

Case study

'Environmental Memoirs' is a global initiative of Swinburne's National Centre for Sustainability. The aim of this project is to illustrate how the health of people and their communities depends on the health of the local ecosystem, and it involves the collection of memoirs from citizens living within degrading ecological environments.

Phase 1 of the project has involved documenting the memoirs of individuals and communities with declining living standards due to degraded natural environments across 14 countries. Work in Phase 2 will draw on the methods and products of Phase 1 activity to engage young people in Australia in further related work.

The Environmental Memoirs project has become one of UNESCO's demonstration activities in the Decade of Education for Sustainable Development. The memoirs are located on the project website: www.swinburne.edu.au/ncs/environmentalmemoirs

The following memoir is from 73 year-old Ulman Kanderova, a female resident of Kazak Darya, a small village that sat on the banks of the Aral Sea in Uzbekistan.

Uzbekistan has a population of 26,851,195 and its capital city is Tashkent.

In the 1960s, the Soviet Union carried out the 'Virgin Lands Scheme' to irrigate large plots of steppe in Central Asia for cotton production. The scheme diverted water from the Syr Darya and the Amu Darya Rivers via the construction of thousands of kilometres of irrigation channel. This, in turn, resulted in the exposure of c. 40,000 km of sea bed.

In her memoir, Ulman lamented the 'Aral Sea tragedy'. The 'death' of the Aral Sea meant the end of a prosperous fishing industry, increased salinity of arable land, the out migration of numerous citizens, reduced access to safe drinking water and an increase in diseases such as anaemia, cancer and tuberculosis.

As a child, Ulman walked to school each morning with a pocket full of fried sour gum. Grains, fruits and vegetables were easy to come by at that time, growing along the channels fed by the Kazak Darya River. There was also a large fishing fleet and factory in town, providing more than enough fish for everyone. The fishing industry also provided work for everyone – Ulman worked in the factory, her father was a captain and her husband was a fisherman. The town also provided work for many people from the surrounding villages.

Ulman's family still eats a lot of fish, but they have to get it from a wetland some distance from where they live. Moreover, the fish they eat now are Grass Carp *Ctenopharyngodon idella* – nowhere near as delicious as the Aral Sturgeon and Swordfish they used to eat. The Grass Carp was introduced from eastern Russia. It eats sea grasses and reeds, and it can survive in conditions in which other fish cannot.

According to Ulman, when she was a child in the 1940s the sea used to come up almost to the edge of the town. Now, the sea is more than 130 km away. She said:

"I find this strange; it feels like it was only yesterday when we would travel out to the islands in the sea to collect wood and reeds for house construction. The people in this community used to be worried about the boats of their fathers and sons capsizing in the storms and dying at sea, but nowadays they are more concerned about getting access to clean drinking water".

on the road to sustainability



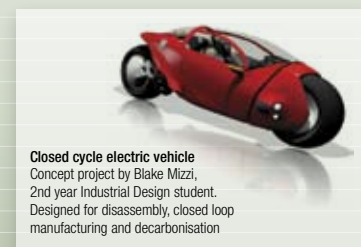
Further information

National Centre for Sustainability
Swinburne University of Technology
Telephone (03) 9214 5997
Facsimile (03) 9214 5967

www.swinburne.edu.au/ncs



national centre for sustainability



Closed cycle electric vehicle
Concept project by Blake Mizzi,
2nd year Industrial Design student.
Designed for disassembly, closed loop
manufacturing and decarbonisation

This brochure has been printed on recycled paper manufactured under the ISO 14001 environmental management systems standard.

SP0848-33-0307



SWIN
BUR
NE

SWINBURNE
UNIVERSITY OF
TECHNOLOGY

on the road to sustainability

At Swinburne, the concept of sustainability incorporates financial, environmental and socio-cultural dimensions, and these are interrelated. Improvements in environmental sustainability, for example, often contribute to improve financial viability (for example, through savings in energy costs). It follows that the University is committed to sustainability, and that sustainability principles are factored into decision-making and the implementation of program delivery, research, capital infrastructure projects, and other activities.

During 2006, Swinburne made significant progress towards becoming a genuinely sustainable organisation. Much of this progress was predicated on, and consistent with, the Sustainability Covenant signed by the University and the Environmental Protection Authority Victoria (EPA) in October 2005. In particular, the Covenant is the driving force for 'education for sustainability' at Swinburne.



Rather than simply developing stand-alone courses and units of study in sustainability, Swinburne recognises the importance of developing intersectoral and trans-disciplinary sustainability initiatives. An example of this is a new Diploma of Sustainability, delivered to more than 60 students in 2006. This course is offered concurrently to Higher Education and TAFE students as an 'add on' to their existing

degree or diploma study, and contextualised to ensure its relevance to that study. Another example is the development at Lilydale during 2006 of a new Masters of Commerce program with a strong focus on social and business sustainability.

