

Executive Summary

This report presents estimates of obsolete computers, monitors, televisions, and cell phones expected to be generated now and in the future in Seattle and Northwest Washington.¹ These electronic items, collectively referred to as “e-waste”, are a growing solid waste management concern as they often contain toxic materials such as lead, cadmium, and mercury that can pose threats to human or environmental health if not managed properly. Although national negotiations with manufacturers and retailers are underway concerning a national recovery program for these items, it is unclear whether a viable agreement for a collection and financing system can be enacted in the next several years.

As these and other developments unfold, it is useful for the City of Seattle and other local governments to better understand how much e-waste is likely to be generated and how much a minimum level of e-waste collection service might cost. Accordingly, Seattle Public Utilities (SPU) contracted with Cascadia Consulting Group and Sound Resolutions to research and estimate potential e-waste generation and the costs of establishing two fixed e-waste facilities in Seattle.

Key findings of this research include the following:

- **An estimated 251,000 computers, computer monitors, and televisions will become obsolete in Seattle households in 2003**, a quantity of material that weighs approximately 4,800 tons. A product is considered to be obsolete and therefore “generated” when its original owner no longer uses it. Survey data indicate that currently these obsolete items are donated, given to friends or family, re-sold, stored, recycled, or in some cases illegally disposed.
- **Northwest Washington residents will generate an estimated 1,286,000 computers, computer monitors, televisions, and cell phones in 2003**, a quantity of material that weighs approximately 25,000 tons.
- **Seattle residents are already storing an estimated 223,000 obsolete computers, computer monitors, and televisions, and Northwest Washington residents are storing an estimated 1,220,000 of these items.** These items are estimated to weigh 3,530 tons and 19,200 tons, respectively. These materials are not included in the above generation or cost estimates because it is uncertain when they would come out of storage.
- **Small-quantity generators (SQGs) will generate an estimated 100,000 units in Seattle (1,260 tons) and 361,000 units in Northwest Washington (4,500 tons) in 2003.**
- **Residents and businesses will generate an estimated 157,000 cell phones in Seattle and 995,000 cell phones in Northwest Washington in 2003.** These cell phones are estimated to weigh 79 and 497 tons, respectively.
- **The City of Seattle would incur an estimated cost of \$300,000 - \$400,000 annually to lease and staff two fixed e-waste collection facilities in Seattle, and to transport material collected at those facilities to a recycler.** This figure does not include promotion of the program, costs paid to the recycler for

¹ For the purposes of this report, Northwest Washington includes Whatcom, Skagit, Snohomish, King, Pierce, and Thurston Counties.

processing, or equipment costs, which are likely to add significantly to the overall cost of the program.

- These two fixed e-waste facilities in Seattle are projected to collect a total of 500 – 700 tons annually, which amounts to 7-11% of the estimated annual residential and SQG e-waste generation in Seattle. These estimates suggest that two fixed e-waste facilities would collect only a portion of the e-waste generated in Seattle. Therefore, to prevent improper disposal or continued stockpiling of these items, a much more extensive collection system – possibly including manufacturer take-back, fully-developed reuse infrastructure, or other programs or options – would need to be available for Seattle residents and businesses.