

e-Waste!!!



It's what's for dinner!

or

What Conservationists should know
about e-Waste

brought to you by your friendly geeks at:



OpenSourceCery

This presentation was created and displayed with open source software:



Will Illingworth -->

- OpenSourcery Sales Engineer
- BA in CS and Math,
Lewis & Clark College
- Software Developer
& System Administrator
- Using Open Source for 15 years
- SOLV Stream Team and Oregon Voter Rights Coalition



Sean Larkin -->

- OpenSourcery Project Manager
- Drupal Developer
- Masters in Non-profit Management
- 10 years in Fundraising and Organizational Development
- Waterkeeper Alliance, Amigos Bravos, Central NY Community Foundation, and others



What is e-waste?



100,000,000,000 Lbs of e-Waste Each Yr

Based on the Gordon Moore Theory...



*Engineered Obsolescence is the the
Foundation of the Microsoft Business Model*

The Ugly Side of Progress



The Ugly Side of Progress



The Ugly Side of Progress



The Ugly Side of Progress



What Can You Do About It?

- Donate used cell phones
- FreeGeek.org
- Talk to retail appliance stores
- Toner cartridges and batteries
- <http://www.ban.org/Pledge1.html>
- Install Linux!!

What Is Open Source?

- It's Free – As in Beer (no licensing fees)
- It's community-driven
- It's hackable *and* secure
- It's built to be sustainable

...And it just works!

Thank you!

Visit us at **OpenSourcery.com**
for More Information!

Will Illingworth & Sean Larkin

Credits:

Photos, Statistics and Tips: BAN.org, FreeGeek.org, NationalGeographic.com





Attribution 1.0

You are free:

- To copy, distribute, display, and perform the work
- to make derivative works
- to make commercial use of the work

Under the following conditions:



Attribution. You must give the original author credit.

- For any reuse or distribution, you must make clear to others the license terms of this work.
- Any of these conditions can be waived if you get permission from the author.

Your fair use and other rights are in no way affected by the above.

This is a human-readable summary of the Legal Code

The full license is available here:

<http://creativecommons.org/licenses/by/1.0/legalcode>

e-Waste!!!



It's what's for dinner!
or
What Conservationists should know
about e-Waste

brought to you by your friendly geeks at:



This presentation was created and displayed with open source software:



INTRO: Provide overview of what we're going to talk about:

- Introduce Will and Sean and OpenSourcery
- Introduce the Concept of E-Waste
- Demonstrate the problem of E-Waste
- Introduce the Open Source Movement
- Demonstrate how the Open Source Movement combined with proper recycling practices can address E-Waste, while improving organizers' communication tools and saving \$\$
- Open session to questions and demonstrations

Will Illingworth -->

- OpenSourcery Sales Engineer
- BA in CS and Math,
Lewis & Clark College
- Software Developer
& System Administrator
- Using Open Source for 15 years
- SOLV Stream Team and Oregon Voter Rights Coalition



Sean Larkin -->

- OpenSourcery Project Manager
- Drupal Developer
- Masters in Non-profit Management
- 10 years in Fundraising and Organizational Development
- Waterkeeper Alliance, Amigos Bravos, Central NY Community Foundation, and others



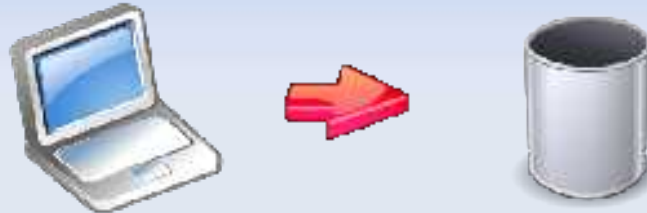
What is e-waste?



- In the US, 1.5-1.9 million tons of computers, TVs, VCRs, monitors, cellphones discarded in 2005
- 98 million cellphones
- approx 25 million Tvs
- 30-40 million PCs
- Around the world, 50 million tons of e-waste each year

100,000,000,000 Lbs of e-Waste Each Yr

Based on the Gordon Moore Theory...



Engineered Obsolescence is the the Foundation of the Microsoft Business Model

5



•How many of you have purchased a new computer in the past 3 years? What did you do with your old one??

•In the 60s, Gordon Moore, co-founder of Intel observed that computer processing power roughly doubles every two years - meaning all machines considered state-of-the-art are simultaneously on the verge of obsolescence.

•Engineered obsolescence is the core of Microsoft's business model.

The Ugly Side of Progress



6



What Happens to all this waste?

- In the US - 70%-80% of e-waste goes into landfills - leaking mercury, arsenic, cadmium, beryllium, lead, chromium.
- Copper, gold, silver, platinum and palladium make up 30-50% of circuit boards. These metals can be recycled rather than being extracted from surface mining...
- Less than 20% of e-waste goes through company's that claim to recycle.
- Roughly 80% of our e-waste is exported to Asia.
- Only 2% of used pcs make their way to second-generation user.

The Ugly Side of Progress



7



Laborer heating aqua regia -- a mixture of 5% pure nitric acid and 75% pure hydrochloric acid -- a mixture that will dissolve gold.

Without any respiratory protection workers inhale acid fumes, chlorine and sulphur dioxide gas all day as they swirl computer chips removed from circuit boards in acid to collect tiny amounts of gold.

The sludges from the process are dumped directly into the river. Guiyu, China. December 2001.

© Basel Action Network

The Ugly Side of Progress



8



EFFECTS:

- Lead is toxic to the kidneys, accumulating in the body and eventually affecting the nervous and reproductive systems. Children's mental development can be impaired by low-level exposure to lead.
- When burned, PVC produces dioxins, some of the most hazardous carcinogens known.
- Brominated flame retardants have been linked to fetal damage and thyroid problems.
- Barium produces brain swelling after a short exposure. It may cause weakness in muscles as well as heart, liver, and spleen damage.
- Hexavalent chromium damages kidneys, the liver, and DNA. Asthmatic bronