



# RESOURCE FUTURES

## ABOUT ISF

The Institute for Sustainable Futures (ISF) is a research and consulting organisation at the University of Technology, Sydney. We work with industry, government and the community to help create sustainable futures through research, consultancy and training.

Our excellent reputation across Australia and internationally is for innovative, solution-focused interdisciplinary consultancy projects. The key to our approach is integration and alignment across strategic, tactical and operational activities.

We work in a number of different research areas using a variety of approaches.

**This capability statement outlines our expertise in the field of resource futures; namely the way we envision and implement systems to source, process, use and reuse resources, materials and waste.**

Capability statements for the other areas we work in are available from our web site.

## OUR RESOURCE FUTURE WORK

We aspire to support the mainstream adoption of sustainability concepts and to integrate sustainability principles into standard practices.

Both the technical and human dimensions of resource usage in production and consumption cycles need to be considered. Doing so requires understanding the complex, multiple aspects of the resource lifecycle: extraction, production and manufacture, packaging and waste creation, community behaviours and attitudes towards recycling, barriers and limitations to improved resource management and best practice options for local governments, producers and consumers.

Organisations need assessment methods to develop a vision for the future and then prioritise options on the basis of relative cost, effectiveness and broader sustainability dimensions and then translate innovative strategies into tangible projects at local level to deliver real change.



## WHAT WE OFFER

Tools and approaches to improve resource futures across scales:

- > Scenarios and visioning
- > Modelling of peak minerals and alternatives
- > Assessment of options on the basis of cost, effectiveness and environmental and social outcomes
- > Multi-stakeholder engagement methods
- > Community attitudes to resource extraction, use, disposal and recycling
- > Identifying barriers and limits to improving resource management
- > Institutional, governance and policy development
- > Extended producer responsibility
- > Container deposit legislation
- > Sustainable production and consumption
- > Industrial Ecology
- > Materials Flow Analysis and
- > Life cycle analysis and assessment

## RECENT SUCCESSES

Some of our recent projects are listed here. Details of other projects can be found on our web site.

### Mineral Futures

ISF will lead the development of a collective vision for Australia's mineral future to 2050 informed by a multi-stakeholder processes to identify strategies for improved resource governance. It will deliver a contemporary understanding of the changing profile of risks and opportunities present in diverse mineral futures scenarios. The scenarios developed by ISF will provide a foundation for the research of the Mineral Futures cluster, a three year collaboration between CSIRO's Minerals Down Under flagship, ISF and four other university research teams.

### Peak Minerals

The project aims to understand and monitor the dynamics of peak minerals (the time when production from terrestrial ores will peak and then decline). It assesses strategic options for the future transition from conventional mining approaches while they remain economic, to future options when ore grades decline and environmental costs rise. This includes investigating the role for innovative technologies to access ores in new ways, developing ocean resources and increasing recycling.

### Phosphorous

Phosphorus is an essential nutrient for all plants and animals. Yet phosphate rock is a non-renewable resource. The main objective of the *GPRI (Global Phosphorus Research Initiative)*, a joint initiative between ISF and the Department of Water and Environmental Studies at Linköping University, Sweden, is to facilitate quality interdisciplinary research on global phosphorus security for future food security.

### Waste as resources

Auburn and Parramatta City Councils have engaged ISF to develop a *waste exchange tool* that will identify opportunities for businesses within the Camellia/Rosehill and Silverwater localities to exchange waste products. While the primary output of the project is intended to be a tool for identifying waste exchange opportunities, the project will involve significant engagement with businesses of the area to help build relationships and broker exchanges.

### Local government decision making

The comprehensive guide, *Beyond Recycling*, was created for the LGSA to help local councils with decision making on providing and/or contracting waste and kerbside recycling services.

### Industrial ecology

We identified opportunities for synergies between companies and supply chains to reduce resource dependence by utilising waste streams and maximising resource recovery (a Victorian Smart Water Fund project).

### Extended producer responsibility

ISF was engaged by the NSW Government to conduct an independent review of, Container Deposit Legislation (CDL) and by the NSW Nature Conservation Fund to review the National Packaging Covenant independently. Both reviews included an analysis of the environmental, economic and social cost of implementing the CDL and an evaluation of the NPC against its own objectives and best-practice evidence. ISF was also engaged by the Commonwealth Department of Water, Environment, Heritage and the Arts to investigate the benefits and concerns with overseas Extended Producer Responsibility schemes as input to its National Waste Report.

### Engagement and learning

Through our projects, we seek to empower and engage stakeholders by, for example, assisting local governments to engage in meaningful public consultation to enhance community involvement. ISF has conducted successful resident and staff workshops for the SSROC and ATP on sustainability communication and strategies.

The Australian Greenhouse Office commissioned the multiple-award winning *Your Home* from ISF. *Your Home* addresses all aspects of built sustainability including materials selection and reuse.

For the Master Builders Association and the Housing Industry Association, a builders' training program focused on practical issues of on-site waste management for building practitioners.

