

ecoforum CONFERENCE & EXHIBITION

INVITATION TO REGISTER



Land and groundwater remediation



Water cycle sustainability



Climate change and water



Waste and resource recovery



Communications and engagement



Wednesday 9
Thursday 10
Friday 11
MARCH 2011
Australian Technology Park, Sydney

www.ecoforum.net.au/2011



incorporating

ALGA
4th Annual Conference

Sponsors



aurecon



Tuesday 8 March pre-conference ALGA workshops

08:30 – 12:45

Successful ISCO and ISCR

Led by Dr Dick Brown ERM, Dr Jim Muller The Adventus Group
Sponsors ERM and Hydroterra

Successful in-situ chemical oxidation (ISCO) is defined as “having enough of the appropriate oxidant in contact with the contaminant for a long enough period of time to achieve sufficient destruction of the contaminant to meet the desired results.” Understanding oxidant selection, dosing, delivery, persistence and closure will be explored in this workshop.

In-situ chemical reduction (ISCR) technologies can be used for managing soil and groundwater environments impacted by chlorinated solvents, pesticides, heavy metals and other constituents of interest. This workshop will look at suitable ISCR technologies for various site settings and develop a decision tree to aid the remedial design process.

Sustainable remediation

Led by John Lovenburg CH2M HILL, John Claypool AECOM
Sponsors CH2M HILL and AECOM

This workshop will outline the rapidly advancing global sustainable remediation movement. Starting with a market overview that includes the business case for sustainable solutions, it will go on to give examples of best practices and sustainable remediation technologies before looking at how sustainability can be integrated into remedial decision-making.

The workshop will also look at optimising remediation system selection, operation and performance monitoring to increase efficiency and cost-effectiveness whilst ensuring the sustainability of existing and future remediation systems. It will provide hands-on instruction in two online tools: the Sustainable Remediation Tool (SRT) and the Performance Tracking Tool (PTT).

14:00 – 17:00

In-situ thermal techniques

Led by Dr Bruce McGee McMillan McGee
Sponsors Thiess Services and McMillan McGee

This workshop will evaluate various in-situ thermal enhanced remediation technologies such as convective heat transfer (steam or hot air injection), electromagnetic heating (electric resistance or radio frequency heating) and thermal destruction. It will also discuss combining in-situ thermal methods with other approaches for polishing, such as bioremediation and oxidation. It will include several brief case studies of in-situ thermal techniques.

Various factors guiding thermal technology selection will be discussed, including plume delineation, groundwater conditions and relative permeability. Design factors directing the thermal remediation process will be considered including thermal and electrical modelling, system layout and operational duration.

Soil washing

Led by Colin Morrell CleanEarth Technologies
Sponsors Thiess Services and CleanEarth

This workshop will focus on the strengths and weaknesses of soil washing from a North American perspective. The workshop is intended to be interactive and will touch on the history of soil washing, physical separation approaches, chemical separation techniques, integrated physicochemical approaches to soil washing and treatment train designs for various contaminants. Participants will come away with realistic expectations of the soil washing's remedial performance based on projects completed over the past five years.

Wednesday 9 March preliminary program

Land and groundwater remediation



08:30 Keynote plenary

Regulation to achieve sustainability – models and evaluation tools and techniques **Jennifer McKay** Professor of Business Law *Uni of SA* e137
09:00 Panel Best practice environmental regulation e210

10:00 Morning break in exhibition

Sustainable management and remediation (part 1)



10:30 Keynote

Sustainable remediation – myth or reality? **John Lovenburg** CH2M HILL US e107

11:10 Contaminated land management in NSW and ecological sustainability **Dr Erwin Benker** Dept Environment & Climate Change e086

11:30 Sustainable remediation in New Zealand **Joanne Ferry** Tonkin & Taylor e059

11:50 Sustainable remediation the new benchmark – but will it impact us? **Dr Louise Cartwright** CCG e071

12:10 A sustainability assessment framework for remediation decision-making support **John Lovenburg** CH2M HILL e108

12:30 Lunch in exhibition

Sustainable management and remediation (part 2)



14:00 Keynote Developments in the management of contaminated land in the UK and observations on Europe **Prof. Paul Nathanail** Nottingham University UK e116

14:40 Economics analysis of SVE and MPE of petroleum hydrocarbons using refrigerated condensation recovery technology **Andrew Woolen** ERR Environmental e083

15:00 Integrated remediation solutions **Philip Mulvey** Environmental Earth Sciences e043

15:20 Soil, groundwater and waste case studies – sustainability decision support tool **Cary Ehrman** Golder Associates e068

15:40 Forum for audience discussion e203

16:00 Afternoon break in exhibition

Communications and remediation

16:30

What is green? Better communication of sustainability **Gerard van Rijswijk** Retail Grocers of Australia e018

Community consultation challenges and achievements during remediation of former Castlemaine gas works site **Tracey Bauer** EESI Contracting e057
Industrial hemp – the environmental solution **James Vosper** Good Earth e058
Building a bigger tent – managing stakeholder input during environmental and engineering design **Cormac Farrell** Aurecon e102

The emerging discipline of environmental surveying – an educational legacy from POPs remediation **Kate Hughes** Earth Foundation e112

17:30 Drinks reception in the exhibition hall. Sponsor Aurecon 19:00–22:00 ALGA dinner at the Mercure Sydney Hotel

08:30 Keynote plenary

Regulation to achieve sustainability – models and evaluation tools and techniques **Jennifer McKay** Professor of Business Law *University of South Australia* e137
09:00 Panel Best practice environmental regulation e210

10:00 Morning break in exhibition

Remediation – in-situ chemical oxidation (ISCO)



