

November 2011



University of Canberra

Sustainability Strategy 2010 - 2015

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University of Canberra

Sustainability Strategy 2010-2015

Vision

The vision for the Sustainability Strategy is:

“A University that develops leaders who will inspire and deliver a sustainable future.”

Aim

The aim of University of Canberra Sustainability Strategy 2010-2015 is to set targets and outline action plans to guide the pursuit of a sustainable future and the evolution of a sustainable campus community.

Context

The Sustainability Strategy recognises that the University can contribute to sustainability in multiple ways:

- On its **campuses**, it can act to reduce the impact of its development on the campus grounds and through the judicious use of resources its impact on ecosystems – both locally and elsewhere;
- In its **curricula**, it can provide students with the skills to apply sustainability principles within their disciplinary practice;
- In its **community** interactions, it can use its skills and influence to provide platforms for debate and learning about sustainability and increase the capacity of people to take appropriate action; and
- In its **research** portfolio, it can develop new knowledge and practice targeted to the gaps and challenges presented by the transition to a more sustainable world.

The Sustainability Strategy recognises the strong relationships between the environment and the economic and social choices made by societies. Solutions to most environmental challenges lie as much in social and economic knowledge and action as they do in direct environmental interventions; as virtually every activity that people engage in has an environmental footprint.

The Strategy:

- acknowledges that natural resources underpin our existence and wellbeing, and that current patterns of resource use in Australia are unsustainable in the long term;
- acknowledges the University of Canberra has a role to play in demonstrating leadership in sustainable development and practice in the Australian Capital Territory;
- encompasses all areas of campus operation, teaching and management, its interactions with the community and the landscape;
- extends the University's contribution to discourse and knowledge through staff and student engagement, curriculum design and research;
- prepares the University and its community for global environmental uncertainty through effective change management and career-based skill development; and
- acknowledges the central role the community plays in realising the University's sustainability vision and aim.

Targets

Sustainability targets provide performance outcomes for achievement by the University of Canberra. The baseline year for targets is 2010, the year prior to the commencement of the Sustainability Strategy.

| Key result area | Target |
|---------------------------------|---|
| Teaching and Learning | |
| | Develop sustainability learning partnerships across the omniversity by 2013. Integrate sustainability learning across the curriculum by 2014. |
| Community | |
| Outreach and Communication | Continual increase in campus community members engaged in sustainability initiatives and information exchange both on the campus and within the broader ACT community. |
| Leadership | To perform in the top half of Australian universities across national higher education sustainability benchmarks. |
| Research | |
| | Increase the impact of sustainability research conducted at the University by 2015. |
| | Sustainable research practices are implemented across University research by 2014. |
| Campus Footprint | |
| Policy and Development | Assess the current position of UC campuses on an Australian Universities benchmark and improve by 20% in 5 years. Biodiversity /ecological resources integrated into campus Master Plan and Landscape Character Plan. |
| Energy Management | Reduce energy related CO₂ emissions by: 10% by end 2011 25% by end 2014 15% by end 2012 30% by end 2015 20% by end 2013 |
| Water Management | Reduce potable water consumption by: 15% by end 2011 35% by end 2014 20% by end 2012 40% by end 2015 25% by end 2013 |
| Purchasing, Recycling and Waste | Reduce waste to landfill by: 15% by end 2011 50% by end 2014 25% by end 2012 60% by end 2015 35% by end 2013 Achieve a green buy of: 25% by end 2011 45% by end 2014 35% by end 2012 50% by end 2015 40% by end 2013 |
| Transport | Reduce travel related CO₂ emissions by 25% by 2015 on 2010 levels Offset university car fleet by 2013 Continual uptake of sustainable transport and e-commuting technology |

Strategy Framework

The Strategy framework incorporates four key result areas; Teaching and Learning, Community, Research and Campus Footprint. The inter-relation of the result areas is illustrated as a hive (Diagram 1) with Community at the core. Placing the Community at the centre of the Sustainability Strategy acknowledges the requirement for capacity in leadership, engagement and outreach in achieving enduring and integrated solutions to meet sustainability challenges. Through the community all key result areas are linked.

Performance of the Strategy will be evaluated annually against the key target areas with key actions reviewed to allow the incorporation of new opportunities, strategic directions and policy.

Diagram 1. Key result areas and core objectives



Strategies and Key Actions

1. Teaching and Learning

Objective 1: Graduates equipped to take their place as leaders and catalysts for change in forging a sustainable future.

Sustainability represents a key area of academic investigation and integration. Coupling learning and professional development with individual and corporate commitment will enhance the capacity of the University to contribute to a sustainable future, environment and community. The graduates of the University of Canberra will be prepared to meet the present and future expectations and challenges of corporate and community sustainability agendas. Graduates will be equipped with the knowledge to engage in sustainability discourse and empowered to integrate sustainability into their discipline.

Target:

Embed sustainability learning across the curriculum by 2015.

Key Performance indicators:

| Indicator |
|--|
| No. Courses with embedded sustainability principles (as a percentage) |
| No. Students participating in sustainability major or minor pathways |

Key Actions

| | Action | Key outputs | Timeframe |
|--------------|---|---|-----------|
| 1.0.1 | Develop sustainability courses and or major and minor pathways with a focus on cross disciplinary access | Nationally recognised sustainability pathways | Ongoing |
| 1.0.2 | Develop incentives for academic staff to be recognised for contribution to sustainability learning | Existing courses encompass an understanding of sustainability principles Community awareness | Ongoing |
| 1.0.3 | Develop opportunities for coursework students to critically engage in work integrated learning | Student contribution to campus sustainability through coursework Sustainability learning integrated into assessable outcomes Work integrated learning | Ongoing |
| 1.0.4 | Establish a category under the existing Excellence Awards to acknowledge excellence in sustainability teaching and learning | Acknowledgement of outstanding student and staff input | 2012 |
| 1.0.5 | Provide leadership and support to realise integrated learning opportunities across the Omniversity | Framework for integrated learning opportunities across the Omniversity | By 2013 |

2. Community

Objective 2: A community aware of its environmental impact and empowered to reduce its footprint

The students, staff, ACT community and affiliate campuses are the lifeblood of the University.

Participation of staff and students in the inception, development and implementation strategies will promote ownership and pride in the achievements of the campus. By cultivating and supporting a culture of 'think globally, act locally and think locally, act globally', the University will build on corporate efforts to reduce the campus footprint, while fostering skills that enable its community to extend sustainability literacy into the broader community and work place.

