

The Big Idea

Developing an e-Waste Recycling Infrastructure in Michigan



REAP2—Recycling Electronics and Pollution Prevention—is a forward-looking project aiming to develop a private sector electronics recycling infrastructure in Oakland County, Michigan. A joint effort of a team of public and private sector partners, REAP2 was initiated by the Oakland County government and Automation Alley, the Midwest's premiere consortium of high-technology businesses.

The Challenge of Waste Electronics

The electronic technologies that have transformed the world over the last four decades have brought with them new environmental challenges. The electronic devices we now depend on every day contain a range of toxic materials. Toxins in e-waste include lead, cadmium, beryllium, mercury, and chromium. The e-waste stream is growing rapidly in volume, and it is projected that it will make up 10 percent of solid waste in the near future.

Very little of this waste stream is recycled currently, and disposal is becoming more difficult. Legal liability hazards from both domestic and overseas disposal are rising, and legal mandates covering the disposal of e-waste are increasing. In the United States, municipalities increasingly require that e-waste be separated from the general waste stream. Several municipalities and states have already implemented landfill bans on much e-waste, and many more will do so in the future.

The Opportunities of the Future

The challenge of e-waste brings with it opportunities. The REAP2 project is designed to realize these opportunities by responding to the evolving waste stream through a market-based approach. The REAP2 partnership of governmental bodies and private-sector business and institutions is driving the creation of a private-sector Electronics

Handling Campus in Michigan for the processing and recycling of e-waste and electrical equipment. The Electronics Handling Campus would bring many benefits to both consumers and businesses throughout the region.

Environmental improvement

- Development and adoption of best practices e-waste disposal
- Reduction of local waste and pollution
- Maximum material recovery

Business performance

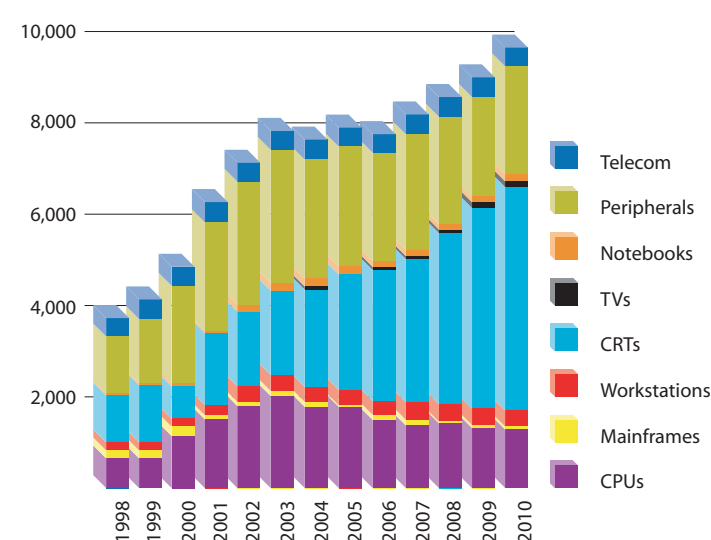
- Lower transport and other disposal costs
- Reduction of corporate liability hazards
- Ease compliance and the regulatory burden
- Secure handling and disposal of electronic assets
- Positive public relations for companies involved in e-waste recycling

Economic development

- New jobs and strengthening of the business environment
- Demonstration of new technologies for manufacture, disposal, and demanufacture

Commercial Electronic Equipment Becoming Obsolete in Oakland County

Original Research by RRSI for Oakland County



The Solution

Oakland County is ideally situated to host a regional Electronics Handling Campus. Oakland County and the greater region offer an abundant supply of e-waste, both commercial and residential, to support the enterprises in the campus. REAP2 will establish a solid material supply infrastructure through strategic partnerships with collection service providers, consolidators, equipment leasing agents, end users, generators of e-waste, and manufacturers. And Oakland County's concentration of high-technology and manufacturing industries and its skilled high-tech workforce make Oakland County an especially advantageous location for e-cycling and e-waste management demonstration programs.

The Big Picture An Electronics Handling Campus

The center of the REAP2 project is the Electronics Handling Campus, a high-technology infrastructure for collecting, processing, and recycling e-waste. REAP2 is facilitating a municipal consortium, businesses, and local institutions to develop the e-waste supply system through both private and municipal waste collectors. The project's mission also includes recruiting experienced and emerging waste service providers to establish and operate remanufacturing, dismantling, and processing businesses in the campus.

Asset managers will provide the first level of sorting, either refurbishing and reselling or charitably donating viable equipment, or routing equipment into the waste stream and to the services provided in the flagship facilities. The flagship facilities will provide sorting, automated and semi-automated disassembly, and primary processing. Scrap and specialty processors, including the traditional local recyclers, will handle the disassembled components, recovering metals, plastics, glass, and other by-products. And the REAP2 coalition members will use the campus to develop, demonstrate, adopt, and transfer best practices and new technologies that will reduce both the generation of e-waste and the use of toxins within electronic devices.

The Partnerships

The REAP2 partnership includes:

Oakland County Executive L. Brooks Patterson

Mr. Patterson has made the REAP2 project a pillar of Oakland County's technology initiatives, and has provided project funding.

Oakland County Community & Economic Development Department

The Solid Waste Management Division is leading the effort to establish Michigan's e-cycling infrastructure.

Automation Alley

Automation Alley is REAP2's business partner. The consortium's REAP2 task force is developing the commercial supply of e-waste, and is engaged in assessing the recycling needs of high-tech and automotive companies.

Michigan Department of Environmental Quality

DEQ has provided grant funding to support the REAP2 initiative by characterizing e-waste, and establishing pilot collections and best management practices.

Michigan Economic Development Corporation

MEDC is involved in recruitment of service providers for the campus.

Michigan Recycling Coalition and the REAP2 Municipal Consortium

MRC coordinates the REAP2 Municipal Consortium and residential supply development, creating a statewide supply network for municipal collection programs.

The Connection

For more information on the REAP2 project contact Martin Seaman, Waste Resources Manager, Oakland County Waste Resource Management Division, at 248-858-1352 or seamanm@co.oakland.mi.us.

