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Smart Water Fund welcomes new CEO

The Smart Water Fund has welcomed its new Chief Executive Officer to the team as it gears up for a busy 2010.

Christine Cussen joined the Fund in January and brings with her a strong background in business management, research management and technology commercialisation in the pharmaceutical, biotechnology, sustainability and healthcare sectors in Australia and internationally.

Having held senior management roles in both multi-national corporations and start-up businesses, Christine possesses a passion for business strategy and seeing research move from the lab to market.

Christine's senior management and leadership experience include roles as General Manager Innovation and Technology at Orica, Managing Director of Eiffel Technologies Ltd and Chief Executive Officer of ICI Pharmaceuticals Australia and New Zealand.

Christine is very excited with her move into the water sector saying that it is an industry that has undergone major changes in recent times but one that also faces many challenges in the face of climate change.

"The water industry has evolved in response to drought and climate change, and innovation has played a key part in this change," she said.

"With the Smart Water Fund, the Victorian water industry has a vehicle setup which can continue to lead the industry's collaborative research needs and help foster innovation in the way we supply, use and think about our water resources."

"Innovation, sustainability and business excellence are passions of mine, and I look forward to working with the Smart Water Fund to continue to deliver innovative, sustainable water solutions for the benefit of the water industry and the wider community," Christine said.

2010 also marks a new step in the evolution of the Smart Water Fund with a new governance



→ Christine Cussen with Minister for Water, Tim Holding MP.

structure being developed. The Fund will establish new governance arrangements which will consist of a Smart Water Fund Board including the Managing Directors of the Melbourne water businesses and a representative of the Department of Sustainability and Environment.

The Board will oversee the delivery of the Fund's strategic business plan, offer strategic advice on the research priorities of the water industry and support the integration of research outcomes within their own organisations and its customers.

"Round 7 is the beginning of a new phase of investment from the water industry in innovation, with the successful grant recipients to be announced in April," Christine said.

With a new CEO on board and a number of key strategic projects underway, 2010 looks set to be a big year for the Smart Water Fund.



Geelong gardeners to get customised plant selector

Many gardeners have felt frustrated when they've sought out drought tolerant plants only to find that they are unavailable in their local area or fail to thrive once planted.

A Round 6 Smart Water Fund project is set to change this by helping environmentally responsible gardeners in the Barwon Water region maintain healthy gardens while making informed decisions about garden design and management.

The Gordon Institute of TAFE worked with environmental consultants URS Australia and Barwon Water to develop a Waterwise Plant Selector tool specifically tailored to local conditions.

"Householders often seek out advice from their local nursery or garden centre, but the wide variety of soil types and conditions in the Geelong region can make it difficult to give accurate water wise advice," says Tony Hughes, Horticulture Education Manager at Gordon Institute of TAFE and project manager.

Gordon TAFE surveyed local nurseries to determine which plants they most often recommend. This has ensured the plant selector only includes varieties that are available year-round and are suitable for the Geelong region, where conditions range from inland frosty winters and clay soil, through loamy or sandy coastal soils.

"The plant selector provides in depth information such as frost and shade tolerance, preferred soil type and the water requirements for more than 350 popular garden plants and lawns," Mr Hughes explains. "We set out to support local businesses by incorporating their views of what grows well in our areas."

Water wise plant selections are encouraged through a simple and user-friendly 'three-drop' rating system. 'One-drop' choices don't need any additional water beyond average rainfall, contrasting with 'three-drops' selections that require regular supplementary watering.

"Another benefit of using local experts to advise on plant suitability is that the majority of plants selected are very water wise to begin with,"

Developed and maintained by Gordon TAFE horticulture students, Mr Hughes believes the database will give the next generation of local horticulture experts hands-on knowledge about water wise garden choices.

"Our students will carry a passion for plant water efficiency with them into the workplaces, as they commence employment with landscaping businesses, in nursery and garden centres, florists or local government parks and garden management teams."

The plant selector is coming to the Barwon Water website soon - www.barwonwater.vic.gov.au, and will also be accessible via www.smartwater.com.au.

→ Horticulture students at Gordon TAFE getting hands-on knowledge about water wise gardening.