The creation of showcase initiatives that meet operational goals in addition to facilitating coursework and volunteer participation will enable the University to engage both the campus and external community in achieving enduring change. Showcase initiatives will provide the opportunity to demonstrate leadership in sustainability by exhibiting University expertise and fostering the development of innovative models and practices.

2.1 Outreach and Communication

Objective 2.1 *Build a sustainability ethic through community awareness and engagement.*

Target: Continual increase in campus community members engaged in sustainability initiatives and information exchange both on the campus and within the broader ACT community.

Key Performance indicators:

| Indicator |
|---|
| No. Students and staff actively engaged in campus initiatives |
| No. Presentations/information sessions/workshops |
| No. Attendees at events |

Key Actions

| | Action | Key outputs | Timeframe |
|---------------------------|---|---|---|
| Internal Community | | | |
| 2.1.1 | Develop a mechanism to facilitate student engagement in decision making | Student representation on campus sustainability committee | 2011 |
| 2.1.2 | Develop a mechanism to facilitate student engagement in work integrated learning opportunities including feedback processes | Work integrated learning outcomes | 2011 |
| 2.1.3 | Develop a marketing strategy that targets key Strategy outcomes, initiatives and timeframes | Marketing strategy | 2011 |
| 2.1.4 | Encourage active participation of staff and students in on ground campus initiatives | Urban stewardship ethic Community engagement | Ongoing |
| 2.1.5 | Establish event/s to promote engagement in and awareness of sustainability | Annual event promoting sustainability Targeted events to highlight achievements and engage the community in sustainability Inaugural sustainability round table | Annual As identified 2012 |
| 2.1.6 | Establish a sustainability web interface | Portal for sustainability information Academic engagement | 2011 |
| 2.1.7 | Engage Campus Living Village in the development of initiatives that target the resident population | Partnership in sustainability initiatives Engagement of residential students | Ongoing |
| 2.1.8 | Promote student and staff led sustainability initiatives | Staff and student leadership in sustainability | Ongoing |
| External community | | | |
| 2.1.9 | Promote student and staff participation in relevant local and | Staff and student engagement in sustainability discourse | Ongoing |

| | | | |
|---------------|--|--|---------|
| | national forums | | |
| 2.1.10 | Engage with UC affiliate colleges and high schools to develop collaborations and complimentary projects and initiatives | Opportunities for collaboration in sustainability initiatives identified | Ongoing |
| 2.1.11 | Foster partnerships with the ACT and regional community, businesses and government that develop and strengthen sustainability performance and outreach | Opportunities for partnership in sustainability initiatives identified | Ongoing |
| 2.1.12 | Encourage active engagement of the Canberra community in University events and initiatives targeting sustainability | Community outreach | 2011 |
| 2.1.13 | Investigate opportunities to strengthen ties and collaboration with the Wreck Bay Indigenous community in all future development plans for Jervis Bay | Community engagement Opportunities for collaboration | 2012 |

2.2 Leadership

Objective 2.2. *Build corporate responsibility and leadership through the exhibit of expertise and innovation in sustainable practice.*

Target: To perform in the top half of Australian universities across national higher education sustainability benchmarks.

Key Performance indicators:

| Indicator |
|--|
| Performance against higher education sustainability benchmarks |
| Hrs staff training – sustainability courses, seminars and conferences |
| No. Presentations/papers presented at local, national and international forums, seminars, conferences and in publications |

Key Actions

| | Action | Key outputs | Timeframe |
|-------|--|--|--|
| 2.2.1 | Establish a professional sustainability network | Knowledge sharing and collaboration across campus faculty and operational staff | 2011 |
| 2.2.2 | Enhance sustainability knowledge across operational managers through attendance at relevant knowledge development seminars and conferences | Enhanced knowledge base and expertise amongst senior staff and decision makers | Ongoing |
| 2.2.4 | Extend existing Excellence Awards program to include a sustainability leadership category | Excellence in sustainability leadership acknowledged | 2011 |
| 2.2.5 | Establish showcase initiatives that reflect the cross-disciplinary nature and social complexity of sustainability and that exhibit leadership and innovation | Exhibit of excellence and innovation in sustainability Community awareness Community engagement and partnerships Academic engagement | As opportunities are identified |
| 2.2.6 | Seek partnerships to develop and implement sustainability initiatives | Co-investment in sustainability innovation External partnerships and leadership in sustainability innovation Efficient pathways to affect change through collaboration and shared learning | Ongoing |
| 2.2.7 | Initiate annual exhibition event to showcase sustainability on campus | Showcase of campus initiatives Exhibit of student products and outputs Outstanding outputs from students and staff recognised | Commence 2012 Annual (integrated with 2.1.5.) |
| 2.2.8 | Identify appropriate local and national award programs that acknowledge the University's achievements | Public profile of the University's sustainability credentials | Commence 2011 Ongoing |

3. Research

Objective 3: *Emerge as a nationally recognised centre of sustainability research excellence*

Development of the knowledge, tools and technologies required to formulate sustainable decisions and innovative approaches to societal needs is at the forefront of sustainability research. The integration of the sustainability agenda across University research activities ensures that the University of Canberra will develop excellence in both sustainable research practices and sustainability research.

The development of interdisciplinary research programs and system-based approaches will advance the University's standing as a centre of excellence in the field of applied sustainability science and research.

Targets:

Increase the impact of sustainability research conducted at the University by 2015.

Sustainable research practices are implemented across University research by 2014.

Key Performance indicators:

| Indicators |
|---|
| No. Funded research projects targeting sustainability |
| Best practice guidelines for sustainable research practices |
| No. National and international journal articles relating to sustainability research |

Key Actions

| | Action | Key outputs | Timeframe |
|--------------|--|---|-----------|
| 3.0.1 | Support research areas undertaking sustainability research | | Ongoing |
| 3.0.2 | Develop guidelines to facilitate best practice in undertaking research | Best practice guidelines for research | 2012 |
| 3.0.2 | Integrate sustainable practices into the HDR training framework | Sustainable research practices embedded in training | 2012 |

4. Campus Footprint

Objective 4: Emergence as a tertiary sector leader in sustainable campus development.

The integration of sustainability into all areas of campus planning and development, including landscape development, will build the basis on which to expand and extend the University's expertise in sustainable practice.

