END-OF-LIFE TECHNOLOGY:

Do policies and plans on e-waste management make a difference to your business?

RECYCLEYOUR ELECTRONICS.ca





A MESSAGE FROM THE EXECUTIVE DIRECTOR





As businesses continue to invest in technology that helps make us work faster and smarter, there is a growing need to ensure that businesses have a plan for end-of-life technology as it is retired. With many organizations on a technology lifecycle where mobile phones are upgraded every 18 months and computers every 24 to 36 months, businesses are generating a significant amount of electronic waste. An estimated 66 percent of waste in Ontario comes from non-residential sources¹, making diversion of this waste by businesses critical to reducing

the overall amount of waste sent to landfills or incinerators.

Our recent survey, which included more than 400 businesses from across the province, found that two-thirds of these businesses do not have a plan for electronics at the end-of-life. Based on the experience of the Ontario Electronic Stewardship (OES) to date, this is an accurate reflection of the state of e-waste planning and recycling for most Ontario businesses.

Reuse or recycling electronics at the end-of-life is a necessary and sound business practice for organizations regardless of size or industry on multiple levels. E-waste planning:

- Helps businesses save money. By not storing retired technologies and more carefully
 planning technology investments, businesses are able to eliminate unnecessary costs.
- Creates more environmentally responsible organizations. This is increasingly becoming a deciding factor for consumers when making purchasing decisions.
- Helps create jobs. Seven jobs are created for every 1,000 tonnes of waste recycled in the province of Ontario⁵.

E-waste planning, reuse and recycling is an investment in the future of our province.

The time is now for businesses to create an e-waste plan and take action on e-waste recycling. Having an plan for end-of-life technology enables businesses to plan ahead for e-waste and keep it out of landfills. Included in this report are some valuable resources to help businesses get started with e-waste planning, as well tips on how to safely dispose of e-waste immediately working with OES and its approved partners. We strongly encourage your business to make e-waste a priority and become a steward of a sustainable economic and environmental future for Ontario.

Carol Hochu, OES Executive Director We welcome your thoughts and comments. Please send them to business@recycleyourelectronics.ca

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TABLE OF CONTENTS

Foreword by Jim Harris "Are you willing to risk your company reputation on it?"p.4
Executive Summaryp.5
Survey Methodology and Key Findingsp.6
Cost of Electronic Waste, Benefits of Safe Disposalp.9
Best Practices for Building an Electronic Waste Plan
Immediate Next Steps for Organizationsp.14
What Electronics Can I Recycle? p.14
Recycle Your Electronics and OESp.15
Detailed Survey Benchmark Summary
Research Referencesp.22









ARE YOU WILLING TO RISK YOUR COMPANY REPUTATION ON IT?

Proper e-waste recycling reduces risk & protects customer and corporate data

By Jim Harris, Strategic Advantage

The average lifespan of a corporate PC is between 24 and 36 months, so organizations are continually buying new PCs and having to dispose of older ones, as well as upgrading monitors, printers, digital cameras and mobile phones. Unfortunately, disposing of old electronic equipment poses some serious risks. PC hard drives are likely to contain sensitive corporate data and consumer information.

In an era of heightened concern about identity theft and fraud, protecting your customer's data and your corporate reputation has never been more important. A staggering 11 million North Americans suffered identity theft in 2010 costing companies, individuals and society \$54 billion.¹

The average cost of a corporate data breach reached \$7.2 million in 2010 according to *US Cost of a Data Breach: 2010 Annual Study.*² The average cost per data record is \$214. One thing is clear, compromised private data can be costly for your company.

Protecting the privacy of corporate data is essential during computer disposal. One third of corporate PCs disposed of contain sensitive data³ as do 43% of discarded smart phones.⁴ As this is the average across all companies, the percentages are higher for small and medium sized businesses (SMEs) which don't have dedicated staff to focus on this important issue.

The Ontario Electronic Stewardship survey clearly highlights how most SMEs don't have anyone assigned to ensure that electronic waste is properly disposed of and all hard disks and storage devices are properly sanitized of data. With Ontario business disposing of millions of old PCs, printers and cameras each year, this is a critical issue.

Electronic waste contains toxic heavy metals – including mercury, cadmium and lead – that are dangerous to human health and the environment. If e-waste is landfilled these toxic heavy metals have the potential to cause environmental damage and threaten human health.