Rainwater tank system proves viable for new houses

CERES, the Centre for Education and Research in Environmental Strategies, has demonstrated the viability of a distributed rainwater tank system for small buildings with surrounding gardens.

CERES received a Smart Water Fund grant in 2006 to install a water catchment and retrieval system using rainwater tanks.

The project aimed to educate people on water tank systems that could be applied to a community of houses, such as a housing estate.

"Our system consists of a number of small above ground tanks located next to buildings, with one central underground tank," said project manager Stephen Mushin. "Rainwater is collected in the local tanks from each roof onsite and stored for irrigation of surrounding gardens."

"Overflow from the localised tanks is collected in a 50,000 litre central underground tank, from which water can be retrieved using a solar pump to a header tank," he said.

According to Mr Mushin, the system may work well when applied to a community of houses, such as housing subdivisions where there are several roofs in close proximity.

"The system is suitable for sites with multiple buildings that have localised watering needs," he said.

"There is potential for this kind of system to be applied to community housing in a cost effective way. This kind of water installation will save residents money and reduce their impact on the environment."

CERES is a public park on a nine acre, government-owned site. About 150 staff are involved in education, organic farming and other environment and sustainability projects to encourage a sustainable society.

For more information on CERES and its sustainable projects, visit: ceres.org.au

Guide encourages industry to adopt recycled water

Victoria University and the Smart Water Fund have developed a guidance tool for industrial water users to address issues associated with recycled wastewater systems and increase uptake across the state.

The user-friendly guide, 'Guidance for the Use of Recycled Water by Industry', is designed to inform industrial water users on recycled water and how systems can be installed, with an emphasis on reticulated treated wastewater.

"As part of the project we engaged five different industries in Victoria and identified common concerns about reticulated treated wastewater, such as corrosion, water quality and company image when associated with using recycled water," said project manager at Victoria University, Professor Stephen Gray.

"Across the board industries were unsure of its applicability to their business and some were reluctant to install recycled systems, despite the water savings they could make," Professor Gray said.

Victoria University identified nine different categories of water use that are common across different industries. Each category has its own water quality requirements, human exposure levels and hazards.

"After identifying the most common water needs for industries in Victoria, we conducted a thorough literature review to provide a comprehensive and sound base on which to make recommendations," Professor Gray said.

Based on the literature review, Victoria University developed a quick scan 'water reduction tool' and decision support framework (DSF) and trialled it on the five industries, each having different water use needs.

"The trials were received positively, with four of the five companies successful in identifying a water-saving measure for further investigation." Professor Gray said.

"Depending on the structure of your business, recycled water systems can make water savings of more than 50 per cent, which improves the financial sustainability of your business in the long-term and reduces your impact on the environment.

"Wastewater recycling also provides additional benefits for companies where rainwater tanks are not an option, or higher levels of certain minerals and substances are beneficial."

The guidance tool has been recognised by industry bodies in Victoria and nationally, including the dairy and food industries, as a well-rounded and accurate document for industries to make an informed decision on recycled water.

The guidance tool has also been referenced in a number of reports and websites, including VicWater and recycledwater.com.au

For a copy of Guidance for the Use of Recycled Water by Industry, visit: http://www.smartwater.com.au/projects/round4/vicuni/Documents/VicUni_LiteratureReview_RecycledWaterUseForIndustry.pdf

Interactive website helps gardens stay green and save water

SmartGardenWatering.org.au is an innovative online tool that's been designed to teach Melbourne gardeners the most efficient way to sustain their gardens and save water.

The University of Melbourne's latest development, funded as part of a Round 6 Smart Water Fund project, will expand the website into an online community, allowing users to share knowledge and access garden models of other users.

The updated feature is due to be launched in April 2010.

Project manager of the software component, Dr Jon Pearce from The University of Melbourne's Department of Information Systems, said the website reconstruction has involved the addition of new features to the website to give users the option to save, reload and share garden models.

"The site's new features will allow users to search for other garden models, using an interface similar to that of Google Maps," Dr Pearce said.

"Additional features include the incorporation of real-time weather information and the ability to choose different rainfall data settings relevant to the user's location," he said.