The University Academic Plan (2008-2012) and the University Strategic Plan (2008-2012) set clear targets for the University of Canberra to reduce the campus 'ecological footprint'. The Sustainability Strategy informs and leads this outcome through the development of targeted actions to minimise the campus footprint and identify opportunities to enhance the efficiency of campus buildings and operations and exhibit leadership in sustainable campus development.

Key documents through which to achieve sustainable development are the University of Canberra Strategic Plan and Master Plan and Campus Planning and Development Operational Plan. The Estate Management Strategy within the Campus Planning and Development plan provides a key mechanism through which to achieve enhanced operational efficiency.

4.1 Policy and Development

Objective 4.1: Achieve integration of sustainability criteria and objectives into campus management and planning.

University policy and development procedures provide a key mechanism to achieve Ecologically Sustainable Development. In acknowledgement of the importance of landscape and ecological assets in achieving Ecologically Sustainable Development, key actions for the management of on-site natural resources are integrated in this section of the Strategy to ensure they are at the forefront of campus planning and development considerations.

Targets:

Assess the current position of UC campuses on an Australian Universities benchmark and improve by 20% in 5 years.

Biodiversity/ecological resources integrated into campus Master Plan and Landscape Character Plan.

Key Performance indicators:

| Indicators |
|---|
| New buildings achieve a <i>minimum</i> equivalent to 5 Star Green Star |
| Refurbishments enhance the performance of existing buildings against NABERS ¹ |
| Key ecological assets and landscape features and processes identified and integrated into campus planning |

Key Actions

| | Key Action | Outputs | Timeframe |
|-------|---|---|--------------|
| 4.1.0 | Identify relevant Australian and international sustainability benchmarks against which to monitor performance | Benchmarks established for key performance areas | 2011 |
| 4.1.1 | Establish a framework for data collection and collation to; <ul style="list-style-type: none">• monitor the University's progress against industry benchmarks and• report against, internal legislated and Strategy reporting requirements | Efficient processes to monitor performance and reporting requirements Baseline data for campus footprint established | 2011 |
| 4.1.2 | Develop ESD Guidelines and implementation framework for new build, major refurbishments and landscape projects | Lower operational costs and greenhouse emissions Increased recycling and reuse of building materials Increased environmental health of buildings Landscape values integrated in the planning process | 2012 |
| 4.1.3 | Implement opportunities to enhance sustainable performance and operational efficiency through the Estate Management Strategy and Disability Access Audits. | Increased building operational efficiency Provide for a accessible campus | 2011-ongoing |

¹ National Australian Building Environment Rating System.

| | | | |
|---------------|---|--|--------------|
| 4.1.4 | Assess the capacity for sustainability inclusions to be included in the backlog maintenance program | Increased building operational efficiency | 2011-ongoing |
| 4.1.5 | Implement Green Leases for new and renewing commercial leases | Lower greenhouse emissions Enhanced environmental performance of tenants Tenant compliance with University policy | 2011-ongoing |
| 4.1.6 | Conduct an ecological survey of the site to identify key biodiversity assets including fauna, flora, ecological processes and ecosystem service provision | Integrated ecological resource inventory | 2012 |
| 4.1.7 | Develop a landscape management plan and policy including <ul style="list-style-type: none"> • weed management • wildlife management • landscape/ecological asset management • fire management • sustainable procurement of hard landscape features and furniture | Ecological and landscape values integrated in the campus Master Plan Protection of key ecological assets and processes Resource to identify compliance issues and environmental impact of development proposals Sustainable procurement of inputs to landscape design | 2012 |
| 4.1.8 | Investigate opportunities to develop Jervis Bay as teaching and research satellite exhibiting high sustainability standards and design | An exemplar satellite campus accommodating teaching, research, retreat and external accommodation. | 2013 |
| 4.1.9 | Review environmental risk provisions | Best practice environmental risk management | Ongoing |
| 4.1.10 | Explore new technologies and products to enhance campus sustainability | Innovation in design and practice Academic integration | Ongoing |

4.2 Energy Management

Objective 4.2. Identify opportunities to reduce energy related CO₂ emissions through efficiencies in operational management and cultural change.

Targets: Reduce energy related CO₂ emissions by:

10% by end 2011

15% by end 2012

20% by end 2013

25% by end 2014

30% by end 2015

Key Performance Indicator:

| Indicators ² |
|--|
| Kg CO ₂ -e/m ² GFA |
| Tonnes CO ₂ -e/EFTSL |

Key Actions

| | Action | Key Outputs | Timeframe |
|-------|--|---|---------------------|
| 4.2.1 | Articulate a vision for renewable energy | Renewable energy target/s established for UC Campuses Partnership opportunities for the provision of on-site renewable energy sources identified | 2011 |
| 4.2.2 | Establish the capacity to access the feed in tariff for renewable energy installations | Improved return on investment for business cases | 2011 |
| 4.2.3 | Establish a mechanism to track the environmental performance of ICT | Efficient ICT operations | 2011 Ongoing |
| 4.2.4 | Formalise a Green ITC purchasing Policy | Monitored performance of ITC initiatives | 2012 |

² Indicators identified are TEFMA industry benchmark indicators.

| | | | |
|-------|--|--|-----------|
| 4.2.5 | Review and rationalise teaching space use/room scheduling to increase efficient space use. | Bookable space rated on energy efficiency Processes to minimise inefficient space use | 2012 |
| 4.2.6 | Identify opportunities to create outdoor teaching spaces as scheduled spaces | Energy neutral learning spaces Complimentary learning spaces for earth science studies | 2012 |
| 4.2.7 | Conduct internal appliance auditing | Efficiency of existing appliances determined Priorities and business case for replacement identified (where appropriate) Guidelines for efficient use of technical equipment | 2012-2013 |
| 4.2.8 | Identify and audit inefficient buildings with a focus on eliminating 'energy waste' and identifying infrastructure deficiencies. | Building efficiency deficits identified. Priorities for expenditure on building refurbishments established | 2012-2014 |
| 4.2.9 | Identify technologies and innovations that enhance energy efficiency | Ongoing research of best practice | Ongoing |

4.3 Water Management

Objective 4.3. *Enhance efficient use of water resources through demand management, technological solutions and reduced reliance on potable water resources.*

Targets

Reduce potable water consumption by:

| | |
|-----------------|-----------------|
| 15% by end 2011 | 35% by end 2014 |
| 20% by end 2012 | 40% by end 2015 |
| 25% by end 2013 | |

Water consumption proximate to TEFMA mean benchmarks by 2015³.

