



MINISTRY FOR THE ENVIRONMENT DISCUSSION PAPER ON PRODUCT STEWARDSHIP, JULY 2005

Response from Computer Access NZ Trust (CANZ)

A. EXECUTIVE SUMMARY

The Computer Access NZ Trust (CANZ) is a not-for-profit trust, operating under the umbrella of the 2020 Communications Trust. Funded by the Ministry of Education, our mission is to ensure that affordable quality computer equipment is available to schools and for community groups associated with schools and learning. We promote computer recycling, or more correctly computer refurbishment, as a means towards this end. For equipment that is beyond re-use, we encourage environmental friendly practices by computer recyclers. We have become increasingly concerned at the increasing cost of the safe disposal of computer equipment as a proportion of the cost of a new machine. This factor, and the rapid drop in new equipment prices in recent years, are together making recycled computers less and less attractive, further contributing to the e-waste problem.

We support the overall strategy advanced by the Ministry for the Environment for industry self regulation. But we doubt this can be achieved within a reasonable timeframe for an industry that is as fragmented and competitive as the computer industry. Previous efforts in the computer industry to achieve common action, such as industry training or the safe disposal of cellphones have failed because of the difficulty in negotiating binding agreements.

Because of the urgency of the problem, especially for computer screens, we believe the Government must proceed to develop a regulated regime that requires producers to take responsibility for their e-waste. With a real threat of regulation and significant compliance costs, the industry might just rally and develop some innovative solutions. Without such a threat, producers are driven by competitive pressures to minimise costs and this is unlikely to include any provision for dealing with e-waste. This is compounded by the fact that most computers are manufactured outside New Zealand, or assembled by a wide variety of small businesses using imported componentry.

We encourage the Government to move with urgency to impose a \$50 levy on all computer equipment, at the point of import. Such a levy would contribute to a national e-waste fund. Accredited recyclers would be able to make claims against this fund to contribute towards the cost of safely disposing of unusable equipment. A levy at this level would ensure that all costs of disposal as well as administration and promotion could be covered by the fund. Part of the levy could even be returned to consumers, creating an incentive for them to return unused equipment to approved collection points. Analyst firm IDC estimates that around 500,000 computers were sold in New Zealand in 2004. A \$50 levy per computer would generate a fund of \$25 million per annum. We believe a simple business case would quickly demonstrate that this level of funding would allow New Zealand to address the backlog of closeted equipment and also ensure a sustainable future. Further, we believe a commitment could be

made to allocate a portion of this fund each year to support research into e-waste disposal. This could well lead to innovations that in turn could be exported to help the rest of world deal with a burgeoning e-waste problem.

As a not-for-profit Trust, we believe we are well positioned to contribute to the management of such a scheme.

B. BACKGROUND – WHAT IS CANZ?

Computer Access New Zealand Trust (CANZ) was set up in 1999, to promote recycling of computer equipment to agreed standards – mainly for schools and partly for not-for-profit community groups. It was an initiative of the 2020 Communications Trust and has been financially supported by the Ministry of Education.

CANZ has established standards (with an associated quality brand) and a code of practice for computer recycling. It accredits recycling companies which meet the standards. Currently there are two such companies: The Ark in Auckland, and Remarkit Solutions, in Wellington. CANZ also promotes appropriate use of recycled computers to schools and encourages donation of business computers to accredited recyclers.

Computer recycling is recognised in the Government’s Digital Strategy as a key element in the drive to reduce the ‘digital divide’. Recycling computers also delays the entry of computing equipment into the e-waste stream – effectively buying time while better e-waste strategies are developed. The Digital Strategy (page 23) has given CANZ’s ‘Learning Power’ programme a lead role in computer recycling.

CANZ has the lead role in the Government’s Digital Strategy to promote computer recycling; we believe that role could easily be expanded to be the Industry Stewardship Organisation for the computer industry.

C. WHAT IS THE CANZ INTEREST IN PRODUCT STEWARDSHIP?

Difficulties and costs of eventual disposal of equipment are reducing the profitability of existing computer recycling businesses and imperiling the CANZ mission. Computer recyclers cannot recycle all equipment they receive. Some items (especially monitors) are no longer useable and some functioning equipment is so out of date that there is no demand for it at any price. Recyclers are forced to dispose of large amounts of e-waste and, given the lack of facilities – especially for rendering cathode ray tubes (CRTs) – they are forced to engage in uneconomic rendering activities and sometimes forced to dispose material in landfills. We believe that the volume of computer equipment that is no longer viable for recycling will increase markedly over the next few years.