10:30 Keynote

ISCO and how to apply it successfully **Dr Dick Brown** ERM US e115
Sponsor ERM

11:10 In-situ chemical oxidation in Australia **Denton Mauldin** OTEK e010

11:30 Green, sustainable solutions for environmental cleanup – self-assembling micro-emulsion S-ISCO catalysts to remedy ecotoxicants **John Collins** VeruTEK e138

11:50 Combining in-situ hydrocarbon remediation technologies to optimise remediation of recalcitrant BTEX plumes **Richard Campbell** Hydroterra e130

12:10 Forum for audience discussion e205

12:30 Lunch in exhibition

Remediation – in-situ chemical reduction (ISCR)



14:00 Keynote

ISCR and how to apply it successfully **Dr Jim Mueller** The Adventus Group US e120

14:40 Sequenced permeable reactive barrier system for the pre-treatment of nitrate and remediation of trichloroethylene **Keely Mundle** Golder Associates e067

15:00 Perchlorate and 1,1,1-trichloroethane treatment in an emulsified oil permeable reactive barrier **Lowell Kessel** EnviroLogek e032

15:20 Large-scale applications of in-situ chemical reduction for soil remediation using ZVI / organic carbon soil amendments **Richard Campbell** Hydroterra e131

15:40 Forum for audience discussion e206

16:00 Afternoon break in exhibition

Remediation – more in-situ methods for soil and groundwater

16:30 Is there life after ISCO? The effect of oxidants on in-situ bioremediation **Dr Dick Brown** ERM e144

16:50 In-situ geochemical fixation of arsenic in groundwater – treatability testing, selection of reagents and field trial design **Peter Storch** URS Corporation e145

17:10 NAPL and smear-zone reduction by ISCO using activated sodium persulfate (ASP) **Jay Dablow** ERM e146



Water cycle sustainability



08:30 Keynote plenary

Regulation to achieve sustainability – models and evaluation tools and techniques [Jennifer McKay](#) Professor of Business Law *Uni of SA* e137
09:00 Panel Best practice environmental regulation e210

10:00 Morning break in exhibition

Remediation – in-situ thermal and HVDPE



10:30 Keynote

In-situ resistive thermal remediation [Dr Bruce McGee](#) *McMillan McGee US* e121 *Sponsor Thiess*

11:10 Surfactant-enhanced high vacuum dual phase extraction (HVDPE) remediation of petroleum contaminated bedrock aquifer [George Ivey](#) *Ivey International* e022

11:30 Recovery and reuse of hydrocarbons with refrigerated soil vapour extraction – case study review [Andrew Wollen](#) *ERR Environmental* e082

11:50 Successful completion of the largest thermal desorption project in Australia [Dr John Hunt](#) *Thiess Services* e132

12:10 Forum for audience discussion e219

12:30 Lunch in exhibition

Remediation – soil washing and immobilisation



14:00 Keynote

Soil washing and how to apply it successfully [Colin Morrell](#) *CleanEarth Canada* e119 *Sponsor Thiess*

14:40 Surfactant-enhanced soil washing with associated oil recovery opportunities – North and South American case studies [George Ivey](#) *Ivey International* e020

15:00 London 2012 Olympic and Paralympics Games – a case study in sustainable remediation [Lionel Etheridge](#) *CH2M HILL* e109

15:20 Overcoming limitations of stabilisation – co-contamination of arsenic and lead [Dr Louise Cartwright](#) *CCG* e072

15:40 Forum for audience discussion e218

16:00 Afternoon break in exhibition

Persistent contaminants

16:30 The challenges for an environmental audit of dioxin remediation on a former sewage treatment plant site [Ken Mival](#) *URS* e031

16:50 Treatability study for the degradation of pesticide-impacted soils [Kris Thomas](#) *Parsons Brinckerhoff* e028

17:10 Forum for audience discussion e202



Stream chair



Dr Peter Nadebaum

08:30 Keynote plenary

Regulation to achieve sustainability – models and evaluation tools and techniques [Jennifer McKay](#) Professor of Business Law *University of South Australia* e137
09:00 Panel Best practice environmental regulation e210

10:00 Morning break in exhibition

Managing water in urban environments



10:30 Keynote

Resource recovery – the next challenge for the water industry after the drought [Chris Hertle](#) *GHD Australia* e114

11:10 Protecting IP in the water industry [Sarah Herbert](#) *ShelstonIP* e035

11:30 Approaches to supplying water [Giovanni Ebono](#) *Simmonds & Bristow* e098

11:50 Urban rainwater harvesting – can we ignore it any longer? [Geoff Ball](#) *Vision Water* e051

12:10 Role of landscape architects in WSUD [Judy van Gelderen](#) *KI Studio* e080

12:30 Lunch in exhibition

The value of communications in water projects

14:00

Grappling with the issues – engaging community stakeholders on a multi-criteria analysis of water supply infrastructure [Stuart Waters](#) *Twyfords* e001
 Maximising environmental and sustainable outcomes in projects [Evan Economo](#) *Gadens Lawyers* e037

Project implementation and water quality and quantity results [Ben Pohlner](#) *Wannon Water* e070

Communicating ecological technologies [Michael Able](#) e099

16:00 Afternoon break in exhibition

Water supply sustainability

16:30 The business case for sustainability [Peter Rawlings](#) *ERM* e091

16:50 Saving water – is it worth it? [Guenter Hauber-Davidson](#) *Water Conservation Group* e113

17:10 Corporate water disclosure – rationale, trends and opportunities [Alec Tang](#) *ERM* e088

Sponsor Stream chair



Chris Davis

Waste and resource recovery

08:30 Keynote plenary

Regulation to achieve sustainability – models and evaluation tools and techniques [Jennifer McKay](#) Professor of Business Law *University of South Australia* e137
09:00 Panel Best practice environmental regulation e210

10:00 Morning break in exhibition

Communications and the waste industry

Project-based communications and engagement are more successful with communities that accept and understand the notion of the “greater good”.