³ TEFMA benchmarks are established annually based on industry mean values.

Key Performance Indicators

| Indicators |
|---------------------------------|
| kL/m ² GFA |
| kL/EFTSL |
| Gross potable water consumption |

Key Actions

| | Action | Key Outputs | Timeframe |
|--------------|--|---|---------------|
| 4.3.1 | Establish baseline water use | Baseline data for 2010 | 2011 |
| 4.3.2 | Install water meters and data loggers to track water consumption | Separation of individual building and landscape water use to allow targeting of actions Performance tracking enabled Higher resolution water use monitoring | 2011-2012 |
| 4.3.3 | Enhance the efficiency of irrigation practices | Reduction in potable water use | Commence 2011 |
| 4.3.4 | Audit water consumption of major buildings and identify priority areas for updating of high water consumption appliances and fittings. | Business cases for priority works Priorities for implementation | Commence 2011 |
| 4.3.5 | Develop and implement community awareness strategies to promote efficient use of water (including lease occupants, service providers and construction) | Reduced potable water use | Commence 2012 |
| 4.3.6 | Set guidelines to ensure all new appliances and fittings meet a minimum WELS rating water efficiency (in conjunction with 4.1.2) | Increased efficiency of internal water use Green Lease compliance with guidelines in all tenancies | 2012 |

| | | | |
|---------------|--|---|------|
| 4.3.7 | Integrate water harvesting or reuse systems into all new buildings | Reduction in potable water use in buildings | 2012 |
| 4.3.8 | Assess options for non-potable water sources, using the distributed systems model (where infrastructure is positioned close to points of demand). Including; <ul style="list-style-type: none"> • Harvesting • Detention • Treated effluent • Grey water • Stormwater abstraction | Identification of options for investment consideration and priority Identification of cost sharing models including grant funding and partnerships | 2012 |
| 4.3.9 | Integrate Water Sensitive Urban Design guidelines into ESD Guidelines (4.1.2) | Reduction in potable water use on new landscapes Opportunities for water harvesting | 2012 |
| 4.3.10 | Identify opportunities for urban wetland development and use of harvested water | Enhanced site ecology for aquatic species Reduction in potable water use on adjacent landscapes Academic engagement | 2013 |
| 4.3.11 | Investigate alternate oval surfaces including warm season grasses and synthetic turf | Reduction in potable water use | 2013 |

4.4 Purchasing, Recycling and Waste Management

Objective 4.4. *Redefine purchasing, use and post-use systems to reduce the environmental and social impact of University purchasing decisions*

Purchasing, recycling and waste management addresses system inputs, reuse and recycling opportunities and appropriate disposal of waste products.

Waste to landfill contributes to greenhouse gas emissions. Quantity of waste sent to landfill is the primary unit for measuring progress, with CO₂ able to be inferred from this measure. Additional targets are included to address purchasing behaviour and inputs to the waste and recycling stream to drive innovation in pursuing a whole-of-life-cycle approach to resource use.

The opportunity exists for the University to emerge as a tertiary sector leader in the field of sustainable procurement with early progress indicating a high level of corporate and staff commitment.

Targets:

Reduce waste to landfill⁴ by:

| | |
|-----------------|-----------------|
| 15% by end 2011 | 50% by end 2014 |
| 25% by end 2012 | 60% by end 2015 |
| 35% by end 2013 | |

Achieve a green buy⁵ of:

| | |
|-----------------|-----------------|
| 25% by end 2011 | 45% by end 2014 |
| 35% by end 2012 | 50% by end 2015 |
| 40% by end 2013 | |

Key Performance Indicators

Indicators

Tonnes to landfill

% Green buy

Stationary and office supplies

Data for a 2010 baseline were not available at the time of reporting

⁴ Organic recycling would be required to achieve this target

⁵ For the purposes of the Strategy products qualify as Green Buy if they include 50% or greater recycled content and are free from harmful chemicals. If they do not meet the 50% recycled content criteria they must be at least 70% recyclable. Food products are to be sourced within Australia or certified fair trade.

Key Actions

| | Action | Key Outputs | Timeframe |
|----------------------------|--|--|----------------|
| Recycling and Waste | | | |
| 4.4.1 | Revise waste management services to capture opportunities for recycling, source separation and waste minimisation. | Recycling infrastructure implemented across campus Reduced waste to landfill | 2011 |
| 4.4.2 | Review waste enclosure standards | Best practice environmental risk management | 2011 |
| 4.4.3 | Develop and implement community awareness strategies to promote reduce, reuse and recycle ethos. | Reduced inputs to waste stream Increased recycling rates Culture of responsibility | 2011 |
| 4.4.4 | Integrate recycling and waste management into all new buildings and refurbishments | Accessible recycling infrastructure | 2011 - ongoing |
| 4.4.5 | Standardise Waste Management Plans for events | Maximised recycling performance and monitoring at hosted events | 2012 |
| 4.4.6 | Monitor construction contractors to ensure compliance with GreenStar waste management requirements | Compliance of contractors | 2012-ongoing |
| 4.4.7 | Investigate organic recycling systems and opportunities to recycle organic material. | Cost benefit analysis of on-site and off-site composting opportunities | 2012 |
| 4.4.8 | Investigate new technologies and innovation in waste and recycling practices | Innovation in waste and recycling practices. Academic engagement | 2012 - Ongoing |
| 4.4.9 | Review goods packaging across campus procurement and identify opportunities for supplier take back or reduction of packaging waste | Reduced waste to landfill | 2013 |

| Purchasing and Input Reduction | | | |
|--------------------------------|--|---|---------|
| 4.4.10 | Develop initiatives targeting resource use (input) reduction e.g. paper, plastic bags, packaging and bottled water | Reduced campus footprint Reduced waste production Community awareness of personal footprint | Ongoing |
| 4.4.11 | Develop sustainable purchasing guidelines for integration into the University's purchasing policy. | Environmentally and socially responsible purchasing practices Increased Green Buy Increased purchase of Fair trade products | 2011 |
| 4.4.12 | Implement sustainable stationery purchasing across central office supplies | 25% green buy Increased representation of Fair Trade products | 2011 |
| 4.1.13 | Investigate 'Green Option' products and branding across University operations and businesses | Reduced campus footprint Diversified income base | 2012 |
| 4.1.14 | Review academic assessment submission requirements to promote electronic submission of assessment articles where practicable | Increased community awareness Reduced paper consumption Increased recycling Reduced waste to landfill | 2012 |
| 4.1.15 | Investigate options and products with low environmental impact for use in food service and at events | Reduced waste to landfill Increased Green Buy | 2012 |
| 4.1.16 | Develop best practice guidelines for sustainable procurement | Leadership Framework for progressive adoption of new technologies and products | 2013 |