The volume of unusable computer equipment is growing rapidly and the cost of the safe disposal of e-waste is not only prohibitive but also threatening the viability of computer recyclers.

D. SUMMARY OF OUR SUBMISSION

CANZ supports establishment of what, for the purposes of this submission, we have called an 'Industry Stewardship Organisation' (ISO) framework, under enabling legislation that could draw on experience with the Commodity Levies Act that applies to some primary sector 'industry good' organisations. Within the ISO framework, industry sectors, including the computer industry, would set up their own organisations whose product stewardship activities would include a deposit-refund tool, education and publicity, and other activities that might be deemed appropriate. Recycling organisations that wished to receive final waste-disposal goods under the scheme should be licenced and capable of sophisticated tracking and reporting via ICT. While industry sectors would set up and operate their own ISOs, the Ministry for the Environment would have broad oversight and reporting and ultimate compulsion responsibilities.

Research is needed into overseas experience with product stewardship policy and practice.

There is already a serious and increasing problem with computer waste, and we recommend that this sector be fast-tracked into an ISO arrangement.

While an ISO arrangement would be valuable in the future, it cannot solve the existing computer waste problem, which is increasing rapidly. We recommend government funding for investigating and establishing, a national computer/television set rendering facility. Once this is established, we believe that dumping of unprocessed computers in landfills should be banned.

We believe that an Industry Stewardship Organisation (ISO) arrangement should, initially at least, be confined to computer equipment and television sets, which constitute the bulk of the e-waste problem.

E. RESPONSES TO MFE'S 'QUESTIONS TO CONSIDER'

Below are our responses to the 'Questions to consider' posed on page 23 of the discussion document. Responses to items 2-11 consider the broader issues of product stewardship for all industry sections. Responses to items 1, 12, and 13 are specific to the computer industry sector. The MFE questions are in italics.

1. What are your views on the priority areas for product stewardship schemes in New Zealand? give reasons for your views.

- The broader situation is outside our sphere of expertise, but in principle we support the product stewardship concept, which could be operated via ISOs. We believe that electronics products, particularly computer equipment, should be regarded as a priority area, given what we believe to be a large and increasing quantity of 'e-waste' that is currently being dumped or stored in offices and private homes (a future dumping problem). This equipment includes highly toxic elements, especially in CRTs. A system of product stewardship that would improve the economics of eventual e-waste disposal would be of great benefit.

- Problems of e-waste are not confined to computers and computer peripherals, but computer equipment constitutes the great bulk of the problem. Because of this, we believe it is important to begin with the computer industry, in any attempt to set up an e-waste product stewardship regime. The computer industry has a relatively limited number of players and product types. Attempting to ‘be all things to everyone’ in the electronics sector would risk bogging down e-waste product stewardship into an unworkable morass. We see one exception to this, however: television sets, which are effectively the same as computer monitors.
- A number of other products – including mobile phones and fluorescent tubes – might be considered as priority items in the electronics sector, but we believe these should be organised separately from computers/TVs.
- For the purposes of setting up the initial versions of a ‘computer’ ISO, a definition of computers would be needed. It could be something along the lines of “a programmable machine which can process information entered via a keyboard and output information to a display screen.” While relatively vague, a definition like this would describe the appliance that is causing the greatest waste problem, while excluding the myriad smaller devices such as hand-helds and GPS units that incorporate computer technology.
- We are not aware of any extensive studies into the scale of the e-waste problem in New Zealand, but it is unlikely to be very different from that which exists in other developed countries. Appendix 1 contains our assessment of the New Zealand computer waste problem and some information on overseas assessments of the problem.

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2. What assessment process should precede any decision to establish:

2.1 – a product stewardship scheme

- Establish which companies should be involved in an industry sector, advise them that their sector is being investigated by the Ministry for the Environment and invite them to participate in the investigation.
- Advise industry sectors that they have a specified time to voluntarily set up and operate an ISO system, failing which, a system will be imposed by government, via the Ministry for the Environment.
- Investigate equivalent schemes in NZ and overseas.

- Establish what practical mechanisms are possible through which levies could be collected, administered and equitably applied to the final waste or raw product recycling disposal.
- Establish what proportion of an industry sector needs to support such a scheme before it can be considered binding for all.
- Consider where a product stewardship administering body (ISO) might be established. Should it be a new organisation, or should it be added to the responsibilities of an existing industry body? The particular challenge for the computer industry is that there is no single representative industry organisation, nor is it likely that all suppliers could ever agree to participate in a single organisation. At one end of the spectrum, there are major suppliers like Dell, with very little organisational presence in New Zealand and at the other end the many hundreds of small organisations that import component parts and assemble computers locally.

No existing New Zealand organisation is truly representative of the computer industry and therefore any completely voluntary scheme would be unlikely to succeed.

2.2 – any regulation to enforce or establish a product stewardship scheme

- Give consideration to a principle (which would require an umbrella act of parliament) similar to that which exists with the CLA of 1990/1993/1994. Under this act, an industry sector (e.g. summerfruit) can vote on whether it wants to establish an ‘industry good’ organisation financed by levies on sector participants – generally based on value at point of sale. Under this act, the organisation is established if a simple majority of the participants who actually vote, vote in favour, and if those ‘yes’ votes represent at least half of the production of those who participate in the poll. Levy orders remain for six years before being put to the vote again.

To achieve the desired outcomes, an e-waste product stewardship scheme needs to go beyond that of the CLA. It is not enough to simply fund an industry good organization from member levies; a significant funding pool is required to address the cost of waste disposal and a product levy is the most equitable way of generating such a pool.

3. Is the proposal to negotiate product stewardship agreements a necessary step in establishing specific product stewardship schemes?

- Yes.

4. Should a product stewardship policy provide for more than one industry sector scheme, as proposed, or limit sectors to a single scheme?

- A single umbrella scheme, set up under an act of parliament, would be most practical, but individual ISOs would operate under this framework.

5. *What role should MFE play in the development of product stewardship schemes?*

- Initiate the ISO process with a particular sector.
- Provide staff assistance and funds to research and develop an ISO organisation and process.
- Approve proposed ISO schemes.
- Provide on-going ex-officio advisers to ISO management committees.

6. *What circumstance would justify government regulation of product stewardship schemes? What criteria should be used to determine if government should regulate?*

- We do not believe that the Government should operate such schemes directly, but rather provide a legislative framework similar to the CLA, under which the industry sector can organise itself, charge a small administration levy and administer a deposit-refund fund to subsidise eventual disposal of items.
- We believe that the waste disposal situation, for enough industry sectors, is already of sufficient severity to justify establishing a legislative ISO framework such as that described above, under question 2. Industry sectors would then organise themselves. A relatively low ‘majority in favour’ level, as in the CLA situation, should ensure that the product stewardship schemes would be set up in most cases.
- Only if a sector was unwilling to regulate itself, and its waste problem was shown to be substantial, would the government ‘step in’. Initially it should try to encourage an industry sector, by means of persuasion and publicity, to voluntarily set up a product stewardship scheme. It should not be necessary to include powers for the government to force an industry sector to act, and this should not be included in the initial legislation. Nevertheless, it should be made clear that more draconian legislation could be considered at a later date.
- Although individual sectors should administer their own ISO schemes, an ongoing overall government assessment and reporting authority would be necessary – just as the Ministry of Agriculture maintains oversight over the industry organisations set up under the Commodity Levies Act. This should be an MFE responsibility.

We do not believe that the Government should operate such schemes directly, but rather provide a legislative framework similar to the CLA, under which the industry sector can organise itself, charge a small administration levy and administer a deposit-refund fund to subsidise eventual disposal of items.

7. *How should government organise any enforcement that may be needed for regulation?*

- In our view, it is highly unlikely that the whole computer industry will voluntarily enter into a product stewardship scheme. Government must proceed urgently in developing empowering legislation; the threat of regulation and high compliance costs will encourage the industry to take some responsibility for the waste they are creating

but unless this is a real threat, the industry will simply pay lip service to government suggestions and avoid taking any real action to address the e-waste problem. .

- Within sectors that set up an ISO arrangement, there could be legislative provision for fines to be imposed on non-paying/co-operating members. (In the case of the CLA, a fine of up to \$10,000 can be imposed on sector members who don't pay levies. However, these penalties essentially apply to small businesses and far tougher penalties would be needed for manufactured items.)
- Industries would be made aware of the overall MFE oversight responsibility and the potential threat of tougher legislation.

In our view, it is highly unlikely that the whole computer industry would voluntarily enter into a product stewardship scheme. Government must proceed urgently in developing empowering legislation.