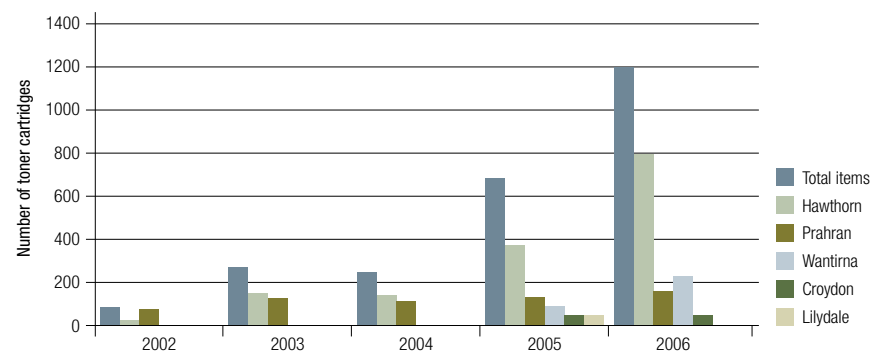
Infrastructure projects

Swinburne was awarded two community water grants in 2006 – one for water recycling at the Wantirna Campus nursery and one for the installation of waterless urinals at the Hawthorn Campus. The latter initiative is expected to save almost 1,000,000 litres of drinking water per year. Energy efficiency projects include retro-fitting two of Swinburne's most populated buildings at Hawthorn with T5 and motion sensor lighting, and the installation of other energy efficient lighting throughout engineering, automotive and welding workshops at Croydon and Wantirna.

New building management systems were introduced in 2006 for the Croydon and Hawthorn TAFE buildings, and a new emphasis was placed on the recycling and re-use of building materials at all campuses. Similarly, new waste contracts provide for organic recycling at the Prahran and Lilydale Campuses, waste auditing, and improved recycling and waste reduction measures.

Work commenced in 2006 on a new headquarters for Swinburne's National Centre for Sustainability at the Wantirna Campus. Scheduled for completion in 2007, this building will incorporate the latest environmentally sustainable design features such as rainwater harvesting and recycling, waterless urinals, low water consumption landscaping, recycled materials, natural ventilation and daylighting strategies. Thus, it should help to position Victoria (and Swinburne) as a national leader in environmentally sustainable design and construction.

Toner cartridge recycling 2002–2006



Planet Swinburne and TravelSmart

An important part of becoming a more sustainable university is to inform and involve staff and students directly. For this reason, in 2006 Swinburne rolled out a comprehensive behaviour change campaign called Planet Swinburne. This initiative sees more than 100 Green Office representatives engaging staff and students on such things as saving energy, reducing paper use and reducing waste, with the aid of a poster series and other resources.

Allied to the Planet Swinburne initiative was the launch during 2006 of Swinburne's Green Travel Plan. A result of a collaboration between the University and the Victorian Government's TravelSmart program, the Green Travel Plan makes sustainable travel more accessible to staff and students through the free use of carpooling software, greater accessibility to bike and public transport facilities, and a 'greener' vehicle fleet (including Swinburne's first hybrid vehicle).

The external focus of Swinburne's commitment to sustainability is just as strong as the internal focus. For example, in 2006 Swinburne piloted a

community engagement program with the City of Boroondara to deliver a series of workshops on sustainability.

The project involved households across the municipality in working towards living more sustainable, and its success (including average annual reductions in greenhouse gas emissions and household water bills of 28% and 16%, respectively) was recognised through nomination as a finalist in the 2006 United Nations Environmental Awards. As a result, a Sustainability Fund grant will see the program extended to a further 1,200 householders during 2006–2008.

Other sustainability initiatives at Swinburne in 2006 included:

- ▶ a partnership between Swinburne's Faculty of Design and EPA Victoria to support an EcoDesign website that showcases environmental innovation and stewardship – the website highlights tangible and cost effective examples of how businesses can reduce the environmental impact of products and services to improve the long term business sustainability

- ▶ development of new short courses on 'Design Strategies for Melbourne 2030 Activity Centres' and 'Retail Futures', the latter dealing with the challenges and opportunities presented by sustainability and climate change for retailers
- ▶ implementation by the Faculty of Design of a curriculum pilot project called 'Sustainability by degrees', which involves staff, students and industry in a review of undergraduate courses to ensure that sustainability is adequately addressed
- ▶ inclusion in Swinburne's Venture Cup of a category for sustainability, with a \$9,000 prize provided by Sustainability Victoria (and awarded to Naomi Toohey, Susan Jones, Khai Mun and Hock Khoo, students in the Masters of Entrepreneurship program, for their business idea called EcoRegen – an eco-friendly organic waste treatment system
- ▶ hosting a two-day Environmental Science Expo at the Croydon Campus in conjunction with the Victorian Curriculum Assessment Authority (VCAA) and the EPA – the aim of this Expo was to provide hands on activities for Year 9 and 10 students to increase their awareness of environmental responsibility and to inform them about further study options in environmental science and related fields.

Percentage of recycled office paper purchasing 2004–2006

