

28 June 2005

CSES RESEARCHER AWARDED FOR WATER TREATMENT SYSTEM

A consortium of researchers including Dr Bryce Richards from the Centre for Sustainable Energy Systems (CSES) has taken out an inaugural international Mondialogo Engineering Award.

Mondialogo is a partnership initiated by DaimlerChrysler and UNESCO which aims to promote intercultural dialogue and exchange. The genesis of the awards according to Mondialogo is that "Engineers play a crucial role in improving living standards throughout the world. As a result, engineers can have a significant impact on progress towards sustainable development."

On the evening of 30 May 2005 in Berlin, Germany, DaimlerChrysler and UNESCO presented the Mondialogo Engineering Award with a total of 300,000 euros in prize money. An international jury awarded the prizes to the 21 best project teams from 28 countries.

The successful team was lead by Dr Richards' partner and co-researcher Dr Andrea Schäfer from the University of Wollongong and included researchers from the University of Technology in Papua New Guinea. The aims of their project were to provide clean drinking water to remote communities, to protect remote communities from water-borne diseases and do so in a sustainable way. With their prize money, the team will firstly perform field trials with the Reverse Osmosis Solar Installation (ROSI) in outback Australia, before testing the system in a remote rural community in PNG, supported by existing infrastructure and local expertise.

Many of the UN Millenium Development Goals have been met by this project. They include, promotion of gender equality and empowerment of women, reduction of child mortality, improvement in maternal health, the combat of HIV/AIDS, malaria and other diseases, ensure environmental sustainability and the development of a global partnership for development.

According to Dr Richards, the ROSI system uses electricity from a solar array to pump water through an ultrafiltration unit which eliminates particulates, viruses and bacteria but not salt. This cleaner water then passes on to a reverse osmosis or nanofiltration membrane, which removes salt from about one fifth of the water passing through. "5000L of contaminated water will deliver 1000L of clean drinking water and 4000L of disinfected water per day under average solar conditions, with the disinfected by-product able to used for washing or toilet flushing", said Dr Richards. "This has real applications in developing countries where 1.3 billion people do not have access to adequate quality drinking water. To make the system as sustainable as possible no batteries or inverter are used and the specific energy consumption in terms of energy used per unit of clean water delivered is as low as possible."

This award comes on top of the team's second prize in the 2003 Energy Globe Awards in the category of "Water".