8. *Should government ensure an equivalent acceptance of environmental responsibility by all companies by regulating companies who may gain a competitive advantage by not participating in product stewardship schemes where other companies have agreed to do so?*

- No – do it under the CLA model described above.

9. *Do you think there is a case for including mandatory product stewardship tools (such as deposit-refund schemes) in a product stewardship policy?*

- Yes – and in the case of the computer industry we would see it as the central activity.

Given the market failure in securing profitable outcomes from e-waste, centrally imposed levies (or taxes) appear to be the only choice in funding the cost of disposal.

10. *How should the cost of product stewardship schemes be met? Should they fall solely on those creating the waste (the producer of the product and the consumer), or should they fall on those benefiting from reduced waste?*

- Costs should be met by:
 - a) Government, for providing one-off assistance to help a sector 'catch up' – for instance, in the case of the computer industry, funding a national rendering facility;
 - b) the producer as regards being levied for administration of the sector product stewardship organisation;
 - c) the initial consumer, onto whom a initial deposit levy would be passed; and

- d) Government assistance for education and publicity activities with sector participants and the general public.

Government assistance is only required in fast-tracking solutions where there are equipment waste backlogs, as well as in promotion and education.

11. What obligations should product stewardship schemes place on different parties, and how can assurance be given that these obligations will be met?

- Obligation on the first seller to include the sale levy in the sale price (or absorb it) and to remit the value of this levy to the industry stewardship organisation.
- Obligation on the manufacturer (or importer) to affix a permanent-grade bar-coded recycling label or radio frequency identification device (RFID) to the sale item. Data collected via these media would be fed into the industry sector's ISO database.
- Only recyclers that meet agreed standards would be approved to cash in recycling stickers. They would need database systems that could track and report on activities and show that recycled items were scrapped for raw materials, rather than re-sold as second-hand equipment.
- The organisation arranging the final waste disposal/rendering of the item would 'cash in' the barcode with its ISO.

Given that all of the computer equipment in New Zealand is sourced from other countries, either fully assembled or as components for local assembly, the point of import is the most logical point in the supply chain to apply the levy

12. How can assurance be given that products manufactured domestically and imported are both included in product stewardship schemes and treated evenly? Are there other trade issues for your industry that we should consider?

- The majority (61-78%, depending on who you talk to) of computers sold in New Zealand are imported, with a relatively small number of brand names (e.g. Apple, HP, Compaq, IBM, Dell, Packard-Bell, Acer, Asus plus a few others).
- While it might be difficult to 'rope in' some of the small local assemblers, it should be possible to involve some of the bigger 'clone' assemblers, such as TPG, Ultra and Quay Computers. Effectively the great majority of computers sold in New Zealand would be covered by the product stewardship scheme.

- Consideration would need to be given to mechanisms for identifying computer components for local assembly at the point of import.
- Publicity given to the desirability of buying an 'environmentally friendly' computer (as identified by a special bar-coded sticker), could encourage companies – both importers and local assemblers – to participate, for 'green marketing' reasons.
- Computers are made up of a number of components, and two of these might need to be considered separately. They are the 'box' that contains the motherboard, CPU, hard drive etc; and the monitor. Monitors should be treated separately from the CPU box, because they don't always stay with the box and many are sold separately.
- Treating monitors separately would overcome some of the potential problem of free-riders among local computer assemblers. If a levy were applied to monitors sold in NZ, then these items, which are the most environmentally dangerous part of a computer system, would be covered by a product stewardship regime.
- It would not be practical to separate out other components such as keyboards, mice and individual components within a CPU box. In practice, most of these items would be covered by the overall CPU levy.
- Separate consideration needs to be given to other computer peripherals, such as printers, scanners etc. Should these be covered in same way by product stewardship? This could prove complex, and should be considered 'down the track'.
- There could be some objection to establishing a uniform industry approach toward recycling e-waste from major players (Dell is one), who already claim environmental sensitivity as part of their marketing differentiation.
- At present, some companies which operate recycling programmes (e.g. Dell), make a charge for accepting computers. This is likely to be a disincentive for many people. A recycle sticker process as described above could be used to encourage people to bring their computers in for recycling. A portion of the sticker refund could be paid to people who deliver gear in person, or used to defray shipping costs.
- Consideration needs to be given to eventually (sooner rather than later) banning computer equipment - at least the monitors (including television sets) - from disposal in landfills. Equipment could still be accepted at landfills, for a financial charge, and forwarded to authorised recyclers. Most of this equipment would not, for quite a few years, bear an ISO recycling sticker or RFID. Equipment that did have a sticker could be accepted free of charge by landfills (and forwarded to recyclers). The landfill's sorting and forwarding costs would be subsidised by its share of the final recycler sticker refund.