According to project manager of the horticulture component, Geoff Connellan from the Department of Resource Management and Geography, up-to-date weather information will allow users to plan their water needs in the short-term.

"The site will allow users to assess their current water demands and water tank storage capacity and determine whether or not it will meet the water needs of their garden, based on expected rainfall in coming months," Mr Connellan said.

"The redesigned website will act as a social networking facility to encourage people to communicate with other gardeners and share their experiences for better water saving strategies," he said.

"The website also aims to educate users on the factors that impact on the amount of water needed to sustain their garden, such as the types of plants, seasonal weather conditions, watering method, mulch and garden design," he said.

SmartGardenWatering.org.au was recently awarded 'Best Paper' at the OzCHI conference held last year. The award recognises the quality of research and software design among submitted academic papers.

Round 7 Update

Applications for Smart Water Fund Round 7 funding opened in September 2009, with \$2 million available for innovative water projects across Victoria.

Smart Water Fund Chief Executive Officer Christine Cussen, said interest in Round 7 was very strong with applications approaching record levels.

"The Smart Water Fund received a broad range of innovative ideas and methods for water conservation, water recycling and biosolids management that will benefit from Round 7 funding," Ms Cussen says.

The Smart Water Fund received a variety of innovative projects from businesses, community groups and research organisations in both metropolitan Melbourne and regional Victoria.

The assessment process is nearing completion, with the successful projects expected to be publicly announced in April 2010.

Details of Round 8 funding will be announced later in 2010.

New Target 155 website for water saving tips

A new Target 155 campaign is a timely reminder to keep water use under 155 litres per person per day. This summer's campaign involves integrated television, radio and print advertisements encouraging people to continue to Target 155.

Work is currently underway to build Australia's largest desalination plant, to upgrade leaky old irrigation channels and to expand the water grid. But until these projects are delivering their full benefits to the community, the need to keep saving water remains.

The new Target 155 website is being promoted as the place to go for information on water-saving in Melbourne. There are helpful hints on saving water everyday in and around your home such as:

- Use your shower timer to limit your showers to less than four minutes.
- Install a free water-saving showerhead – water retailers have thousands to exchange.
- Water your garden with greywater first – this may be enough for many gardens once they are established.
- Only wash clothes when there is a full load of laundry – this can save you hundreds of litres of water each week!
- Turn off any automatic garden watering systems when rain is forecast, or if it has recently rained.

Free water-saver kits are also available. These kits contain a detailed brochure on achieving Target 155, information on showerhead exchange, a four minute shower timer and water-saving hose connector, as well as an update on the government's Water Plan.

To see the new campaign or find out ways to save water inside and outside your home visit: www.target155.vic.gov.au.



→ Melbournians can save litres of water by limiting shower time to under 4 minutes

Smart Water Fund project nominated for Prime Minister's Water Wise Award

Rossdale Golf Club announced as a finalist

The Smart Water Fund congratulates Rossdale Golf Club on being announced as a finalist for the inaugural Prime Minister's Water Wise Award.

One of five national finalists, Rossdale Golf Club was nominated for its integrated stormwater harvesting and aquifer storage and recovery project.

Working in partnership with the CSIRO, the Club received funding from the Smart Water Fund to implement Victoria's first aquifer storage and recovery project (ASR).

The project has seen the Club reduce its drinking water usage by 56 per cent, saving 35 million litres per year while still providing a high quality course for local golfers.

This innovative approach to water management combines the harvesting of stormwater from a nearby drain with traditional dam storage and the innovative ASR process.

ASR is the process of using natural underground aquifers as storage medium for treated urban stormwater that can then be used as required.

In Rossdale Golf Club's case, stormwater collected during the winter months is stored within an aquifer until needed during the dry summer period.

Smart Water Fund Chief Executive Officer Christine Cussen congratulates Rossdale Golf Club on being recognised by this prestigious award.

"To be nominated as a finalist for the Prime Minister's Water Wise Award is a fantastic achievement for the Rossdale Golf Club and for the CSIRO research team, backed by the Smart Water Fund, who has contributed to the success of this project," she said.