4.5 Sustainable Transport

Objective 4.5. *Provide infrastructure and support to encourage sustainable modes of transport and reduce the impact of University related travel*

Targets

Reduce travel related **CO₂** emissions by 25% by 2015 on 2010 levels

Offset university car fleet by 2013*

Continual uptake of sustainable transport and e-commuting technology

Key Performance Indicators

| Indicators |
|---|
| CO ₂ emission from university related travel |
| Increased access to and use of sustainable transport infrastructure |

*Does not include corporate vehicles tied to salary packages

Key Actions

| | Action | Key Outputs | Timeframe |
|-------|--|--|-----------|
| 4.5.1 | Establish a baseline for University related travel emissions including air travel | Methodology for estimating University related travel Baseline for CO ₂ emissions from University related travel | 2011 |
| 4.5.2 | Review and rationalise the University vehicle fleet | Reduced CO ₂ emissions | 2011 |
| 4.5.3 | Conduct a needs analysis and develop a concept design for cycling facilities with the University <ul style="list-style-type: none"> i. cycle paths, signage and maps ii. bike racks iii. secure storage, locker and shower facilities iv. workshop space for repairs v. public bike pumps | Needs and resources identified to inform future capital expenditure funding Community awareness of infrastructure Increased number of staff and students cycling to University | 2011 |
| 4.5.4 | Integrate pedestrian and bicycle routes and needs analysis into the campus Master Plan. | Ease of access to the campus for sustainable transport modes | 2012 |

| | | | |
|---------------|---|--|---------|
| 4.5.5 | Investigate options to reduce/offset CO ₂ emissions from non-fleet vehicle University related travel | Policy for university related travel Reduced CO ₂ emissions | 2012 |
| 4.5.6 | Integrate sustainable transport content into the existing parking survey (resurvey biannual) | Baseline data for performance assessment | 2012 |
| 4.5.7 | Develop a schedule of works for implementation of sustainable transport based on needs analysis, recommendations from the Road and Parking Plan and periodic review against biannual survey | Five year strategic plan for investment and implementation with biannual review Opportunities for co-investment in infrastructure identified Sustainable transport links and hubs beyond the campus interface identified Commence implementation of actions from the Road and Parking Plan. | 2012 |
| 4.5.8 | Develop guidelines for bicycle shelters to target zero emission post occupancy | Zero emission bicycle shelters | 2012 |
| 4.5.9 | Integrate sustainable transport planning into the existing Healthy Campus initiative | Increased number of cycling to campus | 2012 |
| 4.5.10 | Participate in 'Sustainable Pathways' events to encourage cycling and walking to University. Synchronise with Healthy campus initiatives | Community engagement Increased membership to sustainability mail lists | Ongoing |
| 4.5.11 | Develop e-commuting technologies including access to virtual meeting and conferencing technology | Reduced CO ₂ emissions from university related travel | 2013 |

Implementation

This Strategy has been developed to complement and advance the strategic direction of the University with respect to the University of Canberra Strategic Plan, Engagement Strategy, Strategy for Development of Research, Academic Plan, Capability Plan and operational plans including the University Master Plan.

The University of Canberra begins its sustainability journey up to a decade behind its peers, with performance across key Campus Footprint indicators typically below the industry average⁶. The targets in this Strategy are ambitious in this context and support needs to be garnered from all areas of campus for targets to be achieved and sustainability outcomes realised.

While the availability of resources will limit the number of staff dedicated to overseeing the implementation of the Sustainability Strategy, the engagement of key strategic areas will create awareness of the University's vision for a sustainable campus and facilitate the identification of support resources and internal collaboration and partnership opportunities. This will serve to promote a high level of integration of sustainability into long term and strategic planning across campus operational and academic units.

The establishment of an advisory group (comprised of representatives across campus operations, teaching and learning, research and community) to oversee the implementation of the Sustainability Strategy will engage internal expertise and assist in developing an integrated approach to implementation. The inclusion of student representatives from undergraduate and post-graduate streams will allow the unique perspective of students to be engaged throughout implementation. Terms of reference for the advisory group should set out expectations and roles to ensure the groups efforts are targeted to specified outcomes within this Strategy.

⁶ 2009 Benchmark Report Institutional Edition (2009). Tertiary Education Facilities Management Association (TEFMA).

Monitoring, reporting and evaluation

Reporting against this Strategy will be undertaken on a quarterly and annual basis. Quarterly reports will be provided to the advisory group with summaries and recommendations tabled to the Environmental Works Committee quarterly and the Vice-Chancellor's Group (where appropriate). Annual reporting will be provided to the Environmental Works Committee and the Vice-Chancellor's Group.

Quarterly reporting will allow the implementation team to highlight pitfalls and successes as well as opportunities not foreseen in the development of this Strategy. The annual report will assess performance against targets and implementation capacity. An evaluation of staffing levels and resourcing will be provided in the annual report to ensure targets are realistic under the prevailing staffing levels and resources.

Appendix 1: Sustainability Strategy Context

Background

As a signatory of the Talloires Declaration, the University has committed to demonstrating leadership in the pursuit of sustainable development through corporate, academic and community engagement. Step 39 of the University of Canberra Strategic Plan 2008-2012 incorporated this commitment in an integrated plan to build the environmental, social and economic capital of the University.

While Step 39 identified a broad sustainability vision for the University, the Sustainability Strategy 2011–2016 provides a framework for that vision and specific objectives and targets for action. It goes beyond the timeline of the current University Strategic Plan, establishing a six-year horizon for the progressive achievement of sustainability targets.

The Sustainability Challenge

In accord with the World Commission on Environment and Development, the University acknowledges Ecologically Sustainable Development (ESD) as,

“development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”⁷

Only through judicious management of the planet’s resources will global ecosystems continue to supply the food, shelter, fresh air and water that constitute the basic needs of people, and that provide the social, aesthetic and recreational opportunities that increase wellbeing. To enable present and future generations to meet their needs, current generations must maintain the future productive capacity of local and global ecosystems.