10:30

Roll up, roll up for the mystery tour [Avalynne Wilby](#) *Shoalhaven City Council* e003

When the focus turns to a blog [Wendy Jones Butt](#) *Free Australia* e012
 A social enterprise that reduces waste going into landfill and provides community re-education and long-term employment for disadvantaged people [Anita Saunders](#) *FWS* e034

Engagement of the supply chain, especially the SMEs [Jean Cannon](#) *EnviroAction* e044

12:30 Lunch in exhibition

Fuel options for energy-from-waste (EfW) projects



14:00 Keynote

Fuel standards for EfW projects [Frederic Aguesse](#) *SITA Environmental Solutions* France e139

14:30 The role of energy-from-waste in Australian urban waste management systems [Bruce Edgerton](#) *Dept of the Environment* e050

14:50 Resource recovery as a basis for waste policy [Gerard van Rijswijk](#) *Retail Grocers of Australia* e017

15:10 Cool solutions to zero waste through process engineered fuels [Dr Marc Stammbach](#) *SITA* e029

15:30 Carbon pricing and landfill methane – practical solutions [Graeme Alford](#) *Landfill Gas and Power* e006

15:45 Utilising your landfill gas resource [David McFadden](#) *Golder Associates* e078

16:00 Afternoon break in exhibition

Advanced energy options

16:30 City of Sydney's vision of energy [Alan Jones](#) *City of Sydney* e123

17:00 Plasma waste recycling [Paul Prasad](#) *Zenergy Australia* e002

17:00 Opportunities for waste-to-energy co-generation in NSW [Colin Molloy](#) *Golder Associates* e077

Sponsor



Stream chair



Paul Howlett



Land and groundwater remediation



08:30 Keynote plenary

European carbon market developments and prospects [Jill Duggan](#) Carbon Markets National Expert *European Commission* e141



09:15 Keynote

International experience in advanced waste treatment – what does the future hold? [Paul Howlett](#) *Wright Corporate Strategy* and [Paul Perkins](#) *AM Kimbriki Environmental Enterprises Australia* e142

10:00 Morning break in exhibition



Sustainable management and remediation part 3

10:30 Keynote

Development of public domain tools for sustainability analysis – the sustainable remediation tool (SRT) and SiteWise, the performance tracking tool (PTT) [John Claypool](#) *AECOM US* e128

11:10 Sustainable remediation – selected metrics for a range of soil remediation methods [Dr John Hunt](#) *Thiess Services* e105

11:30 Management of soil and groundwater contamination in the context of satisfying CUTEF [Chris Bailey](#) *Tonkin & Taylor* e049

11:50 Sustainable laboratory practice – reduced sample volume requirements for organic analysis [Marc Centner](#) *ALS* e041

12:10 Forum for audience discussion e215

12:30 Lunch in exhibition



Assessment and remediation – case studies

14:00 Keynote Christchurch earthquake – environmental implications and reconstruction challenges [Anthony Cussins](#) *Tonkin & Taylor*, [Seth Pardoe](#) *Hawkins Environmental New Zealand* e117

14:40 Arsenic bioavailability and health risk – changing landuse from horticultural to residential – a NZ case study [Mark Stuckey](#) *Environmental Earth Sciences* e048

15:00 Investigation and remediation of liquid mercury contamination [Philippe Finance](#) *Parsons Brinckerhoff* e055

15:20 Lead immobilisation through chemical stabilisation of waste material in Melbourne [Mark Stuckey](#) *Environmental Earth Sciences* e047

15:40 Forum for audience discussion e216

16:00 Afternoon break in exhibition

Sustainable management and remediation part 4



16:30 Special panel session SuRF Australia – agreeing on the framework and the way forward for Australia [Dr Peter Nadebaum](#) *GHD and ALGA Australia* e124

08:30 Keynote plenary

European carbon market developments and prospects [Jill Duggan](#) Carbon Markets National Expert *European Commission* e141



09:15 Keynote

Groundwater remediation – a new paradigm [Dr Dick Brown](#) *ERM US* e125 Sponsor *ERM*

10:00 Morning break in exhibition

Groundwater investigation and remediation

10:30 Hydrogeochemical effects on metal mobility in aquifers [Peter Beck](#) *GHD* e038

10:50 Contamination of the South Auckland Onehunga aquifer from the former New Zealand farmers fertiliser site [Simon Hunt](#) *URS* e140

11:10 In-situ remediation method of chlorinated hydrocarbon impacted groundwater with fractured rock [Anissa Groves](#) *EESI Contracting* e122

11:30 Anaerobic in-situ bioremediation of BTEX, MTBE and TPH versus aerobic in-situ bioremediation [Lowell Kessel](#) *EnviroLogek* e033

11:50 Groundwater analysis – minimising false positives and negatives – a key step in effective groundwater remediation [Geoff Anderson](#) *ALS* e045

12:30 Lunch in exhibition

Sustainable groundwater remediation

14:00 Incorporating sustainability into active groundwater remediation solutions – lessons learned and alternatives to consider [Andrew Labbett](#) *Coffey Environments* e087

14:20 A net benefit approach to determining the endpoints of active remediation [Kevin Simpson](#) *URS* e014

14:40 Using enhanced in-situ bioremediation to remediate chlorinated solvents in sand aquifers [Jason Clay](#) *AECOM* e111

15:00 Remediation of LNAPL in fractured basalt – case study of petroleum fuel pipeline release in Victoria [William Gary Smith](#) *URS* e063

15:20 Solution to acid mine drainage [George Hatzimihalas](#) *Hatlar Group* e013

15:40 Forum for audience discussion e217

16:00 Afternoon break in exhibition

Groundwater management and remediation

16:30 High-resolution passive soil gas system to identify source areas and define groundwater plume [Harry O'Neill](#) *Beacon Environmental* e073

