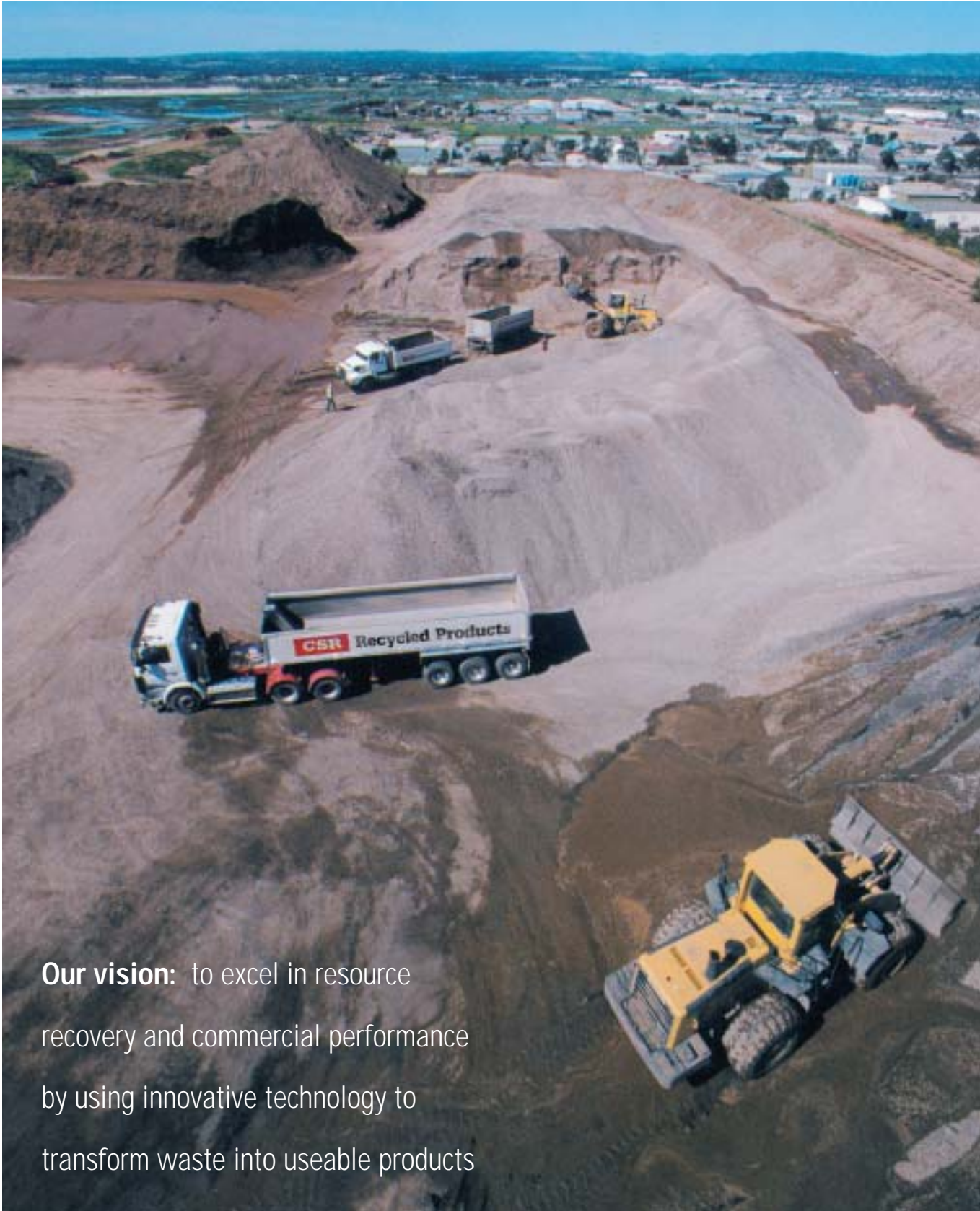


# RESOURCECO

THE SUSTAINABLE RESOURCE COMPANY



**Our vision:** to excel in resource recovery and commercial performance by using innovative technology to transform waste into useable products

# Promising signs, but there is more to do



## **There is absolutely no reason why South Australians should be sending their waste to landfill.**

While South Australians, and indeed all Australians, have substantially changed their recycling habits for the better, there is still a long way to go.

As part of a global change in attitudes, more consumers, businesses and Governments have recognised that our environment must be sustained or we will face dire consequences in the future.

Likewise, major landfills now offer recycling areas to help reduce the amount of recyclable goods being ploughed into the earth.

