

Date

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Issue

Industrial synergies in the KIA

KIC Position and Key Messages

- Kwinana Industries Council has created and manages a continuing program of synergies which have led to increased efficiencies and a reduced environmental impact on the surrounding area.
- The environmental value of this program (the Kwinana Industrial Synergy Project or KISP) was judged the “corporate business leading by example” category winner at the 2008 WA Environment Awards.
- Since its inception the synergies created by KISP have resulted in continuing:
 - water savings of 8,200 ML/year,
 - energy savings of 3,750 TJ/year
 - waste reductions of 421,600 tonnes/year,
 - gas emission reductions of more than 134,000 metric tonnes per year.
 - carbon dioxide emission reductions the equivalent of removing 73,000 cars from the road.
- These savings are generated by 32 by-product and 15 shared utility synergies which would not have been realised without KISP.
- The KIA is a unique and important asset to Western Australia. The synergistic characteristic of the KIA provides economic, environmental and social advantages that would be extremely difficult, if not impossible, to replicate in another industrial area.
- KIC will continue to research and assess potential synergies.

Background Summary

Regional synergies refer to exchanges of by-products including materials, water and energy between industrial operations. They can also involve the shared use of utility infrastructure.

A comprehensive Economic Impact Study in 2001 identified numerous existing regional synergies, including supply chain, by-product and utility synergies.

In 2005, research by the Centre for Sustainable Resource Processing (CSRP), identified 47 industrial synergies in the KIA of which 32 are by-product synergies involving the reuse of solids, liquids or gasses, and 15 involve the shared use of utility infrastructure.

The KIC’s Eco-efficiency Committee is working with the Research Centre for Sustainable Resource Processing to identify further potential synergies in the KIA.

The synergies project, which aims to develop synergy opportunities within the KIA, will continue to enhance Kwinana’s triple bottom line benefits, which are already well beyond the scope of what can be achieved by industries in isolation.

The Kwinana Industries Synergies Project aims to improve the economic and environmental outcomes of industry by:

- converting by-products currently going to waste into value added products;
- reducing the overall generation of wastes;
- reducing greenhouse gases by improved energy efficiencies

- reducing industry's use of scheme water;
- reusing treated wastewater,
- reducing waste water discharges into Cockburn Sound; and
- reducing transport traffic and heavy haulage (thus saving resources and decreasing vehicle emissions)

KISP is directed by Kwinana Industries Council and researched and implemented by Curtin University of Technology through its Centre of Excellence in Cleaner Production (CECP), which is funded by the Centre for Sustainable Resource Processing¹. Primary industry contributors to the project are the Kwinana Industries Council, Alcoa, BHP Billiton Nickel West, Rio Tinto, and the Western Australian Government.

Progress of KISP is reported monthly to the Kwinana Industries Council's Eco-Efficiency Committee, which has oversight for the entire project and is responsible for ensuring identified synergies are taken up by industry members. This committee comprises senior management level representatives of core operating companies in KIA, including CSBP, Alcoa, BP, Tiwest, Verve Energy, Water Corporation, BHP Billiton Nickel West and Coogee Chemicals.

KISP is monitored and regularly reported on by the Centre for Sustainable Resource Processing. The 2008 draft report (some 144 pages long) spells out both the 47 current and 127 potential synergy partnerships which have been created by KISP – all of which do and would if implemented create an environmental benefit.

Apart from the environmental synergies identified in this report, there are 216 customer/supplier transactions between pairs of industries and a further 87 possible transactions within the members of KIC and within the KIA.²

Relevant Resource Materials

- Capturing Regional Synergies in the Kwinana Industrial Area, Research Centre for Sustainable Resource Processing, (2008 Status Report).
- Kwinana Industrial Area Integrated Assessment, Sinclair Knight Merz (July 2007).

Industry Contact

Chris Oughton, Director KIC.

Tel: 9419 1855. kicadmin@kic.org.au

¹ For a full report on the synergies, download the 2008 CSR report from www.kic.org.au/documents

² See KIA Integrated Assessment: www.kic.org.au/documents