The exporting of e-waste has risen dramatically in recent years and the "recycling" efforts in developing nations often involve open burning – releasing dioxins, furans and heavy metals.

Documentaries such as *Ghana: Digital Dumping Ground*⁵ are raising awareness in North America about this. No company would want its old PCs handled in this way.

The only way therefore to protect your customers from identity theft, shield your corporation from liability, and protect the environment is by ensuring the proper disposal of e-waste. Thankfully, there is help for SMEs: a number of technology vendors and retailers will take back end-of-life electronics including some for reuse.

Jim Harris, of Strategic Advantage, is one of North America's foremost management consultants, authors and thinkers on sustainability, change and leadership. His most recent book, *Blindsided*, is published in 80 countries and is a #1 international bestseller.









EXECUTIVE SUMMARY

With the ubiquity of computers, mobile phones and other business devices, electronic waste (e-waste) is a growing societal and environmental challenge. The following report from Ontario Electronic Stewardship (OES) carefully examines this issue and includes valuable data from a recent survey of more than 400 Ontario businesses.

The report is designed to provide insight into the issues concerning end-of-life technology and to offer businesses of all sizes across Ontario with actionable intelligence on how to take control of e-waste starting today.

Report highlights include:

- Survey results from 2011 survey of 400⁺ Ontario businesses including key findings on how many organizations have an e-waste plan, who makes the decisions and company size/industry
- The foreword from Jim Harris, one of North America's foremost management consultants, public speakers, authors and thinkers on change and leadership, which discusses how proper e-waste management reduces risk and protects customer/corporate data
- A breakdown of the costs associated with end-of-life electronics and an examination of the benefits of safe e-waste management to businesses and society
- Valuable resources and best practices for organizations when building an e-waste plan, including immediate next steps organizations can take
- A list of electronics that can be recycled in Ontario









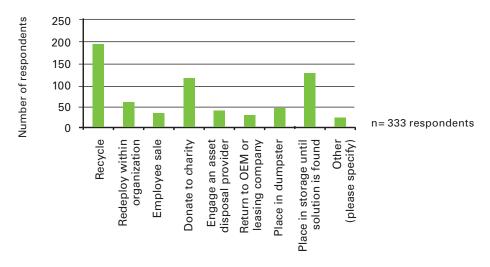
SURVEY METHODOLOGY

A recent survey of more than 400 Ontario businesses, across all sectors, examined e-waste management plans in these organizations. The survey was designed to examine three key areas: what organizations are doing with their e-waste, who is responsible for e-waste and if these organizations have a plan in place. Companies participating in the survey were benchmarked by their company size and industry. While over 400 respondents participated in the survey, not all respondents were required to answer each question. Therefore, the sample size for each question may vary. A sample of 333 will provide results to within plus or minus 5.37 percentage points in 19 out of 20 samples (larger margins of error apply for subgroups of this population).

SURVEY RESULTS

The following is a breakdown of key highlights from the survey including how e-waste is handled, and specific data based on industry and company size.

Ontario Businesses Recycle or Store E-Waste



The survey indicated that the majority of organizations in Ontario either recycle or store their e-waste, when asked the question "What do you do with your e-waste?"



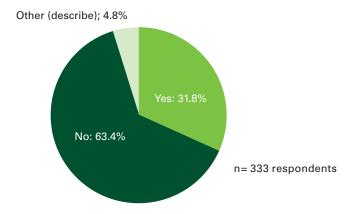






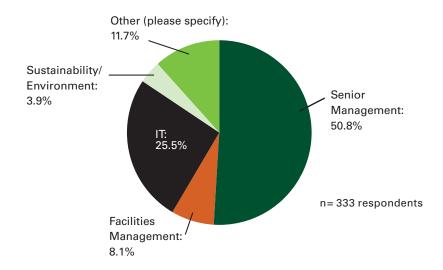
Two Thirds of Ontario Businesses Don't Have an E-Waste Plan

While many organizations indicated that they are focused on recycling e-waste, when asked "Does Your Organization Have an E-Waste Plan" two-thirds of respondents indicated that they do not have an e-waste plan in place. This indicates the e-waste recycling tends to be ad-hoc and not part of a consistent and ongoing strategy.



Senior Management Takes the Lead on E-Waste

Senior Management and IT take the lead on e-waste related decisions. The question "Who is Responsible for E-Waste Related Decisions?" found that this combined group is responsible for e-waste decisions more than 75% of the time.





