

Australian Clean Technologies Ideas Awards Competition 2011



Overview and Finalists Profiles

Core Partner



Competition Partners



The Australian competition is an initiative of the Gillard Government's Supplier Advocate Program and its Clean Technology Focus for Supply Chains. It is supported by Enterprise Connect, Commercialisation Australia, CSIRO and Austrade. More information is available at www.innovation.gov.au/supplieradvocates.

Australian Clean Technologies Ideas Competition 2011



Innovation Minister Kim Carr launched the Australian Clean Technologies (Cleantech) Ideas Competition to identify the best ways of addressing the challenges of climate change and sustainability. The clean technologies industry is worth \$22 billion and employs over 25,000 people nationally. The Government's goal is to ensure a sustainable and cohesive sector that helps Australia meet the growing needs of a green economy.

The Awards Dinner in October will present the winner of the Australian competition, following intensive mentoring and development of the finalists in September. The competition is an opportunity to engage with the cleantech community, to see the country's best cleantech ideas and to understand how Australian innovations can be taken to the world.

Competition Categories

Air Water & Waste	Ways to cut pollution
Energy Efficiency	More efficient methods & devices
Renewable Energy	Replacements for fossil fuels
Green Building	New kinds of buildings or materials
Smart Power, Green Grid, Energy Storage	Better ways of carrying electricity or storing it
Transportation	Greener cars, buses, trucks or planes

Judging Criteria

1. **Idea Concept:** Concisely and clearly explained
2. **Innovation:** Breakthrough in thinking or design
3. **Business Viability:** A significant and interesting market exists
4. **Sustainability:** Positive impact on environment

Prizes

The shortlisted Ideas are competing for a range business services tailored to suit the diversity of needs reflected in the new ideas – be it access to venture capitalists, patent support, legal advice, research support or corporate assurance.

The winner will represent Australia at the international Cleantech Open Global Ideas Competition in the US competing against entrants from 90 countries for over \$100,000 in services to launch their idea.



Finalists

AquaGen SurgeDrive®	Wave energy system that converts the energy above water for reduced costs and improved efficiency.
AquaHydrex	An inexpensive, integrated solar-powered water-splitting technology that enables onsite manufacturing of hydrogen for use in industrial processes.
Cogen Microsystems	A cost-effective hybrid solar energy system using a heat engine and low cost solar thermal collectors to generate electricity and hot water.
DrainWave	Enabling low flow water appliances through pulsing water through existing plumbing systems.
Eco Whisper Turbine	A unique, efficient and virtually silent 20kW horizontal axis wind turbine that utilises a unique blade design and an outer cowling/ring to ensure optimum energy conversion.
LubeMaster	A centrifuge technology that provides ongoing cleaning of oil in a more efficient way than standard pore membrane filters.
Metal Oxide Energy Storage	Combining molten salt technology with the chemical dissociation reaction of lime calcination to store energy.
SMAC Technologies	A patented, proven and highly energy efficient, low cost air conditioning technology that reduces AC energy consumption by 30% to 85%.
SolMax	Combining existing roofing and solar products to produce a cheap, efficient solar concentrator.
Sundermann Water Power	Bi-directionally low-head water turbine designed to maximise operational efficiency in slow water flows.
YellowDot Energy	Solar-powered high-flow groundwater extraction system using control algorithm to optimise water flow.