16:50 Example of a steady state landfill leachate plume controlled by natural attenuation in a coastal sand water-table aquifer [Alice Plioplis](#) *Environmental Earth Sciences* e052

17:10 Mapping complex pollution scenarios – charting water flow along lenses of materials with differing permeability [Paul Rollins](#) *Willowstrick Technologies* e074

08:30 Keynote plenary

European carbon market developments and prospects [Jill Duggan](#) Carbon Markets National Expert *European Commission* e141



09:15 Keynote

CRC CARE – advances in Australian research [Prof. Ravi Naidu](#) CRC CARE Australia e126

10:00 Morning break in exhibition

Advances in assessment



10:30 Keynote Setting soil guideline values and bioaccessibility – advances in the UK [Prof. Paul Nathanail](#) *Nottingham University UK* e133

11:10 NEPM issues [Dr Peter Nadebaum](#) *GHD and ALGA* e136

11:30 Soil investigation levels for radionuclide contamination from heavy mineral sand processing [Dr Ian Swane](#) *Sinclair Knight Merz* e005

11:50 Rapid in-situ measurement of hydrocarbons in soil [Dr Richard Stewart](#) *Ziltek* e009

12:10 Forum for audience discussion e204

12:30 Lunch in exhibition



Landfill gas management

14:00 Keynote Development of state-of-the art guidance for ground gas and vapour assessment, measurement and management in the UK [Stuart Cassie](#) *Worley Parsons Australia* e118

14:40 Continuous landfill gas monitoring – how advances in monitoring techniques are improving our understanding of landfill gas risks [Matt Uttley](#) *Golder Associates* e100

15:00 Risk based management decisions for a gassing landfill situated in a commercial area [Ian Parkinson](#) *Environmental Earth Sciences* e036

15:20 Vapour intrusion – not just an issue for petroleum sites [Nalin de Silva](#) *Coffey Environments* e060

15:40 Forum for audience discussion e207

16:00 Afternoon break in exhibition

Vapour intrusion

16:30 Vapour intrusion risk assessment after the NEPM review [Eric Friebe](#) *GHD* e135

16:50 Vapour intrusion modelling in Australia – implementation of conceptual models [Tim Chambers](#) *Environmental Strategies* e079

17:10 The secret tools of the trade in landfill gas analysis [Dr Peter Novella](#) *SGS* e095



Climate change and water

Waste and resource recovery



08:30 Keynote plenary

European carbon market developments and prospects [Jill Duggan](#)
Carbon Markets National Expert *European Commission* e141

Assessment and remediation case studies

10:30 Environmental assessment of rural gasworks in NSW [Mark Stuckey](#)
Environmental Earth Sciences e046

10:50 Simultaneous oxidative reductive chemical treatment of PAH-contaminated soils at a former manufactured gas plant (MGP) site
[George Ivey](#) *Ivey International* e023

11:10 Surfactant-enhanced chemical oxidation of gasworks waste [Annette Nolan](#)
EnviroPacific e101

11:30 PAHs – yes they can be bioremediated! And sustainably! [Tracey Bauer](#)
EESI Contracting e061

11:50 Kakadu bioremediation under biohazard importation restrictions
[Grazia Gargiulo](#) *OTEK* e030

12:10 Remediation of former steelworks, Alexandria NSW [Lindsay Killin](#)
EnviroPacific e042

12:30 Lunch in exhibition

13:00 Closed auditors meeting [Dr Peter Nadebaum](#) *GHD and ALGA* e221

Brownfields – commercial and legal perspectives

14:00 Will your PI protect you when it all goes wrong? [Elizabeth Wild](#)
Henry Davis York e127

14:20 Brownfield redevelopment options for risk-free release of value [Rick Marmur](#)
OTEK e129

14:40 Brownfields reinstatement [Anthony Saunders](#) *EnviroSure* e106

15:00 Brownfield regeneration in NSW – breaking down the barriers [David Johnson](#)
RCA e040

15:20 Disclosure of information in contaminated land transactions
[Charmian Barton](#) *DLA Phillips Fox* e027

15:40 Brownfield development in regional NSW – feasibility study from a consultant's and land owner's perspective [Colee Quayle Coffey](#)
Environments e069



08:30 Keynote plenary

European carbon market developments and prospects [Jill Duggan](#)
Carbon Markets National Expert *European Commission* e141



09:15 Keynote

Engaging communities in climate change response [Dr Chris Riedy](#)
UTS Australia e016

10:00 Morning break in exhibition

Climate change and society



10:30 Keynote Climate change – what is it telling us about ourselves, our society and our interactions with the natural world?
[Graeme Pearman](#) *Graeme Pearman Consulting Australia* e143

11:00 Emissions trading in Australia – lessons learnt from the European Union Emissions Trading Scheme [Sheree Hardy](#) *ERM* e089

11:20 Sociology of climate change – comfort, convenience and cleanliness
[Bernadette Pinnell](#) *ERM* e092

11:40 Protecting personal safety – mitigating climate change mitigation
[Claire Bird](#) *FMG Engineering* e085

12:00 Forum for audience discussion e209

12:30 Lunch in exhibition

Reducing the environmental impact of treated water

14:00 Environment and energy visioning plans – a shift in thinking from a water utility perspective [Brigid Adams](#) *South East Water* e054

14:20 The future role of new technologies in the sustainability of recycled water
[Wayne Slack](#) *Grander Water Technologies* e064

14:40 Indicative impacts of water footprinting – the concept and a case study
[Alec Tang](#) *ERM* e090

15:00 Capturing spill energy from wind turbines to reduce diesel consumption at remote power stations [Phillip Woodford](#) *CNF & Assoc.* e081