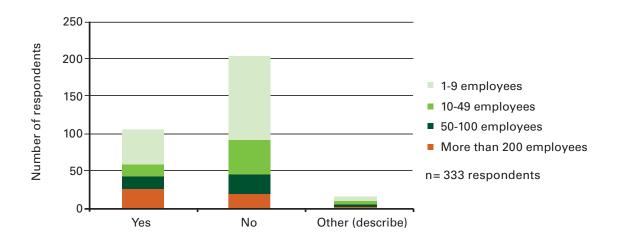




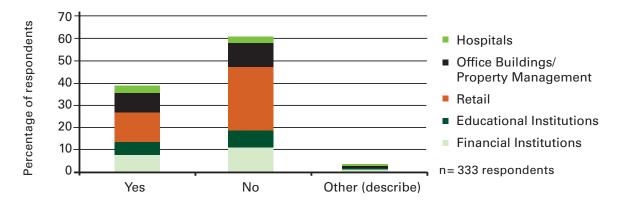


Small Businesses Less Likely to Have E-Waste Plans in Place

A large portion of business in Ontario have less than 200 employees, and these organizations are less likely to have an e-waste plan in place.



The retail sector had the highest number of survey respondents. Within this sector, only 32% of respondents have a plan in place.



For more detailed survey information and to see how your organization compares with your peers please visit the Detailed Survey Benchmark Summary starting on page 16.









COST OF ELECTRONIC WASTE, BENEFITS OF SAFE DISPOSAL

WASTE IN CANADA (MUNICIPAL WASTE GENERATION REPORT CARD)



Canadians generated 34 million tonnes of waste in 2008, with 26 million tonnes of this waste being sent to landfills or incinerators¹. Waste from non-residential sources makes up the majority of waste in Canada. In the province of Ontario, 66 percent of total waste comes from non-residential sources². With two-thirds of waste in the province coming from non-residential sources, there has been an increased need for diversion programs for businesses and other organizations. This has led to the creation of programs such as Recycle Your Electronics, to put a system in place for diverting specific types of waste.

E-WASTE TODAY

With the ubiquity of electronic devices from mobile phones to PCs across all business sectors, e-waste has become an urgent business challenge. As demonstrated by the survey results above, the majority of businesses in Ontario do not have a plan in place to handle electronic waste. This lack of a plan generally results in two outcomes for e-waste, with businesses either storing it on site or sending it to the landfill. Neither is a suitable option in an age where businesses are increasingly watching the bottom line and citizens and government are concerned about the environment.

DRIVING COST SAVINGS THROUGH RECYCLING

Often businesses opt to store e-waste on-site instead of finding a way to safely dispose of these items. While this is preferable to sending devices to the landfill, storage does take up costly office space. For example, if a business has a modest sized 200 square foot storage room where e-waste is stored, that can result in ongoing cost on a monthly basis.

\$35 per square foot, that results in an additional cost of **\$7,000** to the business each month, and a total of **\$84,000** per year.



OFFICE

OFFICE

OFFICE







Creating a plan to safely dispose of e-waste can quickly eliminate the need for costly storage or enable the organization to utilize the space for higher value activities.

PROTECTING OUR ENVIRONMENT

The majority of both residential and business waste in Ontario continues to go to the landfill which is not desirable or sustainable in the long-term. Landfills are quickly filling up across the province, driving a growing need for diversion. Municipal waste contributes to multiple environmental problems including habitat destruction, surface and groundwater pollution and other forms of air, soil and water contamination³.

Electronic waste when sent to the landfill is a particular environmental hazard as it includes toxic and hazardous elements such as mercury, cadmium and lead. Proper treatment and disposal of these elements is critical to ensuring these elements do not have a negative environmental or health impact for citizens.

As good corporate citizens, businesses need to take the time to ensure electronic waste is recycled instead of sent to landfill, helping to reduce negative environmental impacts for our society in the long-term.

ECONOMIC BENEFITS TO GREEN BUSINESSES

For organizations in Ontario, is not only a matter of corporate social responsibility, but is good for business. The 2010 Image Power Green Brands Survey surveyed over 9,000 consumers in eight countries and found that over 60 percent of consumers said that they prefer to purchase from environmentally responsible companies⁴. As a business, having a track record of environmental responsibility can help provide a differentiator in a competitive marketplace.

CREATING AND SUPPORTING GREEN INDUSTRY

Waste management with reduced environmental impact is a top priority for the province of Ontario.