⁷ United Nations World Commission on Environment and Development (WCED): Our Common Future, 1987

Natural Resource Consumption

Under current world consumption patterns, future social and economic security cannot be assured. The rapid growth of human population in the last 50 years has seen resource use and consumption reach levels unparalleled in human history. In the 21st Century we witness unprecedented loss of species and biodiversity, ecosystem degradation and anthropogenic climate change.

In 2007, the global average human ecological footprint was estimated at 2.7 'global hectares', exceeding the earth's biocapacity⁸ of 1.8 global hectares. Affluent countries such as Australia incur higher average footprints, as relatively high levels of wealth support high levels of consumption of goods and services and subsequent high levels of waste production. For example, the ecological footprint of the Australian Capital Territory (ACT) was 9.2 global hectares in 2009⁹; 3.4 times the world average and 5 times the level that Earth could indefinitely sustain if everyone used resources at the same rate as the ACT. The high average income of the ACT results in ACT citizens having a footprint 11% higher than the average Australian.

A 2008-09 assessment of the ecological impact of consumption patterns in the nations capital identified energy consumption, transportation of people and goods and the consumption rate of goods and services¹⁰ as the key areas in which opportunity existed to reduce the ACT population's ecological footprint.

Climate Change

It is widely accepted that human activity through the production of greenhouse gases is inducing a rise in the earth's average surface temperature (global warming), resulting in changes in global climate patterns. While it is difficult to predict the impact that changes in global climate patterns will have on people and food production systems, it is almost universally agreed in the scientific community that

⁸ Biocapacity is the capacity of biologically productive systems to generate resources on an ongoing basis and to absorb the wastes that result from their consumption.

⁹ Integrated Sustainability Analysis Research Group (2010) The 2008-09 Ecological Footprint of the Population of the Australian Capital Territory.

¹⁰ Integrated Sustainability Analysis Research Group (2010) The 2008-09 Ecological Footprint of the Population of the Australian Capital Territory.

global warming needs to be constrained to within 2°C to avoid irreversible damage to global ecosystems¹¹. Globally, this will require the evolution of ‘decarbonised’ human societies with production processes and consumption revolutionised to achieve minimum emission of CO₂ and other harmful greenhouse gases within the 21st Century. Pathways toward a decarbonised society complement those required to reduce the University’s ecological footprint, with actions targeted to addressing the impact of natural resource consumption, university-related travel and waste production.

Economic Growth

The prevalence of an economic paradigm that depends on growth and fosters consumption has placed increasing pressure on the capacity of natural ecosystems to meet the needs of human societies and absorb the ensuing waste and pollution.

As leaders in discourse and innovation, universities are in a prime position to challenge conventional notions of economic growth that presently drive unsustainable consumption levels. Challenging conventional approaches cannot be achieved overnight but requires a long-term commitment to change. Through research, innovation and the development of sustainable practices, the tertiary sector can provide leadership in redefining perceptions of growth, developing a new paradigm of prosperity encompassing ecological and social wealth.

Opportunities

Meeting the sustainability challenge presents opportunities to enhance the efficiency of campus operations and exhibit leadership in sustainable development while enhancing the learning experience and capacity of the campus community to contribute to a sustainable future. Key opportunities to enhance campus sustainability are identified as follows.

¹¹ The Copenhagen Diagnosis, 2009: Updating the world on the Latest Climate Science. I. Allison, N. L. Bindoff, R.A. Bindshadler, P.M. Cox, N. de Noblet, M.H. England, J.E. Francis, N. Gruber, A.M. Haywood, D.J. Karoly, G. Kaser, C. Le Quéré, T.M. Lenton, M.E. Mann, B.I. McNeil, A.J. Pitman, S. Rahmstorf, E. Rignot, H.J. Schellnhuber, S.H. Schneider, S.C. Sherwood, R.C.J. Somerville, K. Steffen, E.J. Steig, M. Visbeck, A.J. Weaver. The University of NSW Climate Change Research Centre (CCRC), Sydney, Australia, 60pp.

Energy and Water

Exploring opportunities that reduce waste and increase the efficient use of energy and potable water will be key in addressing the University's base resource requirements and operational budget. Ambitious targets supported by strategic investment in these areas will reduce the campus footprint and represent a prudent investment in the long-term commercial viability of operations, while building the University's reputation as an innovative, forward-thinking education and research institution.

Procurement

Addressing resource use necessarily extends to the purchasing decisions and policies that dictate University consumption patterns. A significant opportunity exists for the University to emerge as a tertiary sector leader in sustainable procurement, as few universities have so far explored the full potential of this facet of sustainability. Sustainable procurement seeks to integrate the total life cycle cost of goods and services into the conventional criteria of cost and quality, thereby minimising the environmental impact of purchasing decisions. A high level of staff interest, progress and expertise has been developed in this area to date, providing an excellent platform from which to develop a sustainable procurement agenda. The scope of future environmentally sustainable procurement guidelines should encompass stationery and office supplies, furniture (including outdoor furniture), fleet vehicles, marketing materials, and consumables associated with food service and events.

Development

Establishing Ecologically Sustainable Development guidelines will allow sustainable procurement to be extended to campus infrastructure development, ensuring future buildings and landscapes have minimal environmental impact and achieve maximum operational efficiency and environmental health. This will require considered assessment of material sourcing and building performance through the incorporation of technologies, products and processes that minimise the total life

cycle impact of built infrastructure and its post-occupancy footprint (the natural resources consumed in the operation of the building once occupied). A focus on post-occupancy performance of buildings will reduce the ongoing operational cost of infrastructure enhancing the efficiency of campus operations.

From a land use perspective, the conventional development paradigm needs to evolve to embrace landscape function beyond the provision of space for infrastructure, aesthetic and recreational use. Landscapes have the capacity to enrich the human experience and provide valuable ecological services within the urban fabric that enhance and complement engineered solutions and operational management while also providing valuable urban habitat for local fauna. Landscapes provide the underlying character of the campus, shaping the nature of social interactions and the perceptions of nature that form the core of the community identity and sense of place. Preserving key ecological assets and utilising landscapes to enhance operational performance (for example to mitigate solar radiation, preserve key resident species or to address site drainage issues) will represent a key shift in conventional models of urban planning and forge a path toward best practice ESD.

