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australian information
industry association



eWaste Recycling, Refurbishment and Reuse

A collection of interviews and case studies
from organisations undertaking these activities
in the Australian market.

June 2011

Contents

Foreword from AIIA	1
Interviewee profiles	2
Buyequip Pty Ltd	2
Greenbox Systems Pty Ltd	3
Sims E-Recycling	4
WorkVentures Ltd	5
Responses to questions	7
Case studies	13

Foreword from AIIA

The Australian Information Industry Association (AIIA) is the nation's peak industry body for the technology sector. AIIA sets the strategic direction of the industry, influences public policy and provides members with productivity tools, advisory services and market intelligence to accelerate their business growth.

AIIA member companies have for some time lobbied for a national television and computer product stewardship scheme and worked with AIIA to inform its development with Government.

The purpose of this publication is to provide examples of current business practice and arrangements for asset management and recycling of equipment from commercial IT users. All information used in this document comes from a small selection of AIIA members who are not equipment manufacturers. AIIA also sought case studies to illustrate the way these commercial arrangements are currently conducted.

AIIA believes that the national television and computer recycling scheme can complement 'business as usual' arrangements, especially those servicing the corporate sector. This will be achieved through asset management, the remarketing of used product back into the Australian and overseas markets and the recycling of End Of Life (EOL) equipment.

Importantly, a significant proportion of IT product used in the corporate sector eventually finds its way into use by the community. Under the national scheme, this will be well catered for at the end of its useful life.

Four companies participated in interviews and provided their responses to a set of questions. The views expressed within are not necessarily the views of AIIA.

Interviewee profiles

Company name	Buyequip Pty Ltd
Number of staff	17 staff
Location(s)	Brisbane and Sydney
Type of operation	<p>Buyequip is involved all aspects of IT disposals, including:</p> <ul style="list-style-type: none">• IT decommissioning and asset management• Refurbishment and remarketing• Electronics recycling• Installations• Data cleansing <p>Remarketing and recycling are core to Buyequip's business model. In revenue terms, remarketing comprises 75% of business and recycling 25%. However in volume terms, recycling comprises 75% of the business and remarketing comprises 25%.</p> <p>As the figures demonstrate, recycling is a low margin activity. Regardless, Buyequip has remained committed to recycling over the past four years.</p>
Clients	<p>Buyequip has clients that include:</p> <ul style="list-style-type: none">• Government (Fed/State/Local)• Multi-National Companies• ICT system integrators and consultants• Defence companies• Electronic retailers• Banking and finance sector• SMEs• Education sector
Accreditation(s)	Currently undertaking ISO 9001 quality management and ISO 14001 for environmental management and on target to be certified by September 2011.
Method of Engagement	Direct engagement as well as via third party providers (e.g. system integrators and ICT consultants).
Percentage deployed back to the client	Less than 2%
Percentage refurbished for sale in Australia or overseas	Domestic sales 50% Export 50%
Percentage onsold to users or a broker to onsell	30% domestically, 30% internationally
Percentage put through disassembly / recycling	By weight, 75% of all equipment received is for recycling and disassembly.

Interviewee profiles

Company name	Greenbox Systems Pty Ltd (Greenbox)
Number of staff	40 staff nationally
Location(s)	Brisbane (head office), Melbourne, Sydney, Canberra and Perth
Type of operation	<p>The major service provided is asset management, however, Greenbox also provides reuse and recycling services.</p> <p>Greenbox provides a positive financial inducement for organisations to act ethically with respect to the disposal of their End Of Life (EOL) equipment by utilising its residual value to pay for installation of the replacement equipment, de-installation of the EOL equipment and its subsequent disposal in accordance with global best practice.</p> <p>Depending on the condition and age of the outgoing equipment, the service provided by Greenbox can include all lifecycle aspects including staging and imaging, delivery, data sanitisation and recycling of non-working equipment without incurring any financial cost. Indeed, on occasion, a rebate can be made.</p> <p>When exercised as a contiguous set of processes, Greenbox can assist organisations to reduce the carbon footprint of a device due to the reduction in movements from three to one and the re-use of its packaging up to four times.</p> <p>This method of operation addresses the financial, operational, environmental and ethical issues involved in adherence to a number of aspects of Information Technology Infrastructure Library (ITIL) compliance.</p>
Clients	Greenbox predominantly provides services to blue chip companies (over 500 employees) and government bodies.
Accreditation(s)	ISO 9001 for quality and ISO 140001 for environmental management
Method of Engagement	Direct engagement
Percentage deployed back to the client	Approximately 5%
Percentage refurbished for sale in Australia or overseas	0%
Percentage onsold to users or a broker to onsell	85% sold direct to distributors, not to brokers. This is done after the assets have been assessed for quality.
Percentage put through disassembly / recycling	10%