AquaGen SurgeDrive®

Entrant	Nick Boyd
Organisation	AquaGen Technologies
Category	Renewable Energy
Overview	AquaGen's <i>SurgeDrive</i> ® wave energy system produces electricity and desalinated water from the oceans waves, providing a solution that is scalable and cost competitive with other renewable energy sources.
Detail	<p>AquaGen's <i>SurgeDrive</i>® is an innovative, emissions-free, wave energy system which harnesses the energy of ocean waves to produce electricity or desalinated water. The technology overcomes the historical barriers to commercialising wave power and, as such, its large scale application has enormous potential to harness the vast global wave resource at a price more commonly associated with traditional renewable energy forms.</p> <p>AquaGen's patented <i>SurgeDrive</i>® technology converts wave energy to useful energy in a unique two-stage process. In the first stage, pure wave forces are extracted from the water by a set of buoyancy units and tension transfer elements. In the second stage, these wave forces are converted into useful energy out of the water. This greatly simplifies maintenance as all regular maintenance is carried out above the water. <i>SurgeDrive</i>® also includes a unique active storm survival system which enables <i>SurgeDrive</i>® wave farms to stand the test of time and survive any storm the ocean unleashes.</p> <p>The achievability of applying our technology is a known quantity as we have undertaken rigorous proof of concept testing with excellent results. Firstly we worked with Monash University to sponsor final year engineering students to test prototypes of the technology in the university wave tank. On the strength of some excellent results there, as well as a successful application for a Commercialisation Australia grant, we went on to successfully develop the first open water <i>SurgeDrive</i>® demonstration unit on Lorne pier in Victoria.</p>
Entrant Profile	Nick is the inventor of the <i>SurgeDrive</i> ® system and founder of the company and has over 16 years of experience spanning the offshore oil and gas, aerospace and high-tech industries. He has been engaged in management, engineering and product development roles with a variety of startups, consultants and companies worldwide.
Nick Boyd CEO	Nick brings a wealth of relevant practical experience to the company including startup management, product research and development, procurement, QA/QC & manufacturing and has worked in directly relevant areas such as subsea engineering and naval architecture. With such experience, Nick is ideally equipped to head the developmental phases of the venture and drive its technical product development.
Contact Details	<p>Nick Boyd, CEO AquaGen Technologies Pty Ltd Level 2, 7 Mosrael Place, Rowville, Victoria, Australia 3178 Tel. +61 3 9764 9800 info@aquagen.com.au</p>



AquaHydrex

Entrant	Gerry Swiegers
Organisation	ARC Centre of Excellence for Electromaterials Science
Category	Renewable Energy
Overview	AquaHydrex is an inexpensive, integrated solar-powered water-splitting technology that enables onsite manufacturing of hydrogen for use in industrial processes.
Detail	<p>AquaHydrex: An inexpensive, integrated solar-powered water-splitting technology. This technology uses established printing production processes to manufacture modular photoelectrochemical (PEC) cells that, when installed, enables onsite manufacturing of hydrogen. It is solar powered during the day and grid powered at night, and so uses free solar energy in the day and inexpensive off peak power to produce high purity hydrogen at night enabling 24/7 production. Currently the primary source of hydrogen for chemical and petroleum industries is through steam reforming natural gas. This process produces CO₂ at a ratio of 12x CO₂ to H₂ by weight. The AquaHydrex technology uses synthetic biomimetic catalysts (which mimic nature) and the use of new kinds of polymers.</p> <p>Target Market: Petroleum refineries, chemical manufacturing</p>
Entrant Profile	Gerry Swiegers is the CTO of AquaHydrex and is an Adjunct Fellow in the Intelligent Polymer Research Centre at the University of Wollongong. Gerry Swiegers is a world-renowned expert in the field of water splitting with peer reviewed publications and a book published on the topic. Mr. Swiegers is driving the technology development and scale-up of the AquaHydrex technology. He has extensive commercialisation experience and is currently the Vice-President of R&D at Datatrace-DNA Pty Ltd a company formed from his research (in a separate field) in 2005.
Gerry Swiegers Chief Technical Officer	
Contact Details	<p style="text-align: center;">Chris Gilbey Director of Business Development, AquaHydrex Innovation Campus University of Wollongong phone: 0414 223 763 email: chrisgilbey@gmail.com</p>