In view of the significant and increasing problem with monitors, banning monitors from landfill disposal should be instituted as soon as a viable environmentally friendly rendering system becomes available in New Zealand.

13. What other policy or design issues need to be considered in the development of product stewardship schemes?

- Overseas product stewardship experience with computer equipment should be researched – notably in Australia and the European Union.
- Need to establish at what point the first sale levy would be paid – e.g. on all stock in the manufacturer/importer's warehouse, when an item is sold to a retailer, etc.
- Need to work through issues of how to prove items are in their final 'waste' form, to guard against fraud.
- A bar-coded recycling label could be designed as a special 'green recycling mark' – but should it be used by all participating industry sectors, or designed specifically by individual sectors?
- It is important that the system be backed up by a sophisticated computer database program. In the case of the computer industry it might be possible to do this via further development of a tracking database now in use by Remarkit Solutions.

The programme should be strongly publicised via public relations and advertising. To kick start the programme, a significant budget is required. A first year advertising budget of \$5m is recommended.

F. RECOMMENDATIONS FROM CANZ FOR EARLY ACTION

In the case of the computer industry there are two parts to the problem and its solution:

1. Disposal of the nation's large existing inventory of redundant computers.
2. Establishment of an ISO system for new computers.

Problem 1 is already serious and it will worsen considerably over the next few years. It is putting pressure on existing recycling companies, it is already seeing much undesirable waste going into landfills and may also be causing exporting of the problem to recyclers who are not operating in an environmentally responsible manner, in developing countries.

We recommend government assistance to research cost-benefits, and, if appropriate, establish a national CRT rendering plant which could be used for computers, television sets and computer CRTs. Such a plant is available now from MRI Australia. Land may be available for it in the Wellington port area. Funding could possibly come from the Digital Strategy funding pool, in partnership with the Wellington Regional Council.

MRI is already working with IBM and Dell in Australia. MRI claims the plant can reduce the amount of waste going in landfills by 90 per cent. For instance it can separate monitors into their constituent items, shred them as appropriate and bale them. The company's website is www.mri.com.au.

Regarding problem 2, we recommend:

- (a) That a computer industry stewardship organisation be established, via an ISO mechanism with regulatory 'teeth', as described earlier in this submission; and
- (b) That the Government make a contribution toward the cost of assessing and possible adapting and developing the Remarkit Solutions database program. The Remarkit database is geared toward recording and reporting on a wide variety of equipment from a variety of sources. It could be interfaced with other companies' database systems to provide collect information with a high level of accountability and a clear audit trail.
- (c) We believe that the computer industry should be regarded as a priority sector in the investigation of an ISO regime. Because of this, we recommend that the Ministry for the Environment makes it one of the earliest sectors it works with in this process.

Summary recommendations (computer sector)

1. Government recognise the computer industry as a priority sector for addressing waste;
2. Government fund \$100,000 for a cost-benefit study of establishing a computer rendering plant in New Zealand;
3. Government set aside up to \$1m to contribute towards the cost of establishing a rendering plant;
4. Government move to legislate for the establishment of a computer Industry Stewardship Organisation (ISO);
5. Government legislate for a \$50 levy on all new computer equipment imported into New Zealand;
6. Government acknowledge the potential role that the CANZ Trust could play as the computer sector ISO.

APPENDIX 1 – THE COMPUTER WASTE PROBLEM IN NEW ZEALAND

CANZ is not aware of any detailed work done to determine the extent of the computer waste problem in New Zealand. This summary of the situation is neither scientific nor exhaustive, and it draws partly on overseas experience, which may not adequately mirror the New Zealand experience. Nevertheless, this quick analysis makes it clear that New Zealand has a serious problem that is getting worse.

Existing stock of unused/unusable computers in New Zealand

Overseas studies support what CANZ believes to be the case in New Zealand: that most personal computers sold over the last 20 years are no longer being used. However, most have not yet been dumped – instead they are in garages, cupboards, warehouses and other storage. Research carried out for the US EPA in 1998 suggested that three-quarters of personal computers ever sold in the USA were in storage.

If only one in five New Zealand households had a computer system in storage, this alone would represent over a quarter of a million systems which could potentially be dumped in landfills. They are stored for a number of reasons – inertia, emotional attachment and because people are unwilling to throw something away that they believe still has value. Probably very few are kept because of any concern for the environment, so there is every likelihood that eventually householders will toss them out.