Leaders for a sustainable future

Underpinning the success of these opportunities is the capacity of the University to elicit a community consciousness of the impact of personal and corporate behaviour. Providing the campus community with the knowledge and tools required to 'act locally' will empower individuals to contribute to a sustainable future; through personal their consumption choices, through their University roles and through the learning and research experience. There are abundant opportunities to integrate sustainability learning across the University curricula, for example through the development and analysis of marketing strategies and through the design disciplines. Resulting outputs have the potential to provide tools and knowledge that can be extended into the wider community as well as providing participants with practical experience in applying sustainable principles to their field.

Research

The University of Canberra *Strategy for Development of Research 2011-2015* identifies three cross-cultural themes that form the overarching research focus of the University. The themes serve to provide a framework for decision-making in relation to priority areas for investment and support. They also serve as a means of promoting the research of the University of Canberra. The primary theme that encompasses sustainability research is that of *Sustainable Environments*. The Sustainable Environments theme encompasses existing strengths in the applied sciences, represented by the Faculty of Applied Science and the Institute for Applied Ecology. Acknowledging the synergy between natural ecosystems and developing sustainable urban environments, the theme also captures the growing areas of specialisation in architecture and design, engineering, urban and regional research through the faculties of Arts and Design, Information Sciences and Engineering and Business and Government. Through the Sustainable Environments theme, the Research Strategy builds a sound basis for the advancement of University expertise in sustainability research and the emergence of the University as a leader in sustainable development.

Business Benefits

As global climate change, population growth, resource scarcity, and environmental and social impact mitigation continue in the 21st century, rising resource and services prices are placing increasing pressure on operational budgets. As organisations adapt to the challenges presented, sustainability has emerged as a core means to achieve operational efficiency and commercial viability. Through demand management, efficient resource use, sustainable procurement and the adoption of Ecologically Sustainable Development principles the University can maximise environmental and social performance while also enhancing commercial capability. The achievement of efficiencies also provides a risk buffer against imminent price rises.

The capacity of new technologies to enhance business efficiency while improving sustainability has seen the progressive adoption of sustainability programs in the commercial sector. This demand has stimulated technological developments that are bringing the costs of these investments down, as well as extending the range of

opportunities available. Exploring the viability of existing, new and emerging technologies has the potential to reduce cyclical operational budgets and maximise business profitability while also optimising the environmental and social benefits to society.

The operational efficiency and competitive advantage to be accrued through the adoption of sustainability into business operations has seen corporate leaders emerging as major investors in the research and development of sustainable practices and technologies. Advancing the University's research agenda in this field presents an opportunity for the University to emerge as a significant research institution with enhanced capacity to attract national and international investment.

In parallel, the evolution of an increasingly environmentally aware community has seen the growth of corporate interest in social responsibility. In this context, incorporation of sustainability considerations into large organisations provides reputational benefits through recognition as a responsible corporate citizen.

In the tertiary sector environmental performance may emerge as a criterion students consider when choosing their place of study, with improved sustainability performance translating to a positive student recruitment outcomes. The development of tertiary sector sustainability indices is likely to facilitate this trend by enhancing student and employee access to information on this aspect of institutional performance.

Sustainability performance is also recognised as an emerging issue in educational buildings and is set to become an indicator incorporated into government funding decisions.

Social Benefits

The social benefits of embracing sustainability, while often difficult to quantify, nonetheless provide significant incentive to adopting sustainable practices and principles. Social benefits can be achieved through both passive and active engagement.

Passive engagement of staff and students interest can be achieved through the development of sustainable spaces that impact on the social wellbeing of the community using University facilities. The social benefits of sustainable building and space design are well documented and extend across health, work satisfaction and comfort. The provision of social benefit is typically achieved through the creation of healthy environments in which to learn and work and include increased thermal comfort, increased internal air quality, natural lighting and access to green space. The campus community may be engaged in spaces through opportunities to participate in their design and development.

Active engagement provides the University community with the opportunity to engage in achieving the goals of the Strategy both through their participation in the evolution of a sustainable culture and in defining personal and social goals that meet the unique needs and aspirations of the community, be they academic or social. Active engagement can engender a sense of ownership and civic pride in the campus and provide opportunities to develop social networks through shared achievement.

An informed and engaged citizenry is integral to achieving the cultural change required to realise the targets presented in this Strategy.

Taking Action

The Strategy is developed at a time when local, national and international governments are trying to reduce their environmental and social impact to ensure the needs of future generations can be met and to minimise the impacts of anthropogenic global climate change. These efforts target legal and decision-making frameworks and conventions that aim to achieve cross-jurisdictional compliance and international cooperation in meeting this goal.

Governments

Australia signed the Kyoto Protocol¹² on the 24 April 1998, formally ratifying its commitment on 12 December 2007. Under the Kyoto Protocol Australia is required to limit its average annual green house gas emissions over 2008-2012 to 108% of its emissions in 1990. To assist in meeting its international obligations, the Australian Government established a Renewable Energy Target of 20% by 2020. The Australian Capital Territory (ACT) of Australia, in which the University of Canberra resides, has set a target to achieve a 40% reduction in greenhouse gas emissions by 2020 and an 80% reduction by 2050 (based on 1990 levels)¹³.

In establishing their commitment to a sustainable future, all Australian jurisdictions endorsed the National Strategy for Ecologically Sustainable Development in 1992. The National Strategy provides a broad strategic direction and framework to government policy and decision-making in meeting the long-term needs of the population and the environment. The Intergovernmental Agreement on the Environment (1992) and subsequently the Heads of Agreement on Commonwealth/State Roles and Responsibilities for the Environment (1997) provide the mechanisms through which consultative reform can be achieved across areas of national significance, legislation and program delivery to achieve agreed objectives and outcomes. The National Strategy is supported by a the National Pollution Inventory (NPI) and National Greenhouse and Energy Reporting (NGER) Act 2007 under which facilities and corporations are required to report the greenhouse gas emissions of their operations.

In the last decade, the ACT region has experienced a period of rapid population growth paired with prolonged drought conditions, prompting concerns for water security and the impact of development on the prevailing regionally- and nationally-significant ecosystems. Mandatory water restrictions and increased focus on balancing the economic, environmental and social needs of the city have characterised this period and have seen the establishment of the Department of

¹² The Kyoto Protocol is an international agreement that commits signatories to set and meet Greenhouse Gas reduction targets.

¹³ Climate Change and Greenhouse Gas Reduction Bill 2010 (ACT)

Climate Change, Environment, Energy and Water to direct efforts to mitigate and minimise the impacts of climate change. Legally, the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 oversees the protection of assets of national significance, both natural and built.

Universities

Nationally and internationally, universities are engaging in sustainability through research, teaching and commitment to environmental management plans.