Cogen MicroSystems

Entrant	Paul van de Loo
Organisation	Cogen Microsystems
Category	Energy Efficiency
Overview	Cogen Microsystems is developing a hybrid solar energy system for household and commercial application using a heat engine and low cost solar thermal collector to generate electricity and hot water at lower installed cost than competing technologies. This system is commonly referred to as a micro combined heating and power (mCHP) product.
Detail	<p>Cogen Microsystems (Cogen) is developing a hybrid solar energy system using a heat engine and low cost solar thermal collector to generate electricity and hot water at lower installed cost than competing technologies. This system is commonly referred to as an micro combined heating and power (mCHP) product. The system consists of a solar thermal collector installed on a household roof which supplies heat to a Cogen developed organic Rankine cycle heat engine. This heat engine has a unique configuration with two output shafts. Each shaft powers a high efficiency permanent magnet alternator which generates electricity for use in the home and excess electricity is supplied back to the grid. Heating is also provided for space and water heating needs. The system has been specified to deliver 1kWe of power and 8kWh of heating in its initial configuration.</p> <p>The Cogen solar technology generates electricity from sunlight at around two thirds of the cost of PV. Importantly, it also supplies hot water and space heating, so the overall cost for a household is much lower than the cost of buying a PV system and a separate solar hot water and heating system. The Cogen technology uses efficient evacuated tube collectors that drive the heat engine and an alternator to produce electricity. The exhaust heat from the engine is used to heat water. When Cogen reaches volume production it is anticipated that this system will retail, fully installed, for approximately A\$10,000.</p>
Entrant Profile	After founding the engineering consulting firm, Applidyne, ("I had to, to get some interesting jobs") in 1993 Paul discovered a way of spending the money and keeping everyone overworked with engineering developments such as a solar micro-cogeneration system with a unique heat engine - www.cogenmicro.com/ . On weekends he spends time cutting the blackberries on his patch in the hills so the kangaroos can get a feed. Paul also serves as a member of the National Committee on Engineering Design, a committee of Engineers Australia. Prior to starting Applidyne, Paul was an engineer at Vision Abell (part of Leica Microsystems). Before that, he was at Stanford University gaining a masters degree. His first job was in the Advanced Engineering Laboratory at DSTO (Department of Defence) where he designed automated test equipment for F-111 flight control
Paul van de Loo Technical Director	
Contact Details	<p style="text-align: center;">Cogen MicroSystems 35-37 Stirling Street, Thebarton SA P: +61 (0)8 8234 8211 info@cogenmicro.com.au</p>



DrainWave

Entrant	David Fisher
Organisation	Ducane Australia
Category	Air, Water and Waste
Overview	The Drainwave is a simple device that can be installed in any house that enables the use of low flow water appliances such as ultra-low flush toilets. It enables this through capturing water through a 'tipping bucket' design and then using pulse flushes to ensure the low flows can pass through conventional plumbing.
Detail	<p>The Drainwave is a device designed to reduce the volume of water required to flush conventional toilets and other appliances without impacting on the effectiveness of existing conventional water borne sewage networks.</p> <p>The device integrates with the sewerage system and operates on the principal of collecting black and grey waste water from the various plumbing fittings, temporarily retaining the water and then discharging into the sewer system in a pulse flush method. Simply put it is a 'tipping bucket' activated by gravity enclosed in a sealed box with an inlet point and outlet points. The key attribute of the product is that enables the introduction to the Australian market of low water use technologies such as ultra-low flush toilets and low water usage shower heads. This can be done whilst maintaining compatibility with existing drain lines which are not designed for the reduced water flow.</p>
Entrant Profile	<p>David Fisher is the Managing Director of Ducane Australia. He is a qualified civil structural engineer who graduated with honours and has subsequently completed an MBA specialising in technology management. David has also been appointed as an Honorary Associate by the University of Tasmania's School of Engineering</p> <p>David's career has included roles as design engineer and operations manager on a wide variety of projects including residential and commercial buildings, industrial structures and civil works.</p> <p>David is the co-inventor of the Drainwave product and has undertaken design works, Standards development, Intellectual property documentation and commercialization strategy rollout.</p> <p>He heads a group of professional colleagues with qualifications in commerce, law, branding and marketing, engineering and construction. The group is now actively growing the product's market in Australia, New Zealand, Papua New Guinea, Ireland and the United Kingdom.</p>
David Fisher Managing Director	
Contact Details	<p>David Fisher Managing Director Ducane Australia Pty Ltd P +61 (0)3 62 250619 F +61 (0)3 62 250618 d@ducane.com.au www.drainwave.com</p>



EcoWhisper Turbine

Entrant	Tony Le Messurier
Organisation	Renewable Energy Solutions Australia
Category	Renewable Energy
Overview	RESA's Eco Whisper Turbine is a unique virtually silent 20kW horizontal axis wind turbine for on and off grid connections that utilises a unique blade design and an outer cowling/ring to ensure optimum energy capture and conversion.
Detail	<p>Renewable Energy Solutions Australia Holdings Ltd (RESA) has designed, and is in the final stages of manufacturing, a unique virtually silent 20kW horizontal axis wind turbine for on and off grid connections, known as the Eco Whisper Turbine (EWT).</p> <p>Designed and manufactured in Australia to standards AS61400 and AS1170, the turbine's core advantages are its near-silent operation, ability to operate efficiently in all wind conditions and small environmental footprint. This makes it ideally suited to urban applications such as domestic locations, or within commercial and industrial sites. Its viability in rural settings is also high, given its technical performance and cost effectiveness. The Eco Whisper Turbine 20kW delivers commercial quantities of energy. Its near silent operation means that it will not hinder nor create noise pollution that is prevalent with conventional three bladed technology. Its performance will be further enhanced by the use of a highly efficient Australian designed generator/inverter combination which will increase useable energy at lower speeds, as the turbine can be continuously faced into the wind.</p> <p>Further development of smaller turbines for domestic, regional and rural applications will enhance its utilisation within the community. A commercial prototype of the EWT 20kW is currently being manufactured and tested at a leading manufacturing operation in Victoria. Commercial availability is forecast to be Q4 2011.</p>
Contact Details	<p>Renewable Energy Solutions Australia Admiralty Towers II, Suite 120 501 Queen Street Brisbane QLD 4000 +61 7 3839 3239 inquiries@resau.com.au</p>