Along with the environmental benefits, there are strong economic reasons to support waste diversion



as an essential factor in developing a clean and modern economy. **Diversion creates seven jobs in the province for every 1,000 tonnes of waste recycled**⁵. It encourages new business growth and innovation and helps transform Ontario into a more sustainable economy, based on green technologies.

Active participation by businesses in electronics recycling serves to help fuel economic growth and the development of green industry in Ontario, which benefits all citizens.









BEST PRACTICES FOR BUILDING AN ELECTRONIC WASTE PLAN

Every business in Ontario is legally responsible for ensuring waste is handled and disposed of properly. While the benefits of e-waste recycling are clear, this fact alone is a key driver for organizations to create and implement an e-waste plan. Simply discarding computers, peripherals and other electronic items is simply not a viable option due to privacy regulations such as the Privacy Act and Personal Information Protection and Electronic Documents Act (PIPEDA). Sensitive information housed on electronics must be properly erased or organizations risk this information falling into the wrong hands. The impact of a data breach of this nature can have significant legal and financial repercussions as well as result in damage to the organization's reputation.

With this in mind, organizations of all sizes, across all industries are encouraged to proactively create an e-waste plan.

GETTING STARTED WITH E-WASTE PLANNING

Creating an e-waste plan does not have to be overtly time consuming or onerous. The key to getting started is taking the time to ensure legal responsibilities are met and that there is a clear path to planning for and handling e-waste.

As a first step, organizations need to designate at least one individual to oversee e-waste planning and management. Without clear ownership over e-waste, your organization is unlikely to build a plan or execute on any type of e-waste management on a consistent basis. An ideal individual to handle e-waste planning and disposal in any size organization is the individual who handles IT, particularly if they are involved in IT asset purchasing and management.

OES E-WASTE RECYCLING SURVEY CONDUCTED BY ENVIRONICS*

OVERCOMING BARRIERS TO E-WASTE DIVERSION

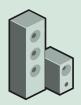
Barriers to e-waste recycling:

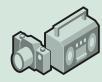
- Lack of awareness of what constitutes e-waste, many organization only think of computers
- Low annual volumes for the majority of organizations
- Largely ad hoc replacement of electronics
- Lack of awareness about where and how to recycle e-waste
- Data security concerns



^{*}Environics E-Waste Recycling Survey / Research, conducted on behalf of Ontario Electronic Stewardship, May 2011







With this individual in place, organizations need to start including e-waste management as part of the overall lifecycle for purchasing IT assets. Most organizations spend a lot of time on the assessment and purchase of new IT assets, and then maintaining these assets. The addition of a final step planning for the safe and legal disposal of these assets should become part of this planning process.

WHAT TO INCLUDE AS PART OF YOUR E-WASTE PLAN

Here are a few key questions to ask when including e-waste planning as part of the IT asset management lifecycle:

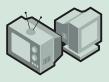
- How much will this item cost to dispose of safely at the end-of-life?
- What are our options for recycling this item or reusing it within our organization?
- Is there a possibility that working with a partner we can create a second life for this item?
- What can we do to limit e-waste? Do we need to upgrade computer hardware or other electronic devices as often?

Each organization will arrive at different answers for these questions, but it is important, that regardless of size or industry, that the organization takes the time to carefully examine these areas. Once these questions are answered, the individual in charge of e-waste planning can then go ahead and create a plan which includes these answers, as well as projected cost savings. For example, if an organization chooses to upgrade mobile devices for employees every two years instead of every 18 months, they will eventually create a cost savings by reducing the actual upfront investment, and reducing the overall number of devices that need to be recycled at end-of-life.

ENSURING SAFE DISPOSAL AT END-OF-LIFE

With a plan in place to manage and limit the creation of e-waste, the organization needs to ensure that at the end-of-life, they are safely disposing of e-waste and not placing it in a store room. Part of the e-waste plan should be to identify reputable partners for the disposal of e-waste and to determine the associated costs. OES has hundreds of service providers—retail, not-for-profit, municipal and commercial—including 13 OES-approved processors/recyclers that meet the highest standards of regulatory compliance, and your organization can identify a local partner to meet your needs as part of your e-waste plan through OES: www.ontarioelectronicstewardship.ca/pdf/recyclers/OES-processor-contact-info.pdf









COMMUNICATING THE E-WASTE PLAN

While it is recommended that a single individual act as the lead on e-waste planning, the greatest success will come when there is buy-in for the process created across the organization. With the plan in place, it is critical that key stakeholders from senior management to employees, have a clear understanding of the e-waste plan and how it positively impacts the organization. Having wide spread knowledge of the plan, including the cost savings and other benefits to the organization will help ensure that the plan is both implemented and managed on an ongoing basis. The end result is an organization that is more environmentally responsible and financially sound for the long-term.

