representative gives monthly updates at staff meetings and presents carbon footprint awards to eco-friendly staff members. All of the representatives have a slightly different approach but all are keen to encourage good environmental practice to their colleagues, supervisors and managers.





L-R Pamela Lamb and Leonie McGuire, Green Office representatives - Best New Green Office area 2009 - UQ Boilerhouse, Ipswich campus



L-R Julie Murphy, David Lang, Cathy Stillwell The Green Team, UQ Human Resources Division

STAKEHOLDER ENGAGEMENT



Environmental Sustainability Committees

The Sustainability Steering Committee took over leadership of environmental sustainability at UQ in the second half of 2009. The Committee comprises senior University Executives and sub committees and working parties will be established in 2010.

Previous to this committee structure, the Environmental Management Committee, along with Sub Committees and Working Groups have been operating since 1996. They have overseen the development of the University's Environmental Management System, legal compliance and training and awareness activities.

Many executives and staff have been involved and their contribution is appreciated and acknowledged as the University takes the next step in its environmental sustainability journey.

UQ staff provide valuable support to Environmental Auditing Program

The University's Environmental Management System (EMS) Internal Audit Program has been operating since 2001 and 80 staff have trained as EMS Internal Auditors since its inception. EMS Internal Auditors conduct audits in Schools and Centres that work with hazardous materials. The audits assess:

- training and awareness
- energy and water conservation
- waste management practices.

The program has provided a valuable mechanism in implementing the University's environmental policies and procedures in audited areas. Currently 23 staff who work in a range of UQ Schools and Centres across three campuses are involved in conducting internal audits and their contributions and efforts are appreciated.

UQ Business School Sustainable Business Unit

The Sustainable Business Unit (SBU) was formed as part of the ongoing commitment towards sustainability research and practice at UQ Business School. Assisting with developing and implementing corporate sustainability measures and climate change adaptation strategies, the SBU provides both applied research and consultancy services for business organisations that are committed to working towards a sustainable future. The SBU is led by Professor Andrew Griffiths, Chair in Business Sustainability and Strategy at UQ Business School.

In early 2009, the SBU was commissioned to conduct a greenhouse gas (GHG) emissions audit for The University of Queensland's Customs House for 2008. SBU project manager Alexander Stathakis said the audit would enable Customs House to develop a GHG management strategy for defining and achieving GHG emission reductions.

The SBU was also recently engaged as consultants by Property & Facilities Division in undertaking mandatory emissions and energy consumption reporting under the National Greenhouse and Energy Reporting System. The results of the associated audit will supplement The University of Queensland's efforts to reduce GHG emissions and energy consumption and minimise its adverse impacts on the environment.

The SBU has also continued its engagement with its business and industry partners, as well as delivered the leading edge "Corporate Sustainability" course, which enables managers to understand the challenges and opportunities that exist for business by engaging with and designing a strategic approach to sustainability.

Student Waste Management project

Carolina Romano, a Masters in Environmental Management student, undertook a waste management project with Environmental Services, Property and Facilities in the first half of 2009. Carolina reviewed all University waste streams, undertook a gap analysis, and produced a Waste Management Plan.

Carolina continued in the second half of the year to assist with gathering data required to report the University's greenhouse gas emissions under the National Greenhouse and Energy Reporting Act.



Carolina Romano - Student Waste project

STAKEHOLDER ENGAGEMENT



Talloires Declaration 10 point action plan

In 2009 The University of Queensland became a signatory to the Talloires Declaration for sustainability in higher education.

By signing the Talloires Declaration, Universities are committed to:

1. Increase Awareness of Environmentally Sustainable Development Use every opportunity to raise public, government, industry, foundation, and university awareness by openly addressing the urgent need to move toward an environmentally sustain-

2. Create an Institutional Culture of Sustainability

able future.

Encourage all universities to engage in education, research, policy formation, and information exchange on population, environment, and development to move toward global sustainability.

3. Educate for Environmentally Responsible Citizenship

Establish programs to produce expertise in environmental manage-

ment, sustainable economic development, population, and related fields to ensure that all university graduates are environmentally literate and have the awareness and understanding to be ecologically responsible citizens.

4. Foster Environmental Literacy for All

Create programs to develop the capability of university faculty to teach environmental literacy to all undergraduate, graduate, and professional students.

5. Practice Institutional Ecology

Set an example of environmental responsibility by establishing institutional ecology policies and practices of resource conservation, recycling, waste reduction, and environmentally sound operations.