LubeMaster

Entrant	Robyn Smith
Organisation	Clean Oil Services
Category	Air, Water & Waste
Overview	Clean Oil Services' LubeMaster utilises a centrifuge technology to provide ongoing cleaning of oil in a more efficient way than standard pore membrane filters.
Detail	<p>The LubeMaster is a patented cost effective & innovative oil cleaning unit that keeps oil in good condition & extends its life substantially or even indefinitely. A total solution is offered to extend the life of oil, backed up with an oil analysis laboratory to ensure that there is no risk to any equipment. Monitoring of the 'before and after' cleaning condition of the oil is also offered to ensure the required cleanliness levels are achieved.</p> <p>The main features that make the LubeMaster stand out from its competitors are: no expensive filter elements; cleaning to submicron sizes and not limited to the size integrity of filter elements; built-in vacuum to remove all types of water; cleans all grades of oil at full flow rates from diesel fuel through to gear oils.</p> <p>The LubeMaster is unique in that it utilises a centrifuge which is a much more efficient filtration system than the alternative of pore membrane filters. The centrifuge spins the oil with a rotor and all the contamination accumulates inside the centrifuge rotor. The LubeMaster OS600 will hold 6kg of waste solids. The rotor just needs to be cleaned out & re-assembled when required. The LubeMaster does not require any consumables, making it the most economical form of oil cleaning available. The cleanliness levels achieved with the LubeMaster are much higher than other systems as particles are removed to sub-micron sizes.</p> <p>Clients include BHP Billiton, Xstrata, Rio Tinto, Barrick Gold, Newmont Mining, Anglo Coal, Stanwell Power, Gladstone Power Station, Qld Nickel & Goro Nickel and the company has already exported to Guinea, Tanzania & Zambia in Africa as well as UK, PNG, New Caledonia, US and Canada.</p>
Entrant Profile	For most of my working life, I have been employed in bookkeeping and financial management roles. In 1996 when my husband started a new business venture and established an Oil Analysis & Condition Monitoring Laboratory, I envisioned this as being his job while I continued with mine. But over time as the business grew, he involved me more & more until I found myself with the full-time role of Lab Technician. In 2002 when we started our Engineering Division, I reverted to my traditional position to handle the escalating paperwork. Our business has been a great learning curve for me with endless new challenges .
Robyn Smith Finance Director	
Contact Details	<p>Clean Oil Services Pty Ltd Managing Director/ CEO: Bob Smith Financial Manager/ Director: Robyn Smith Ph 07 4728 7777 Email: mail@oilsols.com Website: www.cleanoilservices.com</p>