OES E-WASTE RECYCLING SURVEY CONDUCTED BY ENVIRONICS*

E-WASTE POLICIES ARE WORKING FOR ONTARIO BUSINESSES

Respondents with an e-waste policy indicated they work as well and better than expected.

Over 50% indicated that the policy has worked to plan, and close to 4 in 10 say it has worked better.

What aspects of their e-waste policy have worked well?

- disposal is efficient (37%)
- disposal is cost effective (23%)
- disposal is sustainable (7%)
- now more recycling and less garbage (7%).



^{*}Environics E-Waste Recycling Survey / Research, conducted on behalf of Ontario Electronic Stewardship, May 2011







TAKE ACTION ON ELECTRONIC WASTE: IMMEDIATE NEXT STEPS FOR ORGANIZATIONS

Your organization can get started immediately with recycling your electronic waste as your organization works to develop its e-waste plan with the following steps:

- Locate e-waste in your organization and prepare it for recycling by removing sensitive and confidential information.
- Contact an OES-approved processor. You can quickly and easily locate and contact one in your area. <u>www.</u> <u>ontarioelectronicstewardship.ca/ processors</u>
- Make arrangements with your processor to have e-waste picked up.

OES can also help you arrange a
Collection Event where employees
can bring in their e-waste and one of
our approved collectors will pick up.
To request information on arranging a
collection event for your organization:
www.recycleyourelectronics.ca/Office/
ContactUs.aspx

WHAT ELECTRONICS CAN I RECYCLE?

The Recycle Your Electronics
Program from Ontario Electronic
Stewardship enables organizations
to recycle the following items:

- Desktop computers
- Portable computers
- Computer peripherals
- Monitors
- Televisions
- Computer peripherals including modems
- Printing devices including copiers, scanners, typewriters
- Telephones (physical and accessories)
- Cellular phones
- PDAs and pagers
- Audio and video players
- Cameras
- Equalizers/(pre)amplifiers
- Radios
- Receivers
- Speakers
- Tuners
- Turntables
- Video players/projectors
- · Video recorders
- Personal hand held computers



RECYCLE YOUR ELECTRONICS AND ONTARIO ELECTRONIC STEWARDSHIP

For more information about OES and the fee reduction, visit www.ontarioelectronicstewardship.ca.

To find your nearest free collection site or event, visit www.recycleyourelectronics.ca.

About Ontario Electronic Stewardship Ontario Electronic Stewardship (OES), a not-for-profit industry funding organization, oversees the responsible reuse and recycling of waste electronics through a program that includes hundreds of free collection sites and numerous other affiliate sites across the province. Every Ontario resident and business is encouraged to safely reuse and recycle their electronics.

The program began operations in April 2009 with Waste Diversion Ontario on behalf of the Ontario government under the Waste Diversion Act. The OES electronic waste recycling program accepts 44 items of electronic waste including computers, televisions, DVD players, hand-held devices and more.



DETAILED SURVEY BENCHMARK SUMMARY

A recent survey of more than 400 Ontario businesses, across all sectors, examined e-waste management plans in these organizations. The survey asked respondents three main questions:

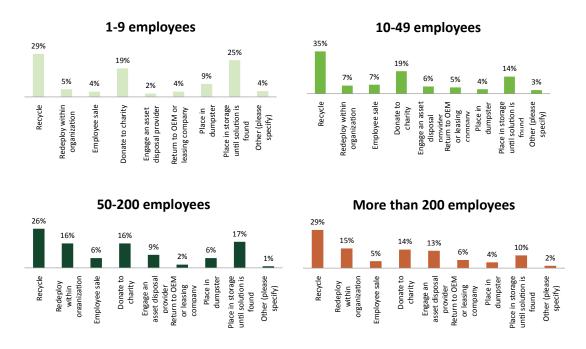
- What do you do with your e-waste?
- Who makes decisions on end-of-life technology and e-waste management in your organization? What is their title? What is their function?
- Do you have an e-waste management plan?

Below is a detailed breakdown of this data by company size, industry and overall for survey respondents.

BENCHMARK BY COMPANY SIZE

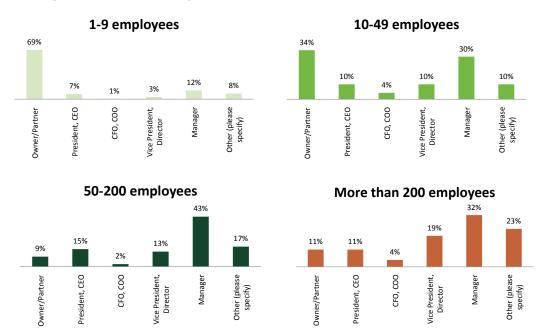
For the purposes of this survey, to benchmark company size, companies have been grouped into four segments, organizations with: 1-9 employees, 10-49 employees, 50-200 employees and more than 200 employees.

What do you do with your e-waste? (n= 324)

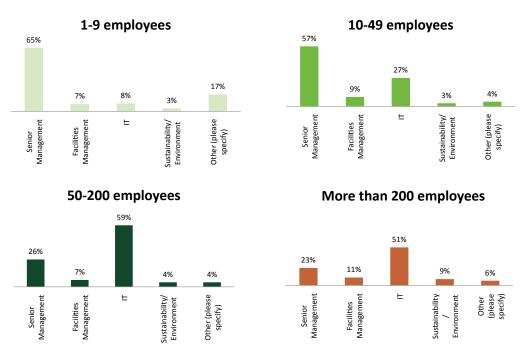




Who makes the decisions on end-of-life technology and e-waste management in your organization? What is their title? (n= 324)

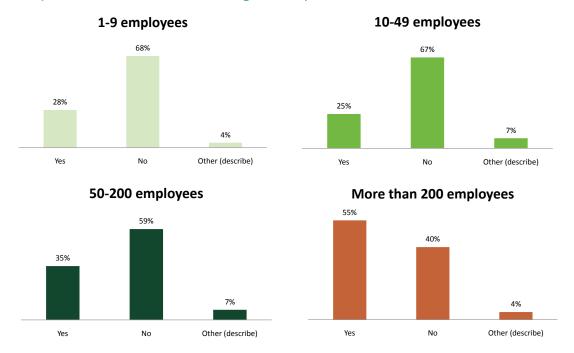


Who makes the decisions on end-of-life technology and e-waste management in your organization? What function owns the decision? (n= 324)





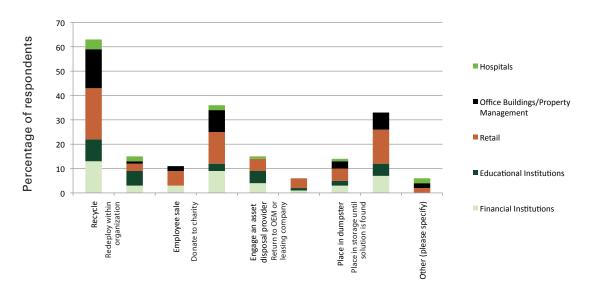
Do you have an e-waste management plan? (n= 324)



BENCHMARK BY INDUSTRY

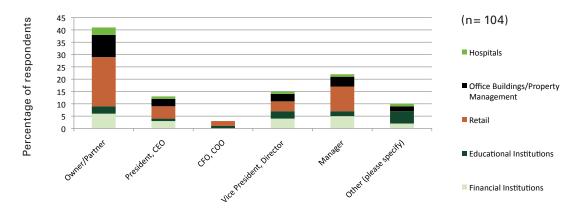
The respondents for this survey came from one of five industries: hospitals, office buildings/property management, retail, educational institutions or financial institutions. The following is the benchmark data by industry.

What do you do with your e-waste? (n=315)

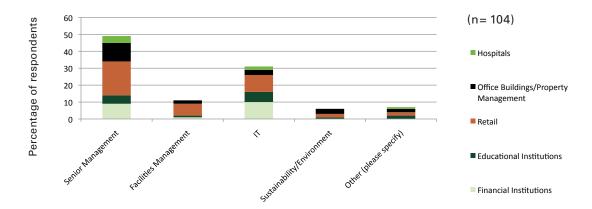




Who makes the decisions on end-of-life technology and e-waste management in your organization? What is their title?

