SUMMARY INFORMATION

- Finalist in category 4 of the inaugural Greenhouse Challenge Plus Awards in late 2005, in recognition of our efforts in reducing greenhouse gas emissions over the last six years.
- Over the six years 2000-2005, the following results have been achieved:
  - total greenhouse gas emissions have been reduced by 4,590 tonnes (15.7%) as shown in the following graph;
  - usage of electricity and gas reduced by 9.5% and 21.7% respectively, resulting in a reduction of greenhouse gas emissions from electricity and gas usage of 14.5%;
  - usage of petroleum products reduced by 40.9%, with a corresponding decrease in greenhouse gas emissions of 27.5%;
  - usage of waste products reduced by 23.7% over the last six years, with a corresponding decrease in greenhouse gas emissions of 67.3%;
  - water usage reduced by 13.6%.
- UniSA runs the Institute for Sustainable Systems and Technologies (ISST), an organisation dedicated to developing systems and technologies that will sustain ecosystems, facilitate social and economic development while optimising the use of natural resources, minimising waste, emissions and other environmental consequences, and reducing cost.

DETAILED INFORMATION

- UniSA was a finalist in category 4 of the inaugural Greenhouse Challenge Plus Awards in late 2005, in recognition of our efforts in reducing greenhouse gas emissions over the last five years.
- Since 2000, greenhouse gas emissions have been reduced by 4,590 tonnes (15.7%). Major strategies adopted to achieve these reductions include:
  - implementing power factor correction at the City East and Magill campuses;
  - implementing an Interactive Energy Management System across all campuses, including Whyalla;
  - implementing push button controls for lighting and air conditioning across all metropolitan campuses;
  - the closure of Underdale and start up of the Blueprint buildings;
  - educating staff and students on the importance of recycling, reducing and reusing.
Since 2000, usage of electricity and gas have reduced by 9.5% and 21.7% respectively as shown in the graphs below. During the same period student numbers have increased by 8.1%. The overall result is that greenhouse gas emissions generated from electricity and gas consumption have reduced by 14.5% over the last six years. Significant strategies have included:

- The installation of push button controls for both lighting and air conditioning - this was completed by the end of 2004 and reduced energy usage by ensuring lights and air conditioning are not left on in empty rooms, but still provide users with the necessary level of amenity when the rooms are occupied. It is difficult to determine exactly how much of the reduction in electricity use is attributable to the push button controls; the estimated effect is a reduction of 363,000 kWh per annum.

- Installing solar panels on the roofs of the two new buildings at the City West campus to heat water for the taps and showers in those buildings.

- Closure of the Underdale campus – this resulted in a reduction in gas usage of 4,400 GJ, due to the gas fired heating boilers and furnaces used at Underdale although partly offset by reverse cycle air conditioning systems in the new facilities at the other campuses.

- The installation and implementation of the interactive energy management system (IEMS) - completed at the end of 2004, the IEMS enables energy use not only to be accurately measured and recorded; but also actively monitored and load shed at times of peak demand to ensure the usage parameters agreed with the energy provider are not exceeded. The IEMS strategies have now been in operation for 12 months, and it is estimated that they resulted in savings of 700,000 kWh (700 tonnes CO2-e) during 2005.
Usage of petroleum products reduced by 40.9% over the last six years with a corresponding decrease in greenhouse gas emissions of 27.5%. Significant strategies have included:

- Purchasing LPG powered vehicles to replace existing petrol and diesel powered vehicles. The University now operates eight LPG powered vehicles, compared to one at the end of 2000, with a corresponding decrease in the number of petrol powered vehicles.

- Closure of the Underdale campus and consolidation of academic programs. This has reduced the number of journeys required by staff and students between campuses. The total number of vehicles owned by UniSA has reduced from 68 at the end of 2000 (54 being petrol powered), to 32 at the end of 2005 (15 petrol powered).

- Contributing annually to Greenfleet, a non-profit organisation that runs a program to purchase and plant trees to offset the annual CO2-e emissions generated by motor
vehicles. Thirty of UniSA’s fleet vehicles have been signed up to the program offsetting a total of 129 tonnes of greenhouse gas emissions.

- Staff are encouraged to use public transport, and secure bicycle parking for staff has been provided.
- Lobbying the public transport board for better and more accessible public transport routes between the UniSA campuses, and between the City and the campuses. One positive outcome has been the development of a new public transport interchange close to the Mawson Lakes campus, which will allow for rapid train transit from the City and will have a provision for bicycle lockers.

- Usage of waste products reduced by 23.7% over the last six years, with a corresponding decrease in greenhouse gas emissions of 67.3%, largely through an ongoing education program for staff and students to reduce, reuse and recycle.

- Usage of water reduced by 13.6% over the last six years as shown in the graph below.

![UniSA - Water Use](attachment:image.png)

- The University’s water plan provides a comprehensive strategy for reducing mains water use, utilising grey water and storm water, and implementing efficient water management practices.

- Through the University’s Division of Information Technology, Engineering and the Environment, UniSA runs the Institute for Sustainable Systems and Technologies (ISST), an organisation dedicated to developing systems and technologies that will sustain ecosystems, facilitate social and economic development while optimising the use of natural resources, minimising waste, emissions and other environmental consequences, and reducing cost. In addition to research in environmental sustainability, and the forging of links with other bodies undertaking similar research, the ISST offers consultancy services, training for businesses and industries, and education at both undergraduate and postgraduate level. Recent projects in which ISST has been involved include:

  - Collaborating with the Mawson Lakes Development project team to develop and install solar lights around Sir Douglas Mawson Lake, which utilize an integrated curved solar panel, and will reduce CO2-e emissions by four tonnes per annum.
  - Organising the ATN Sustainability Symposium in September 2005.
  - Research into sustainable cities.
  - Sustainable transport options, including research into biodiesel and other alternative fuels.
  - Research into sustainable air conditioning systems and other household appliances.
A sustainability strategic plan for the Mawson Lakes campus to 2010 has been drafted and distributed for comment. The plan covers effects on the atmosphere and global warming, energy use and alternatives to non-renewable resources, people and their working and living environments, land use and environmentally sustainable development, waste and recycling including waste water management, and water use and reduction.

The design and construction of the Blueprint 2005 buildings was conducted under Environmentally Sustainable Development guidelines.