Metal Oxide Energy Storage

Entrant	Antony Beecham
Organisation	BeechesIT
Category	Smart Power, Green Grid and Energy Storage
Overview	The Metal Oxide Energy Storage process provides an energy storage solution for concentrated solar thermal power stations. It combines molten salt technology with chemical dissociation reactions, to offer an order of magnitude increase in energy storage capacity. From this storage high temperature heat can be generated on demand to generate electricity.
Detail	<p>Solar thermal power generation is set to play a starring role in energy supply in the next decades. Storing vast quantities of heat is the key to making this renewable energy technology a reliable base load electricity supply. Molten salt storage is currently the best implemented solution however 25 tonnes of salt is needed to produce 1 Mega Watt hr of electricity. The Metal Oxide Energy Storage (MOES) process can achieve the same output with 3 tonnes due to its greater energy density and higher temperatures.</p> <p>The MOES process integrates standard molten salt heat transfer technology with chemical energy storage. Thermal energy is collected from a solar field and this drives the reaction that stores energy in metal oxides and liquid gas. To generate electricity on demand the metal oxide is reacted with the gas to drive turbines and generators. High temperatures are achieved in this reaction and this improves the thermodynamic efficiency of the turbines. This chemical heat pump effect means it is possible to double the electrical output from some solar collector fields reducing the price per KW hr.</p> <p>The base material used in the MOES process is an order of magnitude cheaper than molten salt. It is already used in vast quantities in the construction industry. Energy stored in this chemical form can be stored for 30 days or more and in summer, excess material can be sold off to the construction industry and for sequestration. The MOES process makes it possible for solar thermal plants to provide base load supply to the electricity grid 24 hrs per day, 365 days per year.</p>
Entrant Profile	<p>Antony Beecham spent the 1980's studying chemical engineering, working in the coal industry and teaching in high schools.</p> <p>In the 90's he worked for the Faculty of Engineering at UQ and had an IT and electronics business on Thursday Island. It was up there that he saw the first solar energy, stand alone power plant in the world –(according to Bob Katter) and Queensland's first wind turbines.</p> <p>Moving to Cairns for the 00's he has been an IT manager and private IT consultant. 4 years ago when his daughter started her architecture degree the question was asked "Cement is so useful - how can you make it environmentally friendly" This question and Antony's interest in renewable energy has led to this Idea.</p>
Antony Beecham CEO	
Contact Details	<p>Antony Beecham Beeches IT Ph 0408 351 912 beechesit@gmail.com</p>



SMAC Technologies

Entrant	Wayne Ryan
Organisation	SMAC Technologies
Category	Energy Efficiency
Overview	SMAC Technologies' Shaw Method of Air Conditioning (SMAC) is a patented and proven highly energy efficient, low costing air conditioning (AC) technology with results from over 40 installations showing reduced AC energy consumption of between 30% and 85%.
Detail	<p>A patented and proven highly energy efficient, low costing air conditioning (AC) technology known as the Shaw Method of Air Conditioning (SMAC). This technology is applicable world wide to the air conditioning of commercial and industrial buildings. Results from over 40 installations have shown reduced AC energy consumption by 30 to 85% whilst, at the same time, improving the building's indoor environmental quality.</p> <p>In Australia, SMAC has reduced the annual AC energy consumption by 85% and 60% respectively at the University of Queensland Library and the Art Gallery of South Australia. Also Sydney CBD's lowest energy intensity office building is the 19 year old 120 Sussex Street and, since commissioning SMAC in mid 2010, this building has reduced its AC energy by over 50%, achieved a 5 star NABERS energy rating and has been assessed as having an occupant productivity improvement of \$180/sqM.</p> <p>Current installations include office buildings, hospitals, art galleries, library, shopping centre and industrial facilities, in climate conditions varying from Bangkok to Melbourne.</p>
Entrant Profile	Wayne Ryan; Is the joint founder and managing director of Smac Technologies Pty Ltd and has been engaged in the commercial air conditioning industry for over 45 years, specialising in the Building Automation sector of the industry. Recently he retired as the managing director of the South Australian Building Automation company Air Con Serve, a company he started 35 years ago and which now employs over 25 engineers/technicians. During his period with Air Con Serve he demonstrated a strong commitment to energy efficiency which he now continues through his directorship with Smac Technologies and who own a World leading energy efficiency air conditioning technology.
Wayne Ryan Managing Director	
Contact Details	<p>Wayne Ryan, Director SMAC Technologies Unit 1 / 56 Sydenham Road Norwood South Australia 5067 Australia P: +61 8 8363 3155 M: +61 0419 971779 E: Wayne.Ryan@smactec.com www.smactec.com</p>



SolMax

Entrant	Wade Blazley
Organisation	SolMax
Category	Renewable Energy
Overview	The SolMax combines existing roofing and solar products to produce a cheap, efficient solar concentrator that can be retrofitted and delivers heat, cooling and electricity to commercial premises at the lowest cost.
Detail	<p>The SolMax involves the embedding of evacuated tubes into the deep, trapazoidal profile of the Aramax Structural Building Panel. Field trials have shown that the additional temperature increase provides up to 60% more energy capture. These higher temperatures are achieved because the Aramax Building Panel is working as a Solar Concentrator and delivering more usable Solar Energy into the evacuated tube.</p> <p>The higher temperatures achieved by the concentrating effect of the Aramax structure have been measured at up to 228C. These higher temperature can be used to deliver fluids to more efficiently run absorption chillers for air conditioning and refrigeration and to produce steam for driving a steam operated engine. Modern steam engines are capable of running at over 90% efficiency.</p> <p>The Aramax Building System is a unique, Australian developed, low cost construction method that can be rolled out any where in the world. The Aramax Structural Building Panel has proven itself to be a viable alternative to any other form of Structural Cladding and can be roll-formed onsite via the Aramax mobile roll-forming machine. The buildings have a low carbon footprint and do not require complicated and expensive machinery, like cranes, for assembly. The mobility of the roll-former is important because it is designed to conform to the external dimensions of a 40 ft shipping container the Solmax concept can be rolled out anywhere in the world.</p>
Contact Details	<p>Wade Blazley Director, SolMax, 20 Rothery Street, Carcoar NSW 0409 673 118 wblazley@optusnet.com.au</p>



