



MacKillop College



Sustainability and Awareness Initiative

“Catch it if you can!”

1. The extent of contribution to the enhancement & sustainability of the environment through education

MacKillop College seeks to instil in our students concepts of sustainable living and environmental stewardship through physical works and inclusion of sustainability issues in the curriculum and community outreach projects. Our motto, “Catch it if you can!!”, encompasses rainwater, solar energy, threatened cultures, food production, animal husbandry, and recognising “waste” as a resource. Over the past two years, students and staff have identified areas where we could incorporate sustainability measures and are putting our activities into an AusSSI template-based school environmental management plan.

Our recent sustainability initiatives include:

- Federal Government Community Water Grant (CWG) project
- Installing printing management software
- Recycling bins
- Landscaping with native plants and establishment of an Aboriginal Reconciliation Garden
- Community service - Bellerive foreshore and Seven Mile Beach weed removal and re-vegetation
- Animal studies program
- School food garden re-establishment
- Federal Government Photovoltaic Rebate Programme (PVRP)

2. Achievements and results

In 2006 Corey Peterson, our Network Manager, completed a CWG application for a stormwater collection project and education campaign, with substantial data gathering from then Year 10, Brad Menzie and other students. System specifications were based on runoff areas and types (e.g., buildings, pavement), rainfall data from our weather station and government sources, and water use estimates. We received support letters



from local, state, and federal politicians as well as professionals in water management. Tank specialists and engineering firms were consulted to achieve a design tying into our existing water system. The maximum \$50,000 was granted based on design quality, substantial community contributions and support, and the College's financial commitment.

Work-related learning students helped construct the tank pads and work out the details of trenching and running pipes. In 2007, Year 10 students studied the project from initial data gathering, to application submission, and implementation. Other students engaged in the process through a number of promotional design competitions, involving a "waterwise" logo (pictured here), posters, and brochure, winners received \$50 Commonwealth Bank accounts. Winning designs were on display at the MacKillop stall during the Sustainable Living Expo 20-21 October 2007 with Corey Peterson a scheduled workshop presenter on the project. An interpretive "Water Wall" design for our Library/Science Block resulted from a collaborative Art/Science/SOSE effort to visually depict the water cycle.



Our Commissioning Ceremony was attended by community sponsors and the project was formally opened by Senator Richard Colbeck. Collecting runoff from 60% of our catchment area through a stormwater in-line tank, an on-demand pump rapidly transfers the water to three 45,000 litre tanks, supplying water to the front lawns irrigation system and to two 12,000 litre tanks for oval irrigation. An estimated 1.2 mega litres savings per year will be confirmed with students monitoring the school's mains water meter.



Corey Peterson was interviewed regarding our CWG project on an ABC Morning Show in 2007, resulting in a number of schools contacting us for help in completing their own Round 3 applications.

Whenever possible, MacKillop landscapes with native plants for water conservation, habitat enhancement, and cultural awareness. Through a \$3000 grant from the Catholic Education Office (CEO) and lead by our student/staff Ministry Team, the Reconciliation Garden project commenced during 2007 with completion in 2008 to honour the aboriginal citizenship referendum anniversary. Liaising with the Aboriginal community via Sarah Lackey, CEO Aboriginal liaison officer, the group met with Tasmanian Aboriginal elder Aunty Verna and Mr. Jo Smith to choose plants significant to Tasmanian Aboriginal people as traditional food sources. Aunty Faye Tatnell was consulted regarding using Aboriginal art and petroglyphic symbols in the design of a simple fire pit surrounded by native grasses and shrubs.



Fully implementing “PaperCut” print management software in 2006 effectively put a price on each page printed with a quota per Term. A 20% reduction in paper use was achieved in the first year, decreasing annual use to 800,000 sheets, with further reductions expected through continuing education efforts.

In 2007, recycling bins were installed in staff and some student areas with plans for a more concerted recycling effort in 2008. Our Animal Studies program has focused on



agriculturally relevant species such as chickens, goats (2007 Royal Hobart Show champion), horses, alpacas, cattle, and rabbits. In conjunction with the school food garden, our students are exposed to the realities of food production and materials cycling required.