Interviewee profiles

Company name	Sims E-Recycling, which is part of Sims Recycling Solutions, the world's largest electronics recycler and a Division of Sims Metal Management, the world's largest metals recycler.
Number of staff	90 – 110 staff nationally in Australia
Location(s)	Sydney, Melbourne, Perth and Brisbane
Type of operation	Sims E-Recycling provides a range of services for the reuse and end of life recycling of redundant assets. The reuse services include full testing, auditing and data wiping services as applicable before sale of said assets. The end of life recycling includes manual and automated processing to liberate commodities for reuse.
Clients	<p>Sims E-Recycling's clients on both reuse and end of life recycling, encompass a broad spectrum of the market – from households, small to medium sized businesses and large corporations to councils, Original Equipment Manufacturers (OEMs), schools and all levels of government.</p> <p>Sims E-Recycling asset management services are provided solely to the corporate market. This service was added to SIMS through the acquisition of another company.</p>
Accreditation(s)	All facilities are ISO 140001 accredited for environmental management. The NSW and Vic facilities are also ISO 9001 accredited for quality. Qld and WA are currently working towards ISO 180001 accreditation for OHS safety standards.
Method of Engagement	<p>Deal direct with the end user to collect waste.</p> <p>Have contracts with some parties whereby Sims deals with a 3rd party provider.</p>
Percentage deployed back to the client	0%

Interviewee profiles

Company name	WorkVentures Ltd
Number of staff	150 staff nationally
Location(s)	Sydney (seven offices) and Melbourne
Type of operation	<p>WorkVentures is a non-profit organisation that has been operating for over 30 years.</p> <p>The major service provided by WorkVentures is the repair and refurbishment of IT products. The repair business services IT, telecommunications and electrical equipment on behalf of large corporate clients. The core strength of this division is the ability to repair circuit boards and other components, rather than replacing them.</p> <p>The refurbishment business sources donated assets from corporate clients to on-sell to disadvantaged individuals and other non-profit organisations.</p> <p>As a true social enterprise, WorkVentures runs the repair and refurbishment businesses in order to generate funds that are invested in social programs including IT training courses for indigenous Australians, migrants and refugees.</p> <p>Additionally, WorkVentures employs disadvantaged individuals in its workforce, thereby giving them the opportunity to gain valuable skills and experience in hands-on roles.</p>
Clients	<p>Repair services are offered to large multinational IT support companies. Products which can be refurbished are donated by blue chip corporations, primarily in the banking and construction industries, as well as by state government bodies. Over 95% of refurbished computers are recipients of Centrelink benefits, with the remainder sold to non-profit organisations.</p>
Accreditation(s)	ISO 9001
Method of engagement	Direct engagement with corporations
Percentage deployed back to the client	<p>>90% of equipment received for repair is able to be deployed back to the client.</p> <p>Approximately 80% of the equipment donated for refurbishment is able to be used for that purpose. Any equipment that is not suitable for refurbishment is disassembled for parts and then recycled through partners with ISO 14001 accreditation.</p>

Interviewee profiles

WorkVentures Ltd continued

Percentage refurbished for sale in Australia or overseas

The refurbishment program was established with a goal of bridging the digital divide by providing a computer to every disadvantaged family in Australia. 100% of computers that are refurbished are put back into the Australian market.

Percentage onsold to users or a broker to onsell

0%

Percentage put through disassembly / recycling

Only a small amount of equipment received by the repair services unit is recycled as most of it is recovered as 'working product'. Around 20% of the equipment received for refurbishment is recycled.

Responses to questions...

...on standards and safety in the eWaste industry

It is imperative that standards are adhered to in the eWaste recycling and refurbishing industry to ensure optimal safety of workers and safe operations. The key questions asked of respondents here were:

How important are OH&S and handling procedures in this industry / your segment?

What procedures have you put in place?

Sims E-Recycling

“Standards are critical and very important to us as a business. We have very sound processes and we pride ourselves on that.

We have a regular Regional Implementation Committee meeting which covers all of Asia Pacific and is chaired by the Global OHS Manager.

We have a global process that we use to collect data on all incidents including safety and environmental. The system we use can drill down and tell us statistically where we are likely to have an incident, what it might be and what time and day it will happen and why.

A charter is a good thing to have in this market. People can get hurt very easily when processing, they can get cut on glass or metal, they can get a shock from items that still have a charge in them. So, we have processes in place to deal with this.”

Buyequip Pty Ltd

“Like most professional companies we take OH&S very seriously. As an experienced eWaste company, additional OH&S policies and procedures need to be planned and implemented on top of the general OH&S considerations. This is because the composition of eWaste can be – and is – harmful if not treated correctly.”

Microsoft is committed to supporting PC refurbishment programs that extend the life of technology and provide significant environmental and social outcomes. The Microsoft Authorised Refurbisher program (MAR) is for large partners that average a minimum volume of 5000 PCs refurbished monthly. Refurbishers supply refurbished computers and servers with genuine Microsoft software preinstalled to businesses, consumers and community organisations.

The Microsoft Registered Refurbisher program is for small and medium-sized refurbishers that wish to supply refurbished PCs preinstalled with Microsoft software to local consumers and businesses and to qualified community organisations and disadvantaged individuals.

“There are currently 223 approved Microsoft Refurbishers in Australia. 37 of these have ordered under our Microsoft ‘citizenship’ program. Since July 2010, around 13,000 computers have been refurbished through this program.

Microsoft recognises the difficulties that Community Organisations and individuals face in accessing affordable hardware. We also recognise the importance of increasing the longevity of existing hardware and reducing eWaste. This program plays an important part in providing equitable access to technology.”

Paul Clark, Manager, Citizenship and Community Affairs, Microsoft

Responses to questions...

...on corporate and government generated eWaste

The recycling and refurbishment of eWaste is becoming more prevalent as more and more Australians are increasingly becoming aware of the environmental impacts of eWaste and the importance of recycling.

The key questions asked of respondents here were:

Have you noticed a growth in the market?

Is there an increasing interest in responsible asset management and disposal?

Greenbox Systems Pty Ltd

“There has been a big change in the attitude of government bodies and corporates in the last two to three years. Whereas before they didn’t see any real benefit in recycling, they now seem to be across the seriousness of the eWaste issue.

We have noticed a definite change in behaviour towards seeking out organisations like Greenbox to help them with their disposal requirements in a manner that integrates these requirements with their broader desktop PC refresh objectives, rather than simply calling the local skip bin provider where the eWaste would eventually end up as landfill.”

WorkVentures Ltd

“We are seeing an increasing number of businesses approach us as we promote our services more actively – such as registering on www.businessrecycling.com.au and attending trade shows. The corporates that want to do the right thing will do so. For others it’s just about the dollar. There are still the short cut people versus the good guys.”

Buyequip Pty Ltd

“Yes, 2010 saw a marked increase in interest in responsible and secure environmental disposal, particularly in the corporate, SME and education sectors. Our inbound inquiries from the education sector have increased by 200% in 2010 and the inquiries from SMEs who have less than 25 employees have also increased significantly.”

Responses to questions...

...on support for the National Television and Computer Scheme

The proposed implementation of a National Television and Computer Scheme for the recycling of end of life products will naturally impact Australian eWaste recyclers and to some lesser extent refurbishers and will entail the introduction of new processes, policies and practices across the industry.

The key question asked of respondents here were:

What opportunities do you believe the National Television and Computer Scheme might present for businesses like yours?

Greenbox Systems Pty Ltd

“The work that the AIIA has been doing to raise awareness of the eWaste problem and more importantly, to pull together a solution in response to it, has given the eWaste recycling industry a degree of credibility that didn't previously exist.

The only problem we see with the eWaste and TV scheme is the 'rat running' which is where government bodies and corporates will try and find ways of gaining access to what they see as a 'free' service, which is what this National eWaste scheme will be for consumers. At this stage I am not sure how this can be dealt with effectively.”

WorkVentures Ltd

“Generally we are supportive of the national scheme. Our major concern is that other organisations will be attracted to join the refurbishment industry for a brief period, deliver a poor quality product and drag down the reputation of the segment as a whole. It's not easy to perform this service professionally. There are a lot of checks that you need to do for electrical safety and unless you know what to do there could be issues with newcomers.”

Buyequip Pty Ltd

“The scheme provides us with opportunities for growth – not only with respect to revenues but also in capital investment. In being part of the scheme, we will be executing product stewardship orientated logistics and marketing plans, investing in technologies and infrastructure, as well as developing strategic partnerships (nationally and internationally) whilst also employing further staff.”

Responses to questions...

...on the ability of the market to process eWaste in Australia as opposed to offshore

This question was relevant to the recyclers. It was accepted that the scheme would increase the supply of eWaste for recycling. Respondents were asked whether they thought there was enough capacity to process everything in Australia.

