

# House of Representatives Standing Committee on Environment and Heritage

## Inquiry into Sustainable Cities A submission by GRD Limited

### Introduction

GRD Limited is a Perth based resource contracting and development company. It has developed a leading edge technology for the management of urban waste which has a direct relevance to the Standing Committee's Inquiry into Sustainable Cities, most specifically to the following terms of reference:

- Measures to reduce the environmental, social and economic costs of continuing urban expansion; and
- Mechanisms for the Commonwealth to bring about urban development reform and promote ecologically sustainable patterns of settlement.

GRD Limited welcomes the opportunity to make this submission to the House of Representatives Standing Committee on Environment and Heritage.

### Waste Management – A Key Challenge For Sustainable Cities

The management of municipal waste is one of the key challenges to the sustainability of urban communities in advanced Western consumer economies globally.

In Australia, about 80 percent of saleable products become waste within six months, and most of this goes to landfill. NolanITU estimates that the annual environmental cost of landfilling putrescible waste in Australian major cities may exceed \$640 million per year, exceeding the cost of salinity to Australia<sup>1</sup>.

Waste disposal to landfill has adverse long term environmental and economic impacts, mainly through contamination of groundwater and waterways, production of greenhouse gases and the quarantining from other uses of land contaminated by waste. The environmental, economic and social impact of this method of waste management by our communities today will be felt more by future generations and is therefore patently unsustainable.

Global Renewables, an Australian company owned by GRD Limited and funds managed by Westpac's Hastings Funds Management, has developed the UR-3R Process<sup>®</sup> (Urban Resource – Reduction, Recovery and Recycling) for converting household wastes into resources, submits that this new technology offers an opportunity to turn waste management from an impediment to sustainable living and a public cost, to an environmentally sustainable wealth generating industry and a regional development strategy.

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<sup>1</sup> 'Landfilling costs Australia millions', news release, NolanITU, 30 August 2004

## **The UR-3R Process® - An Australian Solution For Sustainable Cities**

GRD subsidiary Global Renewables has built, owns and operates the Eastern Creek UR-3R Facility in Sydney, New South Wales, to treat household waste. The Facility was opened in September 2004.

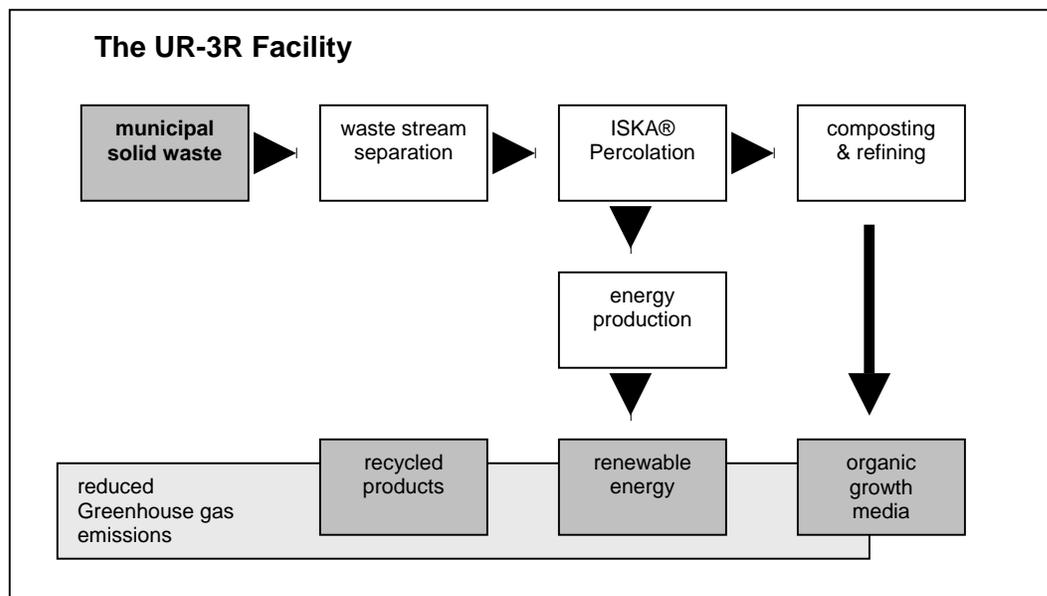
As well as operating the Eastern Creek UR-3R Facility, Global Renewables has been selected as the preferred provider to build a UR-3R Facility in Melbourne and is short-listed to build facilities in Perth, south western Sydney, Lancashire in the United Kingdom, and in Singapore, demonstrating the growing global acceptance of this Australian waste solution.