Our sustainability efforts progressed in January 2008 through installation of a 2000 Watt grid-connected photovoltaic (PV) array on our Science building to demonstrate alternative energy micro-generation. We received \$12,500 from the Federal Government’s Photovoltaic Rebate Programme (PVRP), with the College paying \$13,000. The grid-connected photovoltaic system proved an immediate success with some days peaking at 2200 Watts of electricity produced. An interpretive display in the science labs will explain the solar energy system.

3. Scale and broader impact

To demonstrate the change we need to see in the world, our target audience is foremost our 560 students and 82 staff, whom we know will take ideas and information to families and other groups. Numerous 2007/2008 school newsletters distributed to 677 families, staff, and community members contained CWG and PVRP updates and content. In fact, we were pleasantly surprised at the response from many of our CWG project sponsors and contractors who engaged in the work as a learning experience in developing sustainable practices in their trades and businesses.

The CWG project features on the State Government’s Tasmania Together website (www.tasmaniatogether.com.au/schools) and in two state-wide 2007 publications, *The Tasmanian Catholic* and *Connections* magazines. The brochure and project description were available at the SLT Sustainable Living Expo in October 2007 and used as a basis for Corey and students to participate in the Tasmanian Centre for Global Learning’s “ruMAD” (aka “Are you making a difference?”) 2007 conference. Corey also presented at the Australia Association for Environmental Education’s conference on 4/5 April 2008 to discuss water use sustainability in schools. Our sustainability efforts in general will also feature on The Tasmanian Centre for Global Learning website under the Local Heroes category (http://www.afairerworld.org/Take_action/local_heroes.html).

Our community outreach efforts, in particular our students' participation in re-vegetation efforts on the Bellerive Foreshore, lead by teacher Graeme Rainbow, demonstrates staff and student commitment to looking beyond the College grounds for ways to support the broader community in environmental projects. In addition, on our school-wide 2007 Walk of Hope at Seven Mile Beach, all students by homeroom group participated in pulling out invasive pine seedlings and planting natives to replace them.



The physical installations at MacKillop College will inspire and inform our community for many years. To further spread the word, the College, in conjunction with SLT, submitted a proposal to the Clarence City Council (CCC) via a February 2008 site visit by the Mayor and General Manager for a community outreach effort involving MacKillop serving as an example school for options other schools have to access available government funding for sustainability improvements through a Clarence Sustainable Schools conference at MacKillop College and providing application completion assistance. We await a CCC decision.

4. Innovative practices, technologies or standards developed or utilised

The CWG project will lower our use of community water resources. We also saved money and effort by tying into existing irrigation systems using anti-backflow devices negating the need to run a separate irrigation system beside our existing mains irrigation system. Our single point collection of stormwater run-off avoided collection from individual roof and paved areas, saving money and lowering maintenance requirements.

PaperCut software shows technology's usefulness to educate on and enforce resource valuation and raise awareness of consumption, with our success helping convince other schools to acquire PaperCut. In 2007, we trialled different paper types with increased recycled content and produced locally to lower our carbon footprint from sourcing paper shipped from Europe. We found an 80% recycled wholly Australian content paper that meets our needs.

MacKillop College is the first Tasmanian school to install a grid-connected photovoltaic system with co-funding from the Federal Government and Aurora Energy support. We have demonstrated the technology in a working environment, including to Aurora staff beginning the learning curve on assisting others in implementing this technology. The system's data logging capabilities enable science and maths classes to include real-time data in manipulation and display exercises.



Involvement of our students in design and construction activities as well as animal husbandry and local food production provides real-world perspectives. Science and SOSE classes studying climate change can see some of the possible remedies put to the test within the school environment.

5. Partnerships formed and utilised and stakeholders engaged

A list of our CWG project sponsors, providing gratis services, equipment use or discounted products are listed in the project brochure. Some supporters have become partners in our continuing sustainability efforts. SLT provided information and support during the CWG and PVRP application efforts and highlights MacKillop College in their own community outreach programs.

As a supporter of our water conservation efforts, the Derwent Estuary Program provided letters of support and on-site consultation, as well as visits to the College for class presentations a few times a year.

Corey Peterson, two Year 10 students, and Hobart Water co-hosted a workshop on water conservation at the Tasmanian Centre for Global Learning's "ruMAD" 2007 conference and we were asked to participate in the next conference.

Brett Carter (solar power specialist) designed and installed our PV system and elicited Aurora's support through their donation and installation of a user-friendly meter with specialty software to track and display system energy flows.