

## **Northampton County Office of Community and Economic Development**

### **E-Cycling Information**

#### **What are the environmental impacts of electronics disposal to the environment without any precautions?**

Electronics are complex devices composed of a wide variety of material constituents. Some of the constituents, such as lead, nickel, cadmium, and mercury, could pose risks to human health or the environment if mismanaged at their end-of-life. The EPA is very concerned about ensuring the proper management of used electronics and has undertaken important work to increase the collection and responsible recycling of used electronics.

As for managing electronics in the US in landfills, we believe that disposal of electronics in properly managed municipal solid waste landfills does not threaten human health or the environment. The results of landfill leachate studies suggest that currently allowed disposal of electronics — including those containing heavy metals — in modern municipal solid waste landfills are protective of human health and the environment. However, we strongly support keeping used electronics out of landfills, to recover materials and reduce the environmental impacts and energy demands from mining and manufacturing. Electronics are made from valuable resources, such as precious metals, copper, and engineered plastics, all of which require considerable energy to process and manufacture. Recycling electronics recovers valuable materials and as a result, we reduce greenhouse gas emissions, reduce pollution, save energy, and save resources by extracting fewer raw materials from the earth.

For example:

- Recycling one million laptops saves the energy equivalent of the electricity used by 3,657 US homes in a year.
- One metric ton of circuit boards can contain 40 to 800 times the amount of gold, and 30 to 40 times the amount of copper mined from one metric ton of ore in the US.

#### **What are the environmental benefits of reusing and recycling e-waste?**

Electronic products are made from valuable resources and highly engineered materials, including metals, plastics, and glass, all of which require energy to mine and manufacture them. Reusing and recycling consumer electronics conserves our natural resources and avoids air and water pollution, as well as greenhouse gas emissions that are caused by manufacturing virgin materials.

#### **What products can be made from the materials recovered by recycling cell phones?**

- Almost all of the materials used to manufacture a cell phone can be recovered to make new products. Metals, plastics, and rechargeable batteries from recycled cell phones are turned into new materials and products.
- Cell phones contain a number of different metals – gold, silver, platinum, palladium, copper, tin, and zinc – that are recovered in the recycling process. The recovered metals are then used by a number of different industries such as jewelry, plating, electronics, automotive, and art foundries.

- The plastics recovered from cell phones are recycled into plastic components for new electronic devices or other plastic products such as garden furniture, license plate frames, non-food containers, and replacement automotive parts.
- When the rechargeable battery can no longer be reused, the battery can be recycled into other rechargeable battery products.

#### **What environmental benefits do we get from recycling cell phones?**

- Recycling your cell phone helps protect the environment in a number of ways. Cell phones are made from valuable resources such as precious metals, copper, and plastics—all of which require energy to mine and process. Recovering these materials by recycling avoids the need to mine and process new materials which, in turn, conserves our natural resources and avoids air and water pollution and greenhouse gas emissions. The energy equivalent of recycling cell phones could equal the electricity used by more than 24,000 US homes in a year
  - Cell phones have a number of different metals in them which can be recycled. For every million cell phones we recycle, 35,274 pounds of copper, 772 pounds of silver, 75 pounds of gold, and 33 pounds of palladium can be recovered. Recovering metals from used cell phones can reduce extraction of raw metals from the earth.

#### **What are the social benefits to recycling cell phones?**

- If the cell phone and its accessories are in good working condition, some collection programs donate them to a number of worthy charities or provide them for sale to those who need them. In addition, many reuse and recycling programs use the proceeds of their programs to benefit charitable organizations, such as domestic violence, environmental causes, children's safety, etc. Other recycling programs work with schools and other organizations to collect cell phones as fundraising ventures. The principle markets for refurbished cell phones extend beyond the US—availing access to modern communication technology to many people in developing economies who would otherwise not be able to afford a means of communication.

#### **For More information on donating electronics and recycling visit**

<http://www.epa.gov/epawaste/conservation/materials/recycling/donate.htm>

[http://www.northamptoncounty.org/northampton/lib/northampton/depts/economicdevelopment/recycling\\_hhw.pdf](http://www.northamptoncounty.org/northampton/lib/northampton/depts/economicdevelopment/recycling_hhw.pdf)