In the United Kingdom, the sustainability performance of universities is assessed annually through the Green League methodology. The resulting Green League table ranks universities based on their sustainability commitment (through action plans and targets) and performance across waste management, sustainable procurement, transport, water, construction and refurbishment, emissions and discharges, community involvement and biodiversity. The University of Plymouth, ranked 1 in 2010, has developed an extensive sustainability portfolio, incorporating external and campus community engagement, the embedding of the sustainability agenda into student learning and research and university-wide policy and processes. The University of Plymouth has taken a transformative approach, establishing the Centre for Sustainable Futures to implement its sustainability vision and bring about the cultural shift required to assist the tertiary sector to have maximum impact in forging a sustainable future.

A benchmarking methodology is presently evolving that will encompass Australian universities. Australasian Campuses Towards Sustainability Association (ACTS) in collaboration with UK based Environmental Association for Universities and Colleges (EAUC) is developing the methodology. Collaboration is also being undertaken with the Tertiary Education Facilities Management Association (TEFMA) to identify options for integrating the benchmarking into TEFMA's annual benchmarking survey. The tool will address four priority areas: leadership and governance; learning, teaching and research; partnership and engagement; and operations. The tool aims to provide a robust, industry specific benchmarking, reporting and strategic tool to allow institutions to successfully report on progress and guide strategic direction.

Nationally, half of all Australian universities are signatory to the Talloires Declaration. Monash University has established areas of research expertise that target corporate, community and tertiary sector partnerships in advancing sustainability learning and information dissemination, including the Centre for Water Sensitive Cities, Climate Works Australia and Uni Water, a cross-disciplinary partnership with Melbourne University. Monash University has also established a profile for extension of sustainability into the corporate community through the development of GreenSteps, a program that trains students in environmental audit techniques before placing them in external organisations to develop solutions tailored to enhance environmental performance.

While the format of sustainability programs and the make up of personnel varies across institutions, it is universally agreed that engagement and support of the Vice-Chancellor and senior executive is key to maximising the outcomes of sustainability programs. Integration of the sustainability agenda into key strategic policies provides further strength to the achievement of enduring outcomes and helps embed sustainable practice into the long-term strategic direction of the institution.

For the University of Canberra one such synergy can be realised through integration of the sustainability agenda with the *Strategy for Development of Research 2011-2015*. The research themes identified in the strategy, notably *Sustainable Natural and Built Environments* provide the mechanism through which to build and promote the research strengths of the University both through existing centres for sustainability research and through the identification of additional fields of strength.

The strategic development of partnerships and collaborations can see the University emerge as a major contributor to the sustainability of the region, with this process having already commenced through the Canberra Urban and Rural Futures partnership forged with the Australian National University. The establishment of partnerships that showcase and complement existing strengths will ensure the University is engaged in supporting a sustainable future for the region, as well as providing opportunities for knowledge sharing and investment partnerships.

Within teaching and learning, the development of sustainability projects for inclusion in Work Integrated Learning (WIL) provides a key mechanism to build

community capacity and enhance student engagement with the sustainability agenda. Through the WIL framework, students can be encouraged to develop innovative and practical approaches to sustainability challenges in addition to being provided with the opportunity to apply their skills to practical projects and participate in the evolution of the campus.

The University of Canberra has well developed mechanisms receptive to the inclusion of the Sustainability vision and the embedding of the principles and processes required to excel as an exemplar in sustainability learning and practice.

Appendix 2: Sustainability Data Matrix

The following matrix provides a monitoring and reporting mechanism to facilitate the collation of Key Performance Indicators (KPI) and reporting against the strategy and key legislative requirements.

| |
|--|
| Unit of measurement |
| Teaching and Learning |
| % Courses with embedded sustainability principles |
| No. Students participating in sustainability major or minor pathways |
| Research |
| No. Funded research projects targeting sustainability |
| Best practice guidelines for sustainable research practices |
| No. National and international journal articles relating to sustainability research |
| Community |
| <i>Outreach and Communication</i> |
| <p>No. Students and staff;</p> <ul style="list-style-type: none"> – participation in events and sustainability forums – webpage/site hits – members of UC Environment and Sustainability Society – Green Office champions |
| No. Presentations/seminars |
| <i>Leadership</i> |
| Hrs staff training at sustainability courses, seminars and conferences |
| No. Presentations/papers and estimate of attendees at local, national and international forums, seminars, conferences and in publications |
| Tertiary education sustainability benchmarks as identified by TEFMA and ACTS ¹⁴ |
| Campus Footprint |
| <i>Policy and Development</i> |
| New buildings achieve a <i>minimum</i> equivalent to 5 Star Green Star |
| Refurbishments enhance the performance of existing buildings against NABERS ¹⁵ |
| Key ecological assets and landscape features integrated into campus planning |

¹⁴ At the time of writing TEFMA and the Australasian Campuses Toward Sustainability (ACTS) were devising sustainability benchmarks for the tertiary sector.

| Energy Management | |
|--|--|
| kWh of electricity (black) | Current metering |
| kWh of electricity (renewable) | Future metering |
| GJ of gas | Current metering |
| Tonnes CO₂ equivalent emissions | Extrapolated based on carbon emission factors |
| Water Management | |
| kL Potable water use | Current metering |
| kl Harvested water | Calculated on harvesting capacity, catchment and rainfall |
| kl Reclaimed | Future metering/use estimation by project |
| Purchasing, Recycling and Waste | |
| Tonnes diverted from landfill | Calculated from recycling services contract |
| Tonnes to landfill | Calculated from landfill emissions |
| % Green buy Stationary and office supplies | Establish with supplier (existing) |
| Sheets of paper | Establish with supplier (existing) |
| CO₂ equivalent emissions | Calculated from reduction in landfill emissions resulting from waste diversion |
| Transport | |
| Km air travel | Future monitoring (Voyager) |
| Km car fleet travel <ul style="list-style-type: none"> • Diesel • Petrol | Current monitoring (Fuel card) |
| CO₂ equivalent emissions | Calculated from fuel emission factors |
| Mode of transport (as a percentage of respondents) <ul style="list-style-type: none"> • Car SOV • Car MOV • Bus • Cycle • Walk | Integrate into current parking and transport survey |
| Km E-commute | Use of virtual technologies to attend long distance meetings Kilometres and CO ₂ avoided by postcode of e commuters (to work place and to interstate/international meetings) |