Greenbox Systems Pty Ltd

"In order to grow best practice solutions in Australia, we need to stem the flow of eWaste exports, force it to be dealt with here and build the masses required to create economical and sustainable solutions."

The eWaste industry in Australia is still very immature in terms of the quality of the recycling process. The reason for this is that we haven't had the critical mass required to seed the development of best practice recycling services. The real heart of the problem is why we don't have the critical mass and what are we doing to build it. The research shows that there are significant volumes of electronic goods reaching end of life, but nobody can fully explain how the waste is currently being disposed of.

So called 'recyclers' and other opportunists are able to fill shipping containers with eWaste and transport it to countries where the cost to dump the eWaste is less than it costs to properly recycle it here in Australia.

Hence a large portion of our annual eWaste problem is literally being dumped on other countries.

These countries often don't have the human safety or environment standards in place to deal with it properly. This is a well documented global problem, however, over the past 11 years I have seen very little being done to stem the smuggling of eWaste out of Australia.

There is also a need to educate government bodies and corporate decision makers about the national eWaste scheme and how it is free to consumers only.

It's also important to ensure that the people who are responsible for operating drop off points have very clear rules in place to guide them as to who they can accept equipment from and what amounts are allowed to be disposed off – per drop off – in order to prevent non-consumers from accessing the program.

"We would like to see the Government be more active in controlling the flow of electronic waste from Australia. We don't see any real energy being put into dealing with the issue. This illegal shipping is very simple to do and it seems that the people doing it are almost never caught.

I appreciate that it would be very hard to monitor and manage this, because how can you really tell if the equipment in a shipping container works or not, but it doesn't seem as though anyone is taking the shipping of eWaste seriously."

Responses to questions...

...on the ability of the market to process eWaste in Australia as opposed to offshore continued

Sims E-Recycling

“We should be all about building capacity in Australia. This is about Australia, it’s not about other countries. We need to build capacity, we need to build skills and we need to protect jobs in Australia.

First and foremost we need to be thinking about how to build capacity in this marketplace. We should not be sending non working eWaste overseas.

We have put our money where our mouth is and put it back in to Australia – is in terms of processes and in terms of national networks. All the skills we gain, we then keep and put back into Australia.”

“We don’t want to see goods exported offshore to be processed as eWaste. We want to see that happening in Australia. It needs to be processed by Australians on Australian soil.

We regularly get calls from overseas, China in particular, from companies asking us to send them their eWaste, which we can’t do and we don’t do. I’m sure our competitors are getting the same calls.”

WorkVentures Ltd

“We are continually getting phone calls from companies offering to ship products to China for money and we won’t have a part of it.”

“We don’t want to see whole units exported offshore to be processed as eWaste. We want to see that happening in Australia. It needs to be processed here in Australia.”

Graham Muir, National Marketing Manager, Australia and New Zealand, Sims eRecycling

Responses to questions...

...on standards and expectations under the national scheme

Questions asked here were designed to gauge the respondents' understanding of the standards and industry expectations that will exist under a national Television and Computer Recycling Scheme.

The key questions asked of respondents here were:

Do you think an Australian standard will help improve the industry?

Do you have any concerns regarding the proposed legislations and regulations from what you know of the scheme to date?

Sims E-Recycling

"It is very important to have a level playing field and have market standards in place that are reinforced. There needs to be clear recycling standards and rules of engagement for those participating. Recycling recovery rates should also be implemented and implemented high enough to ensure we are meeting the overall targets. There is no point in setting recovery rates too low for this material."

WorkVentures Ltd

"We are very supportive of having recycling standards for the industry."

Case studies

As noted earlier, the purpose of this publication is to provide examples of current business practice and arrangements for asset management and recycling of equipment from commercial IT users. All information used in this document comes from a small selection of AIIA members who are not equipment manufacturers. AIIA also sought case studies, which are detailed below, in order to illustrate the way these commercial arrangements are currently conducted.

WorkVentures

Simon is an Indigenous 25 year old man, living in a small town in regional Australia, together with his sister Martha. They are both on Centrelink benefits.

Simon experienced significant learning difficulties and struggled to finish high school. Despite having other talents, he didn't attain his high school certificate until he was 20 years old.

After completing his studies, Simon applied for various positions in different fields with little luck and eventually went into the New-Start Allowance program (unemployment benefit). Despite the numerous job applications submitted over the years, Simon only secured two casual positions for a couple of months.

In the last five years, his main occupation has been working part-time as a carer for a close relative, who is on a disability pension.

After years of knock-backs from potential employers, Simon got extremely frustrated and applied for fewer and fewer jobs.