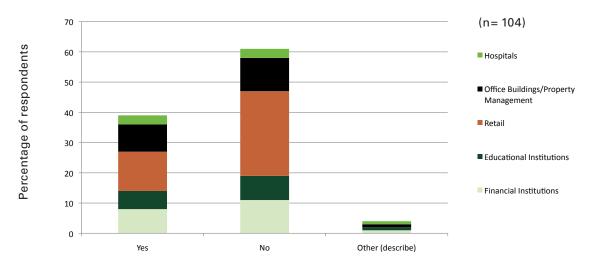


Who makes the decisions on end-of-life technology and e-waste management in your organization? What function owns the decision?





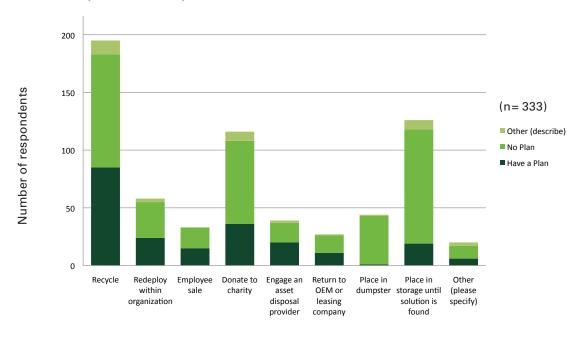
Do you have an e-waste management plan?



BENCHMARK BY E-WASTE PLAN

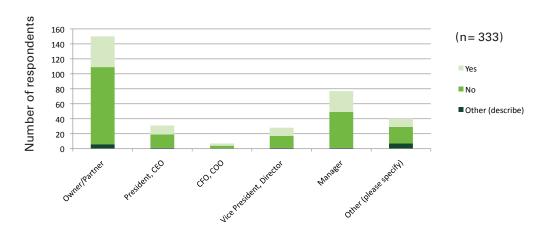
Below is an overview of survey data across all industries and company sizes for all survey respondents on e-waste planning and disposal.

What do you do with your e-waste?

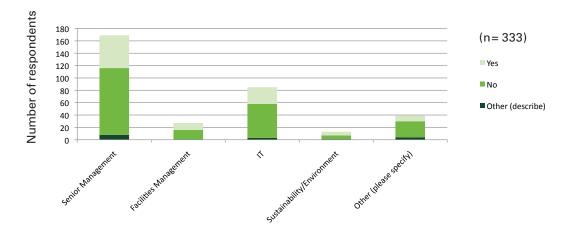




Who makes the decisions on end-of-life technology and e-waste management in your organization? What is their title?



Who makes the decisions on end-of-life technology and e-waste management in your organization? What function owns the decision?





RESEARCH REFERENCES

Cost of Electronic Waste, Benefits of Safe Disposal

¹Statistics Canada, Waste Management Industry Survey Business and Government Sectors 2008 (Ottawa: 2008)

Cost of Electronic Waste, Benefits of Safe Disposal

²Statistics Canada, Waste Management Industry Survey Business and Government Sectors 2008 (Ottawa: 2008) www.conferenceboard.ca/hcp/details/environment/municipal-waste-generation

Protecting our Environment Section

³Conference Board of Canada, Muncipal Waste Generation Report Card, (Online:2008)

Economic Benefits to Green Businesses

⁴WPP Agencies, 2010 ImagePower Green Brands Survey, (Online: June 8, 2010) <u>www.wpp.com/wpp/press/press/default.htm?guid={7d135945-e34d-456b-a209-b27156624ce7}</u>

Creating and Supporting Green Industry

⁵Auditor General, Ministry of the Environment, 2010 Annual Report (Toronto: Hansard, 2011)

Are You Willing To Risk Your Company Reputation On It? By Jim Harris (P.4.)

- ¹https://www.javelinstrategy.com/uploads/files/1004.R 2010ldentityFraudSurveyConsumer.pdf
- ² http://www.symantec.com/content/en/us/about/media/pdfs/symantec_ponemon_data_breach_costs_report.pdf?om_ext_cid=biz_socmed_twitter_facebook_marketwire_linkedin_2011Mar_worldwide_costofdatabreach_
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- ⁴ http://www.pcpro.co.uk/news/enterprise/226641/businesses-discarding-sensitive-data-with-old-phones
- ⁵ http://www.pbs.org/frontlineworld/stories/ghana804/video/video index.html see interview with Peter Klein at http://www.treehugger.com/files/2009/07/short-documentary-shows-toxic-trail-of-recycled-e-waste-leads-overseas.php





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