

Environment

Environment-Saving Synergies

The Kwinana Industries Council's (KIC) efforts to reduce industry's impact on the environment were recognised in 2008 at the WA Environment Awards.

The KIC won the 'Corporate Business Leading by Example' category and was a finalist in the 'Good Use of Water Resources' category.

Both award nominations were based on the Kwinana Industries Synergies Project (KISP), a KIC-initiated program which identifies and implements more environmentally friendly and efficient production methods in the Kwinana Industrial Area (KIA) by sharing by-products and processes between manufacturing plants.

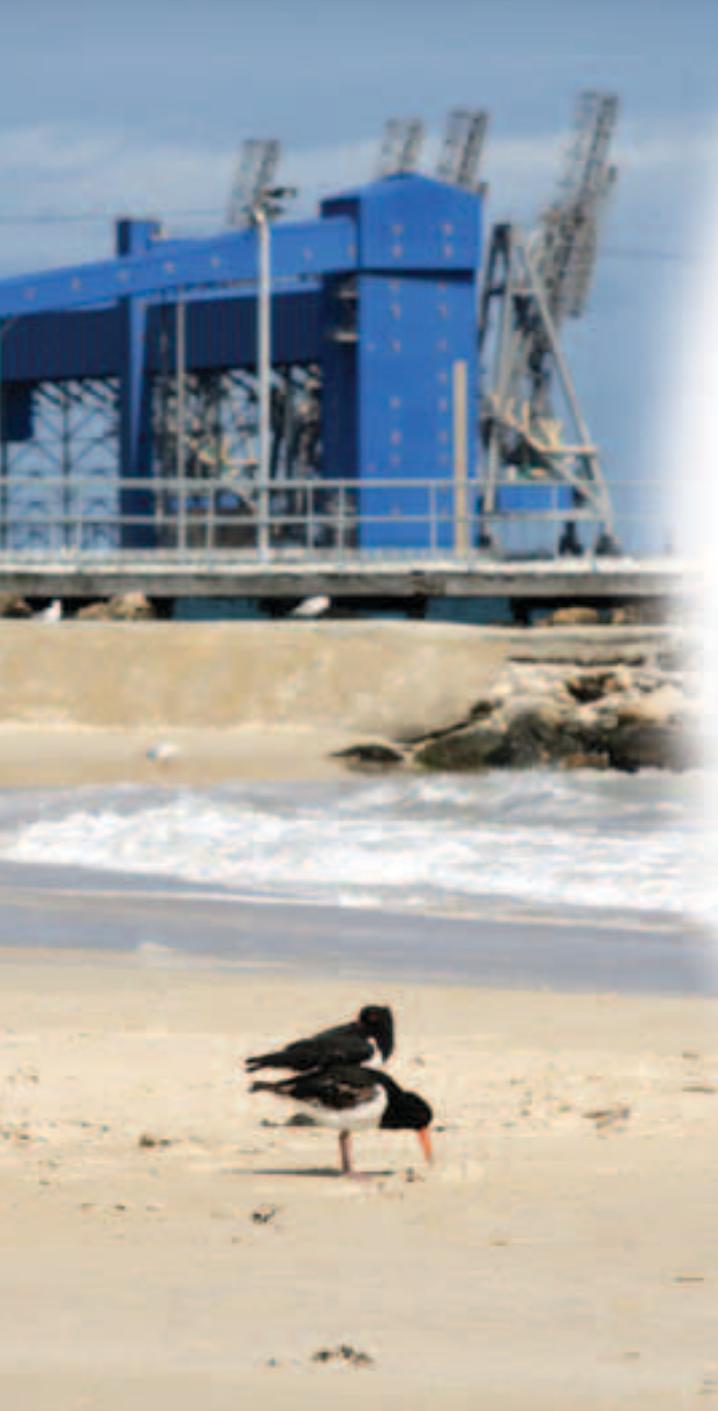
Academic oversight is provided by Curtin University's Centre for Sustainable Resource Processing. According to the centre's research, this level of co-operation makes the KIA a unique, world class best practice example.¹

A suburban example of this co-operation would be for each street to own one lawn mower or to install one central water reuse scheme.

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 close proximity of a wide range of processes within the KIA has been used to the environment's advantage.

This means that when one company's waste is another's raw material they can be more easily exchanged.

KISP 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 (tap) water
- reusing treated wastewater
- reducing waste water discharges into Cockburn Sound and
- reducing transport traffic and heavy haulage (thus saving resources and reducing vehicle emissions).

KISP successes:

Chemical plant supplying food grade carbon dioxide (CO₂) to utility gas provider

Benefit:

- Up to 43,000 tonnes of carbon dioxide can be removed from the atmosphere each year on a continuing basis – the equivalent to removing more than 10,000 cars from the road.

Chemical plant supplying gypsum for residue area amelioration at alumina refinery

Benefit:

- 10,000 tonnes of CSBP gypsum waste used as a raw material by Alcoa rather than being stockpiled.
- Waste product becomes a resource for revegetation and land renovation.

Chemical plant supplying carbon dioxide for residue neutralisation at alumina refinery

Benefit:

- Greenhouse gas reduction of 70,000 tonnes of carbon dioxide per annum on a continuing basis - the equivalent to taking 17,000 cars off the road.
- Alcoa produces a neutral residue which can be used for a variety of purposes ranging from clean landfill to revegetation.
- Less dust.
- Smaller residue storage area.



Environment

The Kwinana Industries Council is committed to environmental leadership and instilling the highest environmental values in its members. Minimising industry effects on the environment is the main KIC focus.

The KIC's strength is its group approach to addressing issues. Professionals from across member companies work together for a common purpose.

It has not always been like this. From the 1950s to the 1980s industry practices were not as environmentally responsible as they are today.

Water quality and marine life in Cockburn Sound degenerated and there was a considerable level of community concern about industry emissions.

Since then, and in response to these community concerns and regulatory changes, industry practices have changed and the quality of the environment has steadily improved.

KIC members now aim not just to meet regulatory requirements, but where possible to rate lower than these limits.

1 van Beers D Capturing Regional Synergies in the KIA (CSR 2008)
See: kic.org.au/reports