The UR-3R Process® integrates commercially proven materials handling technology developed in the Australian minerals industry with bio-digestion technology from Germany and composting technology from Italy to provide the most advanced waste treatment facility in the world.

The Eastern Creek UR-3R Facility, a public private partnership with WSN Environmental Solutions (formerly Waste Service NSW) will initially receive 175,000 tonnes of municipal waste, or about 11percent of Sydney's waste annually, with potential to expand its capacity to 260,000 tonnes. The Eastern Creek UR-3R Facility will separate the waste stream into:

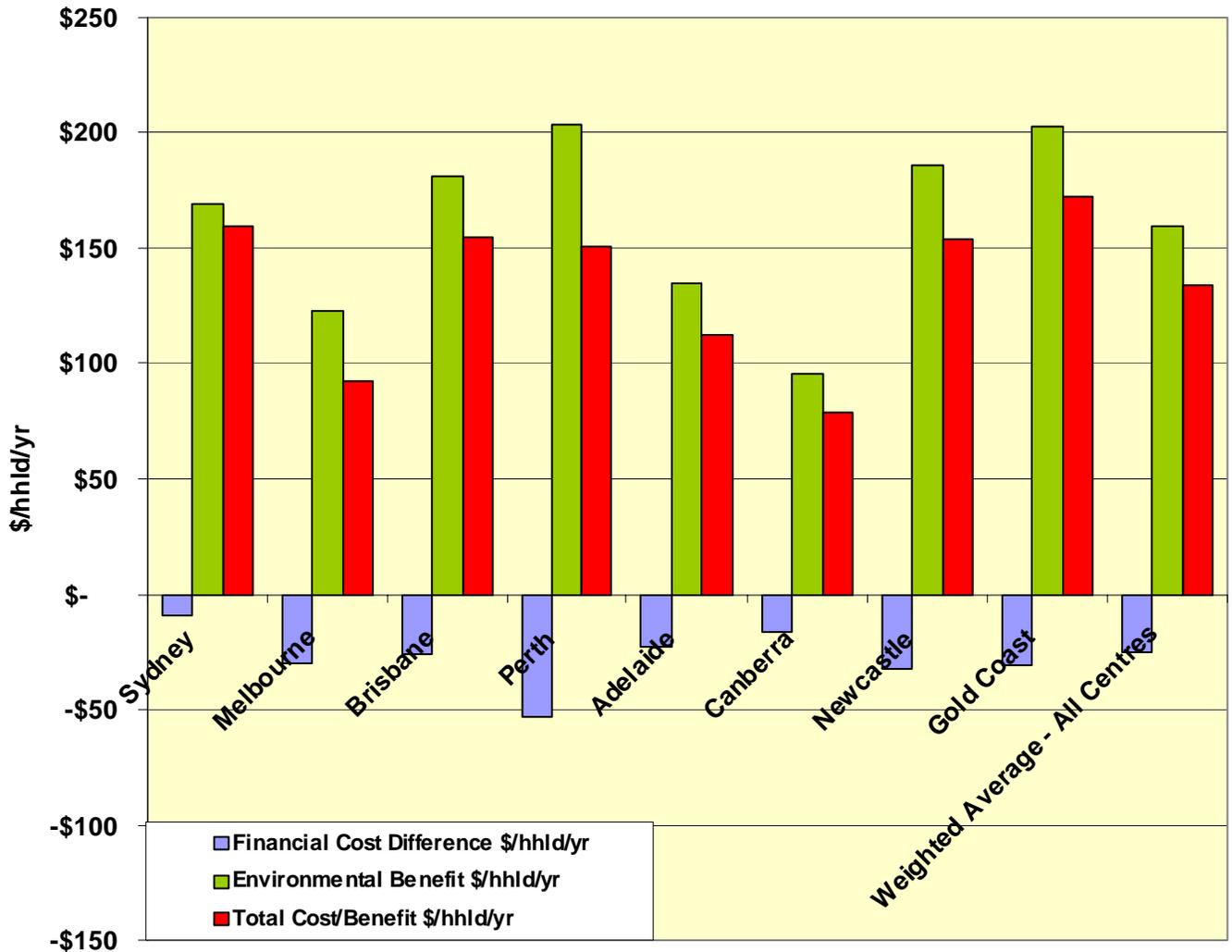
- About 17,000 tonnes of recyclable materials - metals, glass, paper and plastics - subject to the composition of the waste stream;
- About 23,000 tonnes of solids which can be used as organic soil conditioners or converted to organic fertilisers;
- Biogases which will produce about 17,000 megawatts of green electricity a year, of which 90 percent is used to power the Facility with the remainder sold into the NSW electricity grid; and also
- Approximately 300,000 tonnes a year of CO<sub>2</sub> abatement units, equivalent to taking about 50,000 cars off the road.