Sundermann Water Power

Entrant	Leigh Bennett
Organisation	Sundermann Water Power
Category	Renewable Energy
Overview	The patented bi-directionally Sundermann low-head water turbine has been specifically designed to maximise operational efficiency in slow water flows to open up new viable locations for tidal and run-of-the river flows.
Detail	<p>The patented Sundermann low-head water turbine has been specifically designed to maximise operational efficiency in slow to medium water flows from 2m/sec. The result is a cheaper, greener and more-dependable provision of power. One of the unique characteristics of the Sundermann Turbine is that all the blades contribute a force, in the same direction, for almost the entire cycle of each rotation. The Sundermann Turbine is able to operate bi-directionally, making it ideal for tidal movements. One market and design focus is on stream and channel power providing the potential for use near small population centres and remote locations. This not only applies to areas with no electric power but also those with electric power that is dependent on energy sources such as diesel generation.</p> <p>The intellectual property behind SWP has been developed by Fred Sundermann over the past 10 years.</p>
Entrant Profile	<p>Leigh is a Director of SWP and also co-founder of a newly created umbrella consulting company called Regional Innovations Australia. It customises local solutions for regional businesses and organisations by mobilising the knowledge, expertise and experience of the broadest possible pool of specialist consultants and professional service providers. He is a business advisor for a commercial real estate and commercial building construction group of companies and is involved in property development project teams.</p> <p>Leigh has a diverse career as a former CEO and senior executive in government, as an Educator, HR Manager and Consultant. Currently, Leigh is the Principal of Enterprise Innovations a business consultancy where he works inside and outside businesses across planning, strategy, feasibility studies, finances and people development.</p>
Contact Details	<p>Leigh Bennett, Director Sundermann Water Power PO BOX 7020 Hervey Bay QLD 4655 0438 712 738</p> <p>leigh.bennett@sundermannwaterpower.com</p>



YellowDot Energy

Entrant	John Hill
Organisation	YellowDot Energy
Category	Renewable Energy
Overview	YellowDot Energy has developed Australia’s largest solar high-flow groundwater extraction system bore based on a proprietary control algorithm to operate the motor in such a way that we can achieve maximum possible shaft speed (and pumping volumes) given the available solar energy incident on the PV array at any moment in time.
Detail	<p>YellowDot Energy’s idea is to replace diesel with PV solar energy on remotely located high-flow groundwater pumps. Approximately 150 million litres of diesel is used each year to extract groundwater for purposes such as crop irrigation, mine-dewatering/processing and municipal water supply. As grid energy prices increase and solar PV costs decrease, the option to use solar power to extract this water will become the most economic solutions. Historically, only small scale stock and domestic groundwater bores have utilised solar energy to extract water due to the complexity of managing the power and efficiency of the pumping system combined with the high cost of solar PV technology.</p> <p>Following a 3 year research and development program, YellowDot has created a breakthrough in engineering design to enable the construction of Australia’s largest solar high-flow bore in Hillston NSW. The innovation is based on a proprietary control algorithm to operate the motor in such a way that we can achieve maximum possible shaft speed (and pumping volumes) given the available solar energy incident on the PV array at any moment in time. The YellowDot control system targets the most efficient pump operating point that is achievable given the available solar energy. The design of the system is such that 100% of the required water volumes are extracted during daylight hours.</p>
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Contacts

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The Global Cleantech Ideas Competition is run by the Cleantech Open organisation in the US. The mission of the Cleantech Open is to find, fund, and foster the big ideas that address today's most urgent energy, environmental, and economic challenges.

The Cleantech Open

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In 2011, the Australian competition was managed by Australian CleanTech on behalf of the Supplier Advocate Program. Contact details for Australian CleanTech are:

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