6. Involve All Stakeholders

Encourage involvement of government, foundations, and industry in supporting interdisciplinary research, education, policy formation, and information exchange in environmentally sustainable development. Expand work with community and nongovernmental organisations to assist in finding solutions to environmental problems.

7. Collaborate for Interdisciplinary Approaches

Convene university faculty and administrators with environmental practitioners to develop interdisciplinary approaches to curricula, research, initiatives, operations, and outreach activities that support an environmentally sustainable future.

8. Enhance Capacity of Primary and Secondary Schools

Establish partnerships with primary and secondary schools to help develop the capacity for interdisciplinary teaching about population, environment, and sustainable development.

9. Broaden Service and Outreach Nationally and Internationally

Work with national and international organisations to promote a worldwide university effort toward a sustainable future.

10. Maintain the Movement

Establish a Secretariat and a steering committee to continue this momentum, and to inform and support each other's efforts in carrying out this declaration.

Tertiary Education Facilities Management Association (TEFMA) Carbon Footprint Workshop

In June 2009, a number of staff from the University of Queensland (Property and Facilities and Global Change Institute) were involved in the TEFMA Carbon Footprint Workshop held at Noosa. Two staff were involved on the organising committee and two presented papers. The workshop attracted delegates working in facilities management in Australian and New Zealand Universities and Institutes. The program focused on identifying key performance indicators for sustainability that could be used across the education sector.



SUSTAINABLE STEPS FORWARD

In 2009, the University has taken strategic steps to focus its activities on sustainable practices. This has involved conducting a comprehensive greenhouse gas inventory and highlighting the areas that require attention.

It has also lead senior University Executives to be involved on the Sustainability Steering Committee to ensure all areas of the University incorporate sustainability in to their operations.

In 2010, key stakeholders will be engaged through a range of avenues to take sustainable steps forward. This includes:

Engagement with Stakeholders	A new committee structure to be established under the Sustainability Steering Committee
Planning	Specific carbon reduction plans to be developed and targets to be set
	Design Guidelines reviewed to incorporate further sus- tainabiity aspects
	Renewable energy projects to be continued
Programs	The University will register with the Energy Efficiencies Opportunities Program
	Energy Audit Program to be implemented
	Energy Efficiencies Program to be developed
	Energy Metering Program to be continued
Training and Awareness	A new UQ Sustainability Website to be launched
	Green Office Program to be further expanded
	Green Labs Program to be developed
	Sustainability on-line training module for UQ Staff to be developed
	Sustainability Steering Committee Communication Plan to be developed and implemented



Proposed installation at St Lucia campus of a 1.2 MW grid of photovoltaic solar panels for 2010

An exciting project that is developing is the installation of a 1.2MW grid of photovoltaic solar panels at St Lucia campus. This project is currently going through the detailed design stage and industry partners are being sought to participate in the project.

This will be the largest of its kind in the southern hemisphere and will not only allow us to produce our own green energy, but also provide a high tech facility for teaching and research programs.





Photovoltaic solar panels to be placed on the multi-level carparks and UQ Centre building at St Lucia campus

NEW ORGANISATIONAL STRUCTURE

The Sustainability Steering Committee was established in 2009 to lead UQ's Carbon and Sustainability strategy. The Committee's membership comprises:

Mr Maurie McNarn, Executive Director (Operations) (Chair) Professor Michael Keniger, Senior Deputy Vice-Chancellor Professor DeborahTerry, Deputy Vice-Chancellor (Academic) Professor Max Lu, Pro Vice-Chancellor (Research) Professor Ove Hoegh-Guldberg, Director, Global Change Institute Professor Chris Moran, Director, Sustainable Minerals Institute Professor Andrew Griffiths, Director, Sustainable Business Unit, School of Business Professor Stephen Walker, Executive Dean, Faculty of Science Mr Geoff Dennis, Deputy Director, Property and Facilities Division Mr Shaun McDonagh, Director, Office of Marketing and Communications Mr Andrew Betts, Director, Finance and Business Services Professor Roger Swift, Executive Dean, Faculty of Natural Resources Agriculture and Veterinary Science and Campus Director, Gatton campus Professor Alan Rix, Pro Vice-Chancellor, Ipswich campus Mr Brandon Carter, President, UQ Student Union Mr Stuart Green, Environmental Engineer, Property and Facilities Division (Secretary)

In 2010 new environmental sustainability sub committees and working groups will be established to focus on reducing the University's carbon footprint.



Produced by Environmental Services Property and Facilities Division The University of Queensland on behalf of the Sustainability Steering Committee

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