### **The UR-3R Facility: A solution for resource recovery and greenhouse gas reduction**



## National Benefits

In 2004, Global Renewables commissioned an independent triple bottom line assessment of the national benefits of the UR-3R Process<sup>®</sup> which demonstrated that by replacing landfill as the main means of urban waste management, it could have a net benefit of \$150 per Australian household per year (i.e. a total national benefit exceeding \$620 million a year), while contributing \$140 million to Australia's GDP by converting waste into recycled materials, energy and carbon credits<sup>2</sup>.



### The net triple bottom line cost/benefit of adopting the UR-3R waste disposal technology for each major Australian population centre

Source: National Benefits of Implementation of the UR-3R Process - A Triple Bottom Line Assessment, NolanITU, July 2004

<sup>2</sup> National Benefits of Implementation of the UR-3R Process - A triple Bottom Line Assessment, NolanITU, July 2004

### **Sustainable Industry Springing Directly from Household Garbage Bins**

Government support is required to encourage the development of a new, clean, high technology sustainable waste processing industry, boosting manufacturing and providing local employment in addition to bringing substantial environmental benefits. Resources, which will otherwise go to waste, could be recovered and reused to stimulate economic growth. Organic fertilisers could replenish impoverished soils, reduce reliance on chemical imports, and enhance agricultural productivity. And significant greenhouse gas emission reductions could offset power generation, water desalination, and/or mineral processing activities.

### **Public Policy Support for Sustainable Waste Treatment**

Government intervention is essential by way of a progressive ban on land filling of recyclable and putrescible materials and incentives to encourage investment in infrastructure if the processing of household waste is to achieve its full potential for contributing to sustainable cities.

The United Kingdom's Landfill Allowance Trading Scheme (LATS), which facilitates the achievement of waste diversion targets through a cap and trade system accessible by local government is one way to reach the targeted outcomes. Councils, which can most economically introduce resource recovery technology to exceed LATS targets, can trade their excess credits, and those with higher costs can either purchase landfill credits from other councils or pay a substantial penalty. Australia has similar cap and trade markets for renewable energy certificates and salinity credits.

The United Kingdom Private Finance Initiative (PFI) to encourage sustainable waste management initiatives is another example of policy to deliver higher quality and cost effective waste management services. The PFI involves the private sector directly in asset provision and operation, changing the focus from the procurement of capital assets, to the purchase and use of a serviced asset by the public sector.

During the period 2004-2006, GBP135 million will be made available (in the form of PFI Credits) from which local authorities may bid for "projects" to receive revenue support.

The PFI process requires that projects seeking revenue support are first submitted to the central government for review against a specific "framework" before a local authority can commit to it.

The PFI and LATS schemes are designed to provide greater certainty for both the private and public sector during project procurement, and in doing so, address the market and regulatory failures that currently exist in the waste management industry.

## **Research and Education Needs for Sustainable Waste Management**

Further investment in research and education programs is also required to maximise the benefits of the waste processing. In particular, achieving broad scale use of organic fertilisers in agriculture to replace inorganic chemical imports will require research, field trials and education to demonstrate the benefits and create an economically viable market to stimulate further industrial and agricultural growth.

Research required to maximise the use of the organic material recovered from the waste cycle includes:

- Identifying waste characteristics of municipal solid waste (including especially contaminating and toxic materials);
- Designing organic processing technologies to recover value from, and enhance the value of, recycled organic products; and
- Enhancing water saving through recycled organics use.

## **Conclusion**

As the developer of the UR-3R Process<sup>®</sup> (Urban Resource – Reduction, Recovery and Recycling) for converting household wastes into resources, GRD submits that this new technology offers an opportunity to turn waste management from an impediment to sustainable living and a public cost, into an environmentally sustainable wealth generating industry and a regional development strategy.

We submit that Government support is required to encourage the development of a new, clean, high technology sustainable waste processing industry, which can deliver substantial economic, environmental and social benefits.

Government intervention is essential by way of a progressive ban on land filling of recyclable and putrescible materials, research investment programs, and incentives to encourage investment in infrastructure, if the processing of household waste is to achieve its full potential for contributing to sustainable cities.

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