If everyone decided to throw their obsolete computers out at once, the effects would be catastrophic.

Probably no more than 10-15 per cent per cent of computers are being recycled (to continued use as computers). Recycling can significantly reduce the computer-waste problem, while also helping reduce the ‘digital divide’ in this country. Nevertheless, recycling only postpones the eventual waste problem.

The life-cycle of computer systems is getting shorter. In California it is now estimated that for every new system sold, one becomes obsolete. In common with their cars, New Zealanders probably keep computers going for longer than Americans do. Even so, the effective life-span of computers is growing ever shorter through a combination of increasing CPU power needed to run modern applications, and the falling price of new equipment.

New Zealand recycling companies are encountering increasing buyer resistance to older equipment that still works perfectly well, because of competition from powerful new equipment that may cost as little as \$1000. Even very capable five-year old computers such as Pentium III-500s are getting hard to move.

IDC surveys suggest that around 500,000 computer units were be sold in New Zealand in 2005 and that the rate of sales was increasing in early 2005. It would not be unreasonable to suggest that within five years, perhaps 400,000 computers may become ‘waste’ each year. During the current year, perhaps 200,000 computers will be retired. At an average of 30kg per system, that represents 6,000 tonnes of computers that could potentially be dumped.

Alleviating factors for the years ahead are that an increasing proportion of computer systems are being sold as laptops, and liquid crystal display (LCD) screens are taking over from the bulkier and more environmentally damaging cathode ray tubes (CRTs). However, within the

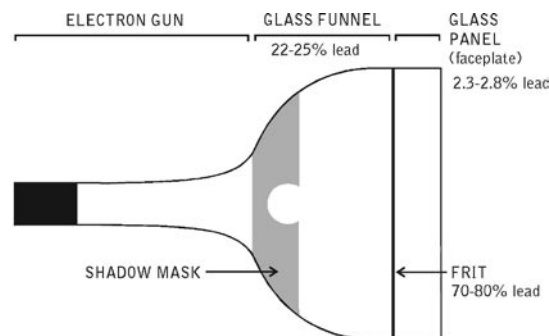
last two years the standard entry-level CRT sold with computer systems has grown from 15 inches to 17 inches. It will be many years before these larger monitors cease to be a problem.

Toxic components in computers include:

- CRTs with lead oxide and sometimes barium.
- Computer circuit boards containing heavy metals such as lead and cadmium.
- Computer batteries containing cadmium.
- Brominated flame-retardants used in printed circuit boards, cables and plastic casings.
- Poly vinyl chloride (PVC) coated copper cables and plastic computer casings that release highly toxic dioxins and furans when burned.
- Mercury switches.
- Mercury in flat panel screens.
- Poly chlorinated biphenyls (PCBs) present in older capacitors and transformers.

CRTs are the greatest problem

The greatest environmental hazard is lead in CRTs in computer systems and television sets. Twenty per cent of the weight of glass in CRTs is lead. That represents between 1.8 and 4.0 kg of lead per monitor. Lead accumulates in the environment and has chronic toxic effects on plants, animals and micro-organisms.



LEAD IN PC AND TELEVISION VIDEO DISPLAYS

CRTs represent, according to American figures, about one-third of e-waste tonnage, but their lead content may represent as much as 80 per cent of the toxic metals in e-waste.

Of all the components of used computer systems processed by recyclers, CRTs have the highest failure rate. Few can be economically serviced in New Zealand and many are fit only for scrapping.

It would not be unreasonable to assume that 250,000 CRTs from computer systems and televisions are being taken out of use each year in New Zealand. At this rate, and assuming 3kg per CRT, 750,000kg of lead is being made available for disposal in landfills. Not all of this lead is in danger of being leached out of the glass, but a high proportion of it is – particularly from the frit seal between the funnel and the face panel.

In America, CRTs are second behind lead-acid batteries as a source of lead entering landfills. The CRT share in the USA is increasing, and is expected to accelerate in the next few years, in spite of the move from CRT to LCD monitors. This is because people will discard standard

television sets in favour of new-generation HDTV sets. This transition is somewhat 'down the road' in New Zealand, but it does represent a significant problem for the future. Already, home appliance stores are storing large numbers of standard television sets that have been traded in for LCD and plasma screens.

Computer Access NZ Trust
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