"This project is a great example of research being applied to create real life water saving solutions,"

"With such positive results, the lessons learnt by Rossdale Golf Club are already being leveraged by other golf clubs and local councils across Victoria who are investigating the potential of ASR," Ms Cussen said.

Dialysis project saves lives and water



- Above: Gardens located at many regional dialysis centres are maintained by re-using dialysis water.
- Left: Piping which forms part of the water recycling system at NWDS dialysis centre.

One of Australia's largest providers of dialysis, North West Dialysis Service (NWDS) is set to save up to 1.68 megalitres of water a year per site through an innovative water recycling system.

A Smart Water Fund grant enabled NWDS to investigate a system that captures clean reject water generated during the dialysis procedure for reuse in a number of its facilities. This water would otherwise go directly to sewer.

"We've worked with 23 of our sites to find beneficial uses for waste water that also have an acceptable project payback timeframe," said James Gerrish, NWDS Business Activity Coordinator and Project Manager.

"Instead of going straight to sewer, it's possible to use the water for toilet flushing in health care facilities, as wash down water, in air-conditioning cooling towers and to water gardens in regional facilities.

"For example our Wodonga site could rescue six litres of water per minute during dialysis and use it for toilet flusher tanks or cooling towers," Mr Gerrish said. "This equates to 1.68 megalitres of water a year – that's enough to half-fill an Olympic-sized swimming pool."

A key aspect of the project's success has been to determine the quality of the reject water and ensure water use demand matches the consistent quantities of water produced during dialysis.

"Many regional dialysis centres are co-located with aged care facilities in regions with tough water restrictions," Mr Gerrish said. "While demand for irrigation water fluctuates throughout the year, these sites place a high value on this water use as they see the therapeutic and aesthetic value of maintaining their gardens."

In addition to saving millions of litres of clean water a year, a key project outcome will be the development of a dialysis water reuse handbook for dialysis providers across Australia. NWDS project sites will also receive a detailed individual site report and an overall project report enabling benchmarking with similar facilities.

Part of Melbourne Health, NWDS, provides haemodialysis (blood filtration) for approximately 580 Victorians with kidney failure at 30 centres and 150 homes. NWDS dialysis units range from regional and rural healthcare centres to metropolitan dialysis services, including the Royal Melbourne Hospital.

Tap into a wealth of information with the Smart Water Fund

The Smart Water Fund has supported close to 170 projects throughout Victoria. Each project provides unique learnings on innovative water conservation, recycling and biosolid management solutions.

Newsletters, case studies and comprehensive project information on a wide range of innovative sustainable water use projects are available from the Smart Water Fund Knowledge Hub at www.smartwater.com.au

Case studies are available for:

- Sporting Facilities
- Waste Water Treatment
- Building and Renovating
- Educational Programs
- Food and Beverage Manufacturing

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Smart Water Conference presentations now available online

Presentations from the inaugural Smart Water Conference are now available for download via www.smartwater.com.au.

Notable highlights from the conference include the keynote address from environmentalist Arron Wood, the 2007 Prime Minister's Environmentalist of the Year Award winner.

Another highlight was the panel discussion hosted by event MC Mike Larkan, with leading water and sustainability experts, including Professor Tony Wong (Design and Planning at AECOM), Arron Wood, Associate Professor Rebekah Brown (Monash University), Dr Damien Giurco (University of Technology Sydney) and Shaun Cox (Managing Director, South East Water).

The panel discussed the future challenges and opportunities for creating water smart cities in Australia.

The Smart Water Conference presentations offer an insight into the projects and topics discussed and are an invaluable resource for anyone interested in undertaking water saving projects.

Held in October 2009, the inaugural Smart Water Conference provided a platform for knowledge transfer in the water industry and gave attendees an opportunity to meet innovators in the water management and research fields.

The conference featured 18 speakers across three different topic streams, from a range of industries and sectors, including science and technology, industry and business, and community, education and social science.

Each project discussed has received funding and support from the Smart Water Fund to provide new learnings into water conservation, water recycling and biosolids management.

Keep an eye on the Smart Water Fund website for vodcasts of the conference presentations, which will be made available soon.



→ Presentations can be accessed via the Smart Water Conference panel on their Fund's homepage.



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