Our work on Network 10's 'National Carbon Test' television program raised public awareness of water and energy issues related to food waste.



## OUR RESOURCE FUTURES TEAM

### Stuart White

Professor Stuart White is Director of ISF. He specialises in designing programs to improve resource use efficiency and to minimise waste. He had a central role in advising the (former) Lismore City Council Waste Management Advisory Committee and Macarthur Waste Board, the Australian Technology Park and the Sydney Harbour Foreshore Authority. In 2000, he was asked by the NSW Minister for the Environment to undertake an Independent Review of Container Deposit Legislation.

### Jade Herriman

Jade Herriman has a background in environmental science and education for sustainability and has managed a review of the NSW Government's Earth Works waste education program, provided input into best practice on-site waste management for a flagship residential development in South Australia and assessed organisational waste management costs as part of an 'environmental cost statement' for a Victorian water company. She worked on the City of Sydney's Environmental Management Plan, and several innovative local government community education programs, with a focus on the sustainability impacts of consumption.

### Chris Riedy

Dr Chris Riedy has more than ten years experience working on sustainability policies in Australia, the UK and in Qatar. His expertise includes energy policy, climate change response, water policy and waste management. Chris developed Waste Management Plans for Qatar Gas and the Northern Sydney and Hunter Regions. He worked on waste audits for Sydney Water Corporation and the Australian Technology Park.

### Damien Giurco

Dr Damien Giurco's background is in industrial ecology and its application to the mineral resources, water and waste sectors. His research interests include patterns of sustainable production and consumption and approaches for sharing responsibility along the supply chain which support sustainable futures. Damien has worked on a review of the National Packaging Covenant and currently contributes technical advice to the UTS waste committee under the campus-wide Environmental Sustainability Initiative.

### Tim Prior

Tim has conducted research examining community participation in water use and water quality management, particularly in catchments adjacent to the Great Barrier Reef World Heritage Area. He also has experience in international marine resource and protected area management. Aside from this work, Tim has established a successful science communication business, which specialises in communication products for science, environmental management and community education.

### Emma Partridge

Emma Partridge is a qualitative social researcher with extensive experience in policy, research and consulting contexts. Her work with a range of stakeholders focuses on the social and cultural dimensions of creating change towards sustainability. Emma has published on theoretical frameworks for social sustainability and given presentations on social sustainability in the development industry, social sustainability and public housing and social sustainability in a local government context. Emma worked on the SSROC organic waste trial, looking at factors influencing householder response to innovative waste management responses.

### Julian Fyfe

Julian joined ISF in 2007 and has been involved with a variety of projects to do with resource recovery, recycling and waste management, urban water planning and urban development. He is an experienced analyst and modeller and has a strong interest in resource management and recovery. He is also currently working on his PhD in agricultural waste management.

### Dana Cordell

Dana has a special interest in sustainable urban water, waste and sanitation provision and management in both developed and developing country contexts and more recently global food security and global nutrient cycles. Drawing from transdisciplinary research frameworks intended to address complex 'real world' problems, Dana is committed to undertaking leading-edge research designed to create change towards a more sustainable future.



## BENEFITS OF WORKING WITH ISF

### **Track record:**

We have been conducting project based research for Australian and international clients for a decade and have an excellent reputation for innovative, solution-focused work.

### **Applying current thinking and practice:**

Our researchers are not only up to date with best practice and current thinking - they contribute to it. Their research is published regularly in academic journals as well as industry and scientific publications and the popular media.

### **Practical and diverse experience:**

Our researchers come from varied backgrounds, including: engineering architecture, management, economics, science, social sciences, international studies and political studies. Most have worked in both government and commercial environments, so know how to deliver independent and feasible solutions to suit the needs of a diverse range of clients. We are small enough to offer our clients personalised service and large enough to offer a diversity of research skills.

### **Collaborative approach:**

We seek to create change towards a sustainable future by building capacity in organisations and individuals, and in the broader community. This means that we actively aim to pass on our knowledge and skills to our clients through close collaboration.

## WAYS WE CAN HELP

### **Consulting and research services:**

We can provide the research you need to move towards sustainable futures. We provide consulting services under both negotiated and tendered contracts.

### **Professional advice:**

You may need assistance with preliminary work before embarking on a larger project or an external review of an existing program. Our professional advice is available either for an hourly rate or on a package basis.

### **Partnerships:**

We have many ongoing partnerships across a range of technical fields and can coordinate a specialist team to meet your requirements. Our researchers are also available to join new or existing partnerships as needed.

### **Guest speakers:**

We are experienced in communicating complex issues in an accessible and engaging way. Our researchers are often invited to speak at conferences, forums, workshops and seminars. We are also frequently called upon by print, radio and television journalists for expert opinion

## PUBLICATIONS

We are committed to sharing the results of our work in the interests of a more sustainable future for all. Many of our reports, discussion papers, journal articles and conference papers can be downloaded from our website.

## CONTACT US

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