## **Environmental awareness should become a way of life and should be encouraged by our leaders and the community in general.**

For example, if someone is pulling down part of their house, a majority of the bricks, concrete, timber, steel and garden waste would normally be sent straight to landfill.

But at our state-of-the-art recycling facility at Wingfield, these materials are transformed into useful and usable products such as road bases, mulch and construction material.

As a result, the amount of waste being sent to landfill is substantially reduced, further improving the sustainability of our environment.

## **Taking waste to our facility for recycling is up to 50% cheaper than dumping at a tip.**

ResourceCo's SA Recycling Centre features some of the very latest in environmental technology, including equipment exclusive to Australia. The operation is able to pulverise and process raw materials into a saleable, recycled product. **R**

Simon Brown  
Managing Director, ResourceCo

## The Beginning

**In 1992 Mobile Reclaimers commissioned the building of a mobile crushing plant, which was used to crush concrete on site. The end product was used as a sub base, reducing the cost of transportation to landfill.**

Operations began at the rehabilitated Wingfield landfill site in 1995, after Mobile Reclaimers obtained an EPA licence to operate a resource recovery depot. Concrete, asphalt, green waste and mixed loads could now be accepted in exchange for a small dumping fee. These materials were recycled into construction materials, garden mulch and compost.

## **Production was further enhanced in 1998, when a \$1.2 million crushing plant was commissioned, capable of processing 1200 tonnes of concrete a day.**

The Recycled Pavement Material was developed in partnership with Transport SA, the result has been a quality product facing ever increasing demand from the civil and construction industry.

ResourceCo continues to develop a close working relationship with community and government departments. The community is served through reduced gate fees and increased recycling activity.

ResourceCo has also received a ringing endorsement from Transport SA who have approved all pavement materials and placed them on the State Supply List.

## **500,000 tonnes annually**

ResourceCo recycle 500.000 tonnes of construction and demolition waste each year. Construction and demolition materials are used on roads, carparks, driveways and other heavy duty applications.

This supplies government departments, building companies, civil engineers and private individuals with a cost competitive, structurally sound and environmentally sensitive product. **R**

Readers familiar with the company will notice we have changed our name to ResourceCo. In the early days of Mobile Reclaimer's operations, we completed major reclaiming contracts off site, both here and interstate. That is still the case, however our core business is now resource recovery. With our new expanded role in recycling and the huge amounts of waste now available to us, ResourceCo is a more appropriate name.

What's in a name?

# Mawson Lakes. In tune with the environment

Steve Russell,  
Mawson Lakes Development



**Mawson Lakes, a joint venture project between the SA Government and Delfin Lend Lease Consortium is setting world benchmark standards for mixed use urban development.**

The 620 hectares, \$850 million project will eventually be home to 10,000 people in 3,500 houses over the next 10 years.

A key feature of the development is to set high standards in environmental management.

Part of this strategy is a 50% reduction in construction waste dumped as landfill. At present 85% of construction waste is being recycled.

Mr Steve Russell, an engineer with the Mawson Lakes Development said the rationale for using road base materials from ResourceCo came down to these four factors:

- a competitive price
- better handling qualities than traditional quarry material
- did not 'mud up' in wet conditions and in fact absorbed a degree of excess moisture
- environmental sensitivity

To date, Recycled Pavement Materials from ResourceCo have been utilised in various stages of construction for Peninsula, Parkway and Brookside Villages and approvals have been granted for these materials to be used on future projects.

Anthony Green, a spokesperson for ResourceCo, said the company was adding a small percentage of recycled Asphalt to the road base material. Their observations that bonding between base and final bitumen layer is strengthened through this process. **R**

# A message from the Minister

For economic, social and environmental reasons, waste management has grown as a priority issue for South Australia. This is the same for other States in Australia and many other nations throughout the world.

There are enormous pressures to manage waste such that its environmental and social impact on the community are minimised and the volume of waste to landfill is reduced. To achieve this it is essential that the community, including Governments, business and individuals implement changes to avoid or reduce the amount of waste produced and to ensure that any residual waste is valued as a resource for re-use, recovery or recycling.

When people think of waste, they usually think about their household garbage, and sometimes the containers of rubbish outside businesses or shopping centres.

However, not many people know that more building, construction and demolition waste is deposited to our landfills in the metropolitan area than any other waste stream, including kerbside waste. It is important that this waste is regarded as a resource to be re-used and the materials recovered and recycled.

The Government's 1996 Integrated Waste Strategy for Metropolitan Adelaide recognised that waste avoidance and management requires cooperation from State and local government, industry and community organisations.