15:20 Oxamine® – Monochloramine for antifouling and microbiological control in industrial water treatment [Eddie Van Haute](#) *Buckman Europe* e096

15:40 Forum for audience discussion e201

16:00 Afternoon break in exhibition

Climate change – mitigation challenges

16:30 Taking action on climate change – delivering an energy efficiency management program at Sydney Water [Sarah Spurrett](#) *Sydney Water* e056

16:50 Cost of carbon abatement opportunities at Sydney Water
[Phil Woods](#) *Sydney Water* e066

17:10 Forum for audience discussion e208



08:30 Keynote plenary

European carbon market developments and prospects [Jill Duggan](#)
Carbon Markets National Expert *European Commission* e141



09:15 Keynote

A systems approach to resource recovery [Amanda Keogh](#) *Fuji Xerox Australia* e147

09:45 Getting baseline audit data to plan next steps in waste diversion
[Janelle Booth](#) *APC* e011

10:00 Morning break in exhibition

Case studies in source-to-market planning

10:30 Zero waste to landfill policy as a driver for process optimisation
[Aaron Westwood](#) *Duncan Freemantle* e103

10:50 Colmax Glass – closing the loop on bottle recycling [Peter Harkins](#)
Colmax Glass e110

11:10 Drive towards zero waste in landfill by utilising sound diversion and recycling strategies [Josef Marzouk](#) *Kimberly-Clark* e007

11:50 Closing the loop on energy and materials within an industrial estate through the application of industrial metabolism and industrial ecology principles [Krrishna Kanduri](#) *Dept of Environment* e104

12:10 Plasback – turning farm plastic waste into a resource [Ed George](#)
Tapex e004

12:30 Lunch in exhibition

Innovative tools to support innovative outcomes

14:00 Role of advanced platform technology on waste and resource recovery [Dr Seng Lim](#) *CSIRO* e062

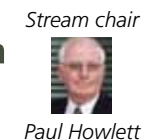
14:20 Assessing environmental impacts and benefits of waste management options using waste life cycle assessment [Jacinta McMahon](#)
Golder Associates e076

15:40 Forum for audience discussion e212

16:00 Afternoon break in exhibition

Closing

16:30 Panel discussion and audience debate e213





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Odour and dust control on remediation sites [Tracey Bauer EESI e094](#)

Leachate quality analysis and passive treatment options [Pema Choden University of Newcastle e008](#)

Adsorption of polycyclic aromatic hydrocarbons and hazardous metal ions onto biochar for water treatment and soil remediation [Prof. Scott Donne University of Newcastle e097](#)

Cost-effective DNAPL remediation case study – contaminated soils and groundwater at refinery site [George Ivey Ivey International e021](#)

Mobilisation assessment and possibility of increased availability of PAHs in contaminated soil and groundwater using column tests [George Ivey Ivey International e024](#)

Ex-situ surfactant enhanced bioremediation (SEB) of oil and gas pipeline spill soil remediation [George Ivey Ivey International e025](#)

Surfactant enhanced ex-situ soil washing of oil and gas contaminated solids – Patagonia, Argentina case study [George Ivey Ivey International e026](#)

Warraber Island waste pilot project [Danette McLean Aurecon e093](#)

Case study – technical feasibility and economical viability of EDBM technology for recovering and reusing salts in dairy processing streams [Elankovan Ponnampalam Warmambool Cheese & Butter e053](#)

Case study of University of Queensland research into carbon offsets generated by using “fit-for-purpose” recycled organics in Ecoblanket® [Tony Rees Groundworks e065](#)

How safe is your carbon investment? [Gerard van Rijswijk Retail Grocers of Australia e019](#)

Seepage diagnosis in karstic environments and large-scale embankment dams through controlled source – audio frequency domain magnetics [Paul Rollins Willostick e075](#)

Attention Marketing Manager

If you are looking for marketing opportunities for 2011 the EcoForum Conference & Exhibition will allow you to showcase your products and services to 600 environment industry people with an interest in the conference themes of climate change, water, waste, remediation and communication.

For more information visit www.ecoforum.net.au/2011 or contact Rosalind Vrettas at rosalind@quitz.biz or mobile 0425 704 497.

●● Australasian Land & Groundwater Association

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The Australasian Land and Groundwater Association (ALGA) has a broad-based and multidisciplinary membership that incorporates land owners, property developers, industry, consultants, scientists, contractors, regulatory agency staff, government, the legal profession, laboratory staff, financiers, researchers and academics. ALGA has developed an ongoing technical program of meetings throughout Australia and New Zealand and distributes via email a monthly newsletter. We have linkages with like international associations and Australian organisations such as the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) and Australian Contaminated Land Consultants Association (ACLCA). We expect that ALGA will be influential in advancing the contaminated land and groundwater industry and recognised and consulted by government as the peak body in this field.

●● ALS Environmental

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As a major supplier of specialist testing services, ALS provides a comprehensive range of NATA-accredited testing services for contaminated site assessment and remediation, waste characterisation, water quality monitoring including catchments and desalination and recycled water plants, effluents, trade waste, recycled waters and air and sediment analysis. ALS delivers high quality, innovative and cost-effective tailored solutions to the environmental industry.

● Aqualab Scientific Pty Ltd

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Aqualab Scientific supplies water quality and level monitoring instruments such as Hydrolab water quality multiprobes which measure and store temperature, pH, conductivity, luminescence, dissolved oxygen, turbidity, chlorophyll a, blue-green algae, redox and depth, all in one rugged multiprobe. These instruments are used for monitoring lakes, rivers, estuaries, oceans, groundwater and wastewater. We also supply Diver temperature, level and conductivity data loggers for groundwater monitoring, Turner Designs fluorometers for chlorophyll a, blue-green algae and dye trace

studies, Hach handheld meters and OTT level and discharge sensors and data loggers.

● Aurecon Australia

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Aurecon provides world-class engineering, management and specialist technical services to government and private sector clients globally. With more than 6,000 staff and more than 80 offices worldwide, we are present in Australia, New Zealand, Africa, South-East Asia, China and the Middle East. We operate in the water, waste management, transport, energy, mining and industrial, property and community development markets. Our environmental services range from assessing and managing the impact of major projects and designing remediation schemes through sustainability and risk assessments to contaminated land, conservation and natural resource management.

● CRC CARE

CRC CARE is the peak research body for contaminated land and groundwater in Australia. Full information can be found at www.crccare.com.

● E-Nose Pty Ltd

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E-Nose designs and manufactures “e-noses” – continuous real-time monitoring systems for airborne chemicals and smells. Our units and allied services are being used at abattoirs, landfills, petrochemical and sewage treatment plants to reduce the risks of environmental litigation. E-noses can also increase efficiency in odour abatement equipment and deliver direct cost savings. Our new Mk4 “graffiti-e-nose”™ device is making a mark in the detection and apprehension of graffiti vandals, thereby reducing cleanup costs borne by the community.

● Ecotech Pty Ltd

Contact: Michael Preston
Branch locations: Queensland, New South Wales, Victoria (Head Office) & Western Australia.
1492 Ferntree Gully Road, Knoxfield Vic 3180
Tel. 1300 364 946 Fax 1300 668 763
Email info@ecotech.com.au Web www.ecotech.com.au

Ecotech, a leading air quality product supplier, provides comprehensive solutions for all your pollution monitoring needs. Specialising in ambient air and emissions monitoring, Ecotech has more than 30 years of experience in the design, manufacture, integration, installation, maintenance and

operation of a wide variety of monitoring systems throughout Australia and the world. Whether it involves sophisticated monitoring systems to customer specifications, data management or providing onsite maintenance, Ecotech ensures that you receive the best support every time.

● Enviromdata Weather Stations

Contact: Matthew Proberts
42-44 Percy Street, Warwick Qld 4370
Tel. (07) 4661 4699 Fax (07) 4661 2485
Email sales@enviromdata.com.au
Web www.enviromdata.com.au

Enviromdata designs and manufactures weather stations and weather sensors for Australian conditions. We have 28 years of experience in providing weather-monitoring solutions and the technical expertise, service and support to back them up. Enviromdata can help you find the best solution to monitor weather, wind movement and sigma theta at your specific site for the management of microenvironments, contaminated sites, water storage and treatment areas. Our weather stations meet Australian standards and EPA requirements.

● Enviropacific Services Pty Ltd

Contact: Annette Nolan
6/27 Annie Street, Wickham NSW 2293
Tel. (02) 4961 7100 Fax (02) 4961 7150
Email admin@enviropacific.com.au
Web www.enviropacific.com.au

Enviropacific Services provides specialised remediation, waste management and civil engineering services. Our clients benefit from our innovative, professional and cost-effective services complemented by practical hands-on experience, including contaminated site remediation, hazardous materials management and disposal, environmental and civil engineering solutions and dealing with groundwater and other water problems.

● Environmental Remediation Resources Pty Ltd

Contact: Andrew Wollen
PO Box 192, Moorabbin Vic 3189
Tel. (03) 9555 3800 Fax (03) 9555 2888
Email info@erraus.com.au Web www.erraus.com.au

Environmental Remediation Resources (ERR) is committed to the supply and servicing of specialised equipment and resources for environmental investigations, monitoring and remediation. Our national offering is competitive, diverse and focused on customised solutions. Technologies include instruments and sampling equipment, passive soil gas surveys, microbiological diagnostics, aquifer geophysical methods, pneumatic pumps and product skimmers, SVE/MPE and vapour treatment equipment, mobile systems for hire, air strippers, filtration media and vessels, bioremediation technologies, surfactants, chemical oxidation, zero valent iron, design and installation services, and decision support software.

● **ERM**

Contact: Mark Leopold
Building C, 33 Saunders Street, Pyrmont NSW 2009
Tel. (02) 8584 8888 Fax (02) 8584 8800
Email mark.leopold@erm.com Web www.erm.com
With offices in 39 countries and 3,300 staff worldwide, Environmental Resources Management (ERM) is a leading global provider of environmental, health and safety, risk and social consulting services. In Australia, ERM has 300 staff located in Sydney, Melbourne, Brisbane, Perth, Adelaide, Canberra, the Hunter Valley and Port Macquarie. As advisors and not just project managers, we are able to help our clients with complex programs. We do this by building multi-disciplinary teams of highly qualified and experienced technical people.

● **GeoImaging Systems & Site Investigation Supply**

Contact: Graham Bourke, Dave Downey
PO Box 8099, Sladen PO, Geelong Vic 3220
Tel. (03) 5229 8722; 0439 630 660 Fax (03) 5229 8744
Email info@geoimagingystems.com;
dave@sisupply.com.au
Web www.geoimaging systems.com

Using methods such as membrane interface probes, ultra violet optical screening tools and hydraulic profiling tools, GeoImaging Systems can offer clients a more efficient range of services for geotechnical and environmental investigations. GeoImaging Systems conducts these investigations in-situ and the methods are designed to provide more accurate data in a time-efficient manner, with the added benefit of producing minimal spoil. This reduces the cost of removal of potentially contaminated soils.

● **GHD**

Contact: Chris Hertle, Global Market Leader Water Level 15, 133 Castlereagh Street, Sydney NSW 2000
Tel. (02) 9239 7100 Fax (02) 9239 7199
Email sydmail@ghd.com Web www.ghd.com
GHD is one of the world's leading engineering, architecture and environmental consulting firms. Our network of 6,000 professionals collaborate to deliver sustainable outcomes to communities and clients in the global markets of water, energy and resources, environment, property and buildings, and transportation. GHD is recognised for its commitment to innovation, safety and sustainable development. We care for the wellbeing of our people, communities and the environments in which we operate.