In 2009, Simon and his sister both took part in WorkVentures' iGetIT! Program where they learnt a lot about the use and maintenance of computers, gained some useful IT technical skills but most importantly, raised their confidence and self-esteem.

After successfully completing the course, Simon was rewarded by keeping the computer that he used during the course.

Confident about his capabilities and skills, Simon is now working with his sister Martha on a small business idea focused on Indigenous traditional painting and artwork. Simon is learning how to design a web site to advertise the initiative and expand their customer base. His hope is to see this initiative turning into a successful business model and to get off Centrelink support before too long.

Simon said, "I want to get the site up and running in the next two months and will use what I learnt on the course to edit and convert photos and video as well. It's amazing all the things I can do now."

"We used to have to run down the library to get on to a computer or internet but now we can do so much from home! None of this would have been possible without the iGetIT! course... not just because of the computer skills but because I am much more confident to do stuff with computers now rather than just giving up when I hit a problem," he added.

"Any profits we make are put into other programs such as in helping migrants and refugees get settled and set up with ICT facilities or training aboriginal youths in ICT skills."

Scott Millington, Head, ConnectIT, WorkVentures Ltd

Case studies

Buyequip and Ipswich City Council

Since April 2009, Buyequip has undertaken eWaste recycling for the Ipswich City Council during which time they have recycled 244,331kg of material for the council.

Before winning the tender, Buyequip assessed the service and logistical needs of the client, what they required for the job (i.e. on-site equipment/cages, transport options and frequency etc) and submitted a proposal for the work based on collection, price and recycling practices.

Today, Buyequip collects the material from the transfer station 3 times a week and transports it to their Red Hill facility, which is located 2.5km outside the Brisbane CBD, where it is manually disassembled.

Buyequip recovers over 99% of materials (wood from old televisions is not recycled) through manual disassembly which has been demonstrated to be more efficient at recovering materials than automated shredding and sorting systems.

Plastics are separated, sorted and crushed with Buyequip's machinery, metals are separated into copper, steel and aluminium etc and the processed commodities are then sent to specialist commodity recyclers.

Old televisions make up 80% of the eWaste that is collected in the council collections. Unfortunately discarded televisions are problematic and expensive to recycle due to heavy leaded glass tubes.

Buyequip has recycled almost 10,000 televisions since April 2009. The old television tubes are sent to Adelaide for processing and are then sent to be remanufactured into new CRTs. This process is very expensive, however, Buyequip have been committed to achieving the best possible environmental outcomes for eWaste for many years.

Buyequip and Fujitsu

Buyequip has partnered with Fujitsu in a 4 year, 12,000 seat rollout for the Queensland Police Service (QPS).

During this time, Buyequip will provide the following ongoing services:

- Onsite data cleansing for 12,000 regional and metro seats
- Installation of new hardware
- Data migration
- Asset decommissioning and remarketing
- eWaste recycling

Security is a high priority when decommissioning any IT assets, however, it is particularly important with the QPS.

As such, Buyequip has guaranteed cleansing processes and procedures, has had staff security cleared and has implemented a flexible approach in order to meet the requirements of both QPS and Fujitsu.

These services are being undertaken throughout all metro and regional Queensland police sites.

Case studies

Greenbox Systems Pty Ltd

During the period of the Global Financial Crisis, Greenbox was approached by a client – a large bank – which wanted to better rationalise its fleet of IT equipment to extend its lifecycle.

Greenbox worked with the bank to collect all end of life equipment. Any equipment that was found to be below a certain, agreed, specification was re-sold.

Any equipment that was above the specification was prepared for redeployment within the organisation thereby extending its working life, reducing the overall fleet cost and amortising the original carbon footprint from its manufacturing over a longer period of time.

Under the bank's instruction, Greenbox sent out a team of technicians to deliver and install the second hand equipment back into the bank's sites, typically to lower second tier users in back office functions. This process saved the bank money and meant that older equipment was still utilised in other areas of the supply chain.

Greenbox has over 2,000 retail stores nationally which buy the equipment from them and then prepare the equipment for sale to their own market. In this sense, Greenbox is essentially the wholesaler and they sell direct to the retailer. The refurbished equipment typically goes to 'Mums and Dads' for use at home, small businesses, regional and rural clients and sometimes to schools.

"Re-purposing of end-of-life IT equipment should always be preferable to recycling and therefore we must protect and support the reuse market. Taking equipment out of government and corporate sites and putting it directly into the recycling channel is like taking money and putting it through a shredder."

Shane Mulholland, CEO and Director, Greenbox Systems Pty Ltd