ResourceCo has recognised the business opportunities associated with transforming waste into useable and sought after products.

I regard waste management as a key area of importance within my portfolio and I am particularly pleased to recognise the important contribution that ResourceCo is making towards resource recovery and recycling in South Australia.

Hon. Dorothy Kotz MP  
Minister for Environment and Heritage  
Government of South Australia **R**

# ResourceCo recognised at Case Earth Awards

**ResourceCo received the award for establishing a world class Resource Recovery Depot. The project was determined to be the winner on the basis of:**

- Demonstrated economical viability of recycling construction waste.
- Positive contribution to long term sustainable development through minimising waste streams going to landfill.
- Potential wide impact on the civil construction industry in terms of waste disposal alternative and the opportunity to recycle the materials into new construction works.
- Quality and environmental control of the process, from acceptance and sorting of waste to production of a product complying with recognised industry standards.

Mr Danny De Santo from Case, in congratulating ResourceCo said, "It is pleasing to see Australian contractors being recognised for their effort and commitment to achieving environmentally better product."

In receiving his award, Simon Brown thanked The Minister, Dorothy Kotz for the support, encouragement and advice that ResourceCo had received from the EPA and the Department of Environment, to establish their recovery depot. **R**



The Hon. Dorothy Kotz MP and  
Simon Brown of ResourceCo

# City of Tea Tree Gully approves

**Recycled road pavements are performing well, according to City of Tea Tree Gully Assets Engineer, Gabby D'Aloia.**

The Council has been trialing the Recycled Pavement Material in residential subdivisions at Golden Grove and in other reconstruction projects.

Gabby says the main benefits include the reduced dumping to landfill and the comparative cost of recycled material.

"The Council was encouraged by the results of laboratory testing carried out by Transport SA, indicating the performance of the recycled pavement material is comparable to the performance of traditional quarry materials for low to medium trafficked roads", Gabby said in a letter to ResourceCo's Sales Manager, Anthony Green. **R**



Tea Tree Gully Engineer  
Gabby D'Aloia

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Throughout our history, ResourceCo has prided itself on its commitment to develop new and innovative ways to handle various waste streams, other than by disposing of it at traditional landfill sites. This also works in with the Government's statement to reduce the volume of waste going into landfill by 50% by the year 2000. As landfills are quickly depleting, this has now become extremely important.

To develop a process that could cost effectively sort construction and demolition waste into various types of materials, we turned to European countries who are already having to seek alternatives to landfill. The result was a specially modified trommel screen and picking station. As mixed loads of materials are disposed of, an excavator mounted with a bucket grab, loads the waste into the screen. Any items are picked out and set aside by using the grab. Once in the trommel, all materials that are 40mm or under are screened out and stockpiled for use as clean fill. Leftover materials then travel along a conveyor into a picking and sorting room. This room employs up to 9 pickers who sort the materials as they travel past on the conveyor. Each picker concentrates on a specific type of waste such as concrete, steel or green waste, placing it into a chute along side of them.

Materials fall down this chute into bays where the materials are stockpiled and reprocessed accordingly. All concrete and asphalt materials are added to our concrete recycling operations, green waste and timbers are turned into mulches, soil is used as clean fill and steels are sold to scrap yards. This then leaves approximately 5% of the material to be disposed of through landfill sites.

The leftover material contains no solid waste, minimising the amount of space required at a landfill.



# CSR Readymix & ResourceCo. A marriage of convenience

The use of recyclables for aggregate road pavement and civil engineering products has been given a major boost. CSR Readymix and ResourceCo have joined forces to market and sell recycled construction materials.

CSR Readymix, a business unit of CSR Ltd., is one of Australia's leading construction materials suppliers, with a major presence in SA and NT through a total of 45 fixed and mobile pre-mix concrete, hard rock quarries, sand and block operations.

In announcing the formation of CSR Recycled Products, CSR Readymix General Manager, Mike Canny, said "This arrangement builds on the strength of both parties – CSR Readymix's experience in the quarry industry, our reputation for technical innovation, and relationships with customers, and ResourceCo's expertise in processing a wide range of materials and producing high quality recycled products. The addition of recycled materials fills a major gap in our product range and allows us to offer our customers a complete range of aggregates, pavement and civil engineering materials."

ResourceCo's Managing Director, Simon Brown, said the new venture would allow ResourceCo to concentrate on its core recycling activities, whilst CSR would contribute to the new arrangement through product development, marketing and technical expertise.

Simon Brown added that the use of recycled products had expanded rapidly as industry consumers became increasingly aware of their advantages. The technology for waste separating, pulverising and processing has undergone significant development over the past five years. As a result, concrete recycling has become the field of specialists.

### Outstanding Quality

Mr Canny commented "The performance and consistency of products now becoming available has gone a long way to dispelling many of the myths traditionally associated with recycled materials. More importantly, demand for these products is being driven by the wider community's recognition that recycled aggregates are a cost affective and environmentally friendly solution to the joint problems of waste disposal and the ongoing supply of construction materials." 




# More for less

ResourceCo produce more for less. by diverting waste from landfill into reusable materials. This is the assessment given by the Environment Protection Agency's Lee Morgan.

ResourceCo has been licensed as a Resource Recovery Depot by the authority and approval has been given to reprocess construction and demolition materials.

The EPA has recently facilitated the use of hard waste materials in aggregate road construction for the Department of Road Transport, and the use of recycled matter as a backfiller in sewer trenches for SA Water.

'Towards Sustainability – Achieving Cleaner Production in Australia', published by the Australian and New Zealand Environment and Conservation Council, emphasises the importance of improving environmental performance in the delivery of goods and services to the community.

"The processes undertaken by ResourceCo are excellent examples of this concept, which result in increased efficiency and productivity", Manager of the EPA's Operations Branch, Max Harvey said. 



 **Recycled Products**



# Materials Trial shows positive signs



**Over the past 18 months, Recycled Pavement Materials have developed into a proven product offering various benefits to the market place. During our progress, ResourceCo has worked heavily in conjunction with Transport SA to continually improve the standards of these materials to the point where our materials have been placed on State Supply listings and specifications have been established for our materials to conform with.**

As part of the development process, a trial of our materials has been conducted in conjunction with the City of Tea Tree Gully. Early results of this trial are very promising.

Recycled Pavement Materials were used on a section of Dunbarton Crescent. Traditional materials had previously been used on this road so the trial provides a good comparison between recycled and traditional pavement materials. For this trial PM71 product was used as the sub-base material, and PM81 product was used as the Base-course material.

Our products were used between chainage 30 and 90 with traditional materials making up the remainder.

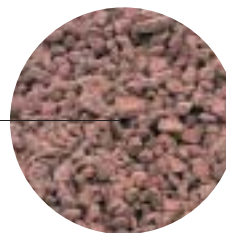
**The Resilient Modulus Test has shown Recycled Pavement Materials to be far superior once they have been placed and compacted.**

The Resilient Modulus Test is the latest in testing technology adopted by Transport SA as an alternative to the traditional Californian Bearing Ratio Test used to determine the hardness of the actual stone. The Resilient Modulus Test measures the hardness of the materials once they are compacted. We believe the high results achieved by our materials to be partly due to the re-hydration process that takes place once the cement fines from the crushed concrete react with water added to the product to achieve an OMC. Further tests are scheduled to take place on this section of road later this month and results will be made available accordingly. **R**

*Before*



*After*



*Modulus Testing.  
David Hazell, Transport SA*

Support from Transport SA

**Bob Andrews is the Supervising Engineer of Materials at Transport SA and responsible for the development of a new product specification allowing waste asphalt, concrete and brick to be recycled into new pavement materials.**

The specifications were developed after consultation with Transport SA's Environment Section, The Environment Protection Agency (EPA) and ResourceCo.

"As well as providing quality assurance of the end product, these specifications are a first in Australia to include quality identification in terms of fit for purpose performance, as well as stringent EPA environment protection controls," he said.

The cost benefits are enormous. To begin with, Transport SA expects to save at least \$100,000 a year in dumping fees.

**Furthermore, by using a ResourceCo Recycled Pavement Material blend on road rehabilitation, instead of conventional hot mix asphalt, a saving of nearly \$1000 per tonne can be achieved. And there is no reduction in stability.**

"Since introducing the specifications, a number of companies have become involved in the processes to manufacture the products using various combinations of concrete, brick, asphalt, quarry waste and industrial waste," Bob said.

Each year Transport SA generates and dumps about 40,000 tonnes of reclaimed asphalt in Adelaide, at a cost of \$210,000. It has been estimated that 30,000 tonnes of Recycled Pavement Material is being used every month.

And consumers are expected to save up to 15% using recycled materials instead of conventional quarry materials.

Residential streets at Mawson Lakes, heavy-duty freight yards at Dry Creek and a shopping centre car park at Tea Tree Gully represent some of the projects where the new recycled product has been used. **R**