● **Institute for Sustainable Futures**

Level 11, 235 Jones Street, Broadway NSW 1401
Tel. (02) 9514 4950 Fax (02) 9514 4941
Email isf@uts.edu.au Web www.isf.uts.edu.au
The Institute for Sustainable Futures is the University of Technology, Sydney's flagship Sustainability Research Institute. It was established in 1996 to create change towards sustainable futures and now works with a

variety of industry and government clients to create and implement sustainable strategies and operations and assists community groups to articulate and promote sustainability issues. The Institute has 35 full-time researchers with backgrounds in engineering, urban planning, management, economics, science, social science, transport and international development.

● **JBS Environmental**

Contact: Charlie Furr
128 O'Riordan Street, Mascot NSW 2020
Tel. (02) 8338 1011 Fax (02) 8338 1700
Email cfurr@jbsgroup.com.au
Web www.jbsgroup.com.au

Established in 1995, JBS Environmental is one of the largest specialist contaminated land consultancies in Sydney, with a significant team of personnel able to conduct every aspect of contamination assessment and remediation, including independent auditing by a NSW-EPA-accredited site auditor. JBS Environmental's solutions-based approach is reflected in its involvement in many of the largest and most complex brownfield redevelopment projects in Sydney, including the former Carlton and United Breweries site at Broadway and the Barangaroo project on Sydney Harbour.

● **mgt-LabMark**

Contact: Sefton McGraw
2-5 Kingston Town Close, Oakleigh Vic 3166
Tel. (03) 9564 7055
Email mgt@mgtenv.com.au
Web www.mgtlabmark.com.au
mgt-LabMark is Australia's largest privately owned environmental laboratory, with NATA-accredited laboratories in Melbourne and Sydney and offices located in Brisbane, Adelaide, Perth, Darwin and Newcastle. We specialise in the analysis of contaminated soils, water, groundwaters, wastewaters, stack emissions, soil vapours and workplace ambient air in order to meet current state and territory regulations as well as the latest NEPM requirements. With more than 250 staff nationally and more than 37 years of experience as an operating environmental laboratory, we have the capabilities to service your environmental analytical needs.

● **Rowe Scientific Pty Ltd**

Contact: Troy Boland, Kendall Parsons
Unit 1, 12 Essex Street, Minto NSW 2566
Tel. (02) 9603 1205 Fax (02) 9603 1084
Email rowensw@rowe.com.au Web www.rowe.com.au
Rowe Scientific supplies quality scientific products that are backed by more than 100 years of combined experience, service and advice. We are specialists in chemicals as well as supplying all familiar brands such as Ajax, Merck, HACH, Velp Scientifica, Mettler-Toledo and Ohaus. We formulate and produce custom chemical solutions for specific client needs. We have two industrial chemists, a wealth of technical

knowledge and an extensive range of instruments, chemicals and consumables.

● **SGS Environmental Services (SGS)**

Unit 16/33 Maddox Street, Alexandria NSW 2015
Tel. (02) 8594 0400 Fax (02) 8594 0499
Web www.sgs.com

SGS Environmental Services is the world's leading inspection, verification, testing and certification company, providing you access to a comprehensive network of national and international environmental laboratories and experts. Coupled with our strengths in contaminated land, water and air, our specialist services include dioxin analysis, marine sediment analysis, hydrocarbon fingerprinting, greenhouse gas analysis and investigative analysis. Our unique approach reduces risk to assist your business to operate simpler, faster, more efficiently and with a real competitive edge.

● **SITA Environmental Solutions**

Contact: Ben Connell
Level 3, 3 Rider Blvd, Rhodes NSW 2138
Tel. (02) 8754 0000 & 13 13 35 Fax (02) 8754 0199
Email ben_connell@sita.com.au
Web www.sita.com.au

SITA Environmental Solutions is one of Australia's leading advanced resource recovery, recycling and waste management companies. Our established services include commercial and industrial collection and recycling; medical and clinical waste collection and processing; autoclaving; product destruction; organics collection and resource recovery through composting; waste generation audits; and engineered landfill and transfer facilities. Through the provision of advanced resource recovery facilities and processing solutions, SITA can assist councils and businesses to reduce waste to landfill and create practical solutions for climate change sustainability.

● **The Remediation Group**

Contact: Jon Miller
Unit 4, 10 Hook Street, Capalaba Qld 4157
Tel. 1300 072 318
Email jon.miller@theremgroup.com
Web www.theremgroup.com

The Remediation Group specialises in practical site remediation that can turn environmental liabilities into valuable assets. Our in-depth knowledge of the whole remediation cycle ensures we deliver considered, compliant solutions that work on the ground, not just on paper. We combine practical services, proven methods, reliable products and the expertise of a network of global specialists to provide world-class solutions supported by vital local knowledge. We are proud to be chosen by oil, mining, manufacturing and property development companies and their consultants in Australia, New Zealand, the UK and the Middle East.

● **Thermo Fisher Scientific**

Contact: Joanne Clapton
PO Box 9092, Scoresby Vic 3179
Tel. 1300 735 295 Fax 1800 675 123
Email infoenviroau@thermofisher.com
Web www.thermofisher.com.au

Thermo Fisher Scientific excels in delivering a range of specialised technology-focused products, professional applications support and instrumentation servicing for the environmental assessment and remediation markets. Our product lines include QED Environmental Systems groundwater pumps and treatment systems, in-situ water quality and level monitoring instrumentation and a comprehensive range of water, soil and air sampling equipment. In addition to sales, Thermo Fisher Scientific also has a wide range of portable field equipment available for rent.

● **Thiess Services**

Contact: Ian Brookman
The Precinct 2, Level 1, 10 Browning Street,
West End Qld 4101
Tel. (07) 3169 8300 Fax (07) 3846 0678
Email info@thiess-services.com.au
Web www.thiess-services.com.au

While businesses and communities increasingly demand practical ways to become sustainable, Thiess Services has delivered real outcomes in Australia, New Zealand and the Middle East for decades. As a leading provider of integrated services in the water, energy, remediation, environment and infrastructure sectors, we offer smart energy and water network solutions, water treatment plant operations and management services, waste collection, treatment and renewable energy solutions, integrated facilities management solutions and proven remediation solutions. We are committed to working with our clients and technology specialists to improve the environment and enhance our communities.

● **Transpacific**

Contact: Mick McCabe
Tel. 13 13 39
Email hsdadmin@transpac.com.au www.transpac.com.au

● **Ziltek**

Contact: Richard Stewart
PO Box 373, Kent Town SA 5071
Tel. (08) 8362 0057 Fax(08) 8362 0074
Email richard.stewart@ziltek.com.au www.ziltek.com.au
Ziltek is a leading provider of waste remediation products. We provide turnkey solutions for hazardous waste treatment, including optimisation trials, regulatory approvals and the supply of treatment products. Ziltek markets a range of products for chemical fixation (RemBind® F), bioremediation (RemActiv™, RemBall®), odour control (RemBind® O) and hydrocarbon detection (RemScan™).



EcoTour – Sydney Harbour and Cockatoo Island

Sponsor SITA Environmental Solutions
Organiser Earth Foundation Australia

09:30 – 15:00

Departs from and returns to King Street Wharf, Darling Harbour



This tailor-made guided EcoTour of beautiful Sydney Harbour will cruise up Parramatta River to Homebush Bay, passing by a number of early industrial sites that have been redeveloped for public use, including Breakfast Point, Rhodes Peninsula and Sydney Olympic Park.

EcoForum conference themes will be reflected in the cruise commentary, which will highlight the resilience of this iconic waterway in the face of mounting pressure from the urban environment. Tour guides will provide insights into the estuary's ecology, industrial history and development and offer information about the potential impact of climate change and catchment processes on this important waterway.

On the way back from Homebush Bay the tour will stop at heritage-listed Cockatoo Island where Sydney Harbour Federation Trust guides will take participants on a tour of the recently completed water- and energy-saving Green Precincts projects. They will also provide an insight into the remediation task that has been undertaken to enable a place of such extraordinary convict and industrial heritage to be opened to the public.

The EcoTour will appeal to anyone interested in the environmental aspects of some of Sydney's most iconic brownfield redevelopment sites. It will take place on board the *MV Proclaim*, a double-decker timber ferry built at Berry's Bay in 1929.



Join us on the *MV Proclaim*

Tour proceeds will go to Earth Foundation Australia Ltd, a not-for-profit educational charity. The Foundation's educational activities focus on public education about environmental issues, with an emphasis on the inter-relationship between technology, the natural environment and culture.

Price: \$90 incl. GST includes morning tea and a light lunch.

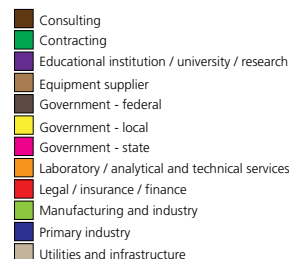
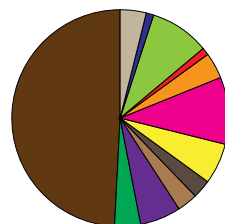
What is EcoForum?

EcoForum is a national multi-disciplinary event that brings people and companies interested in climate change, water, waste, remediation and communication together. Its overall aim is to encourage leadership and best practice in environmental management.

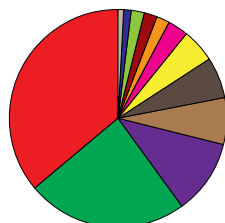
Who will attend?

EcoForum participants are interested in climate change, water, waste, remediation and communication. As these charts from 2010 illustrate, EcoForum participants come from a diverse range of industry sectors.

Participants by organisation



Participants by sector



Why EcoForum is valuable

- We have people from many different disciplines and sectors
- Our topics are climate change, water, waste, remediation and communication
- We are small enough for it to be a forum
- It's easy to find the right people at EcoForum

Why register?

Attending EcoForum as a conference delegate will allow you to update your professional and practical knowledge about the issues that matter in today's fast-paced and challenging world. It will also give you the opportunity to meet prospective clients and expand your peer group network of environment industry professionals working in the areas of climate change, water, waste, remediation and communication.

Investment

A two-day delegate registration for Wednesday and Thursday is \$1,095 incl. GST. A one-day delegate registration is \$595 incl. GST. You can also attend some workshops on the Tuesday, the ALGA dinner on Wednesday night, EcoForum dinner on Thursday night and an EcoTour of Sydney Harbour and Cockatoo Island on Friday. You will find the prices of these optional extras on the registration form inserted in this brochure or on the event website.

Accommodation

The organisers have negotiated a special rate of \$170 incl. GST per night for EcoForum participants at the Mercure Sydney Hotel, 818–820 George Street, Sydney. Free shuttle buses will take participants to the Australian Technology Park in time to attend each morning's plenary session. Buses will also take participants back to the hotel after the drinks reception on Wednesday and the EcoForum dinner on Thursday. Alternatively, you can travel to and from the Australian Technology Park by train. The hotel is near Central Station and the Australian Technology Park is right at Redfern Station, only one stop from Central.

How to register

You can register as a conference delegate and book your accommodation and free shuttle bus online or by fax using the registration form inside this brochure.

Register now
www.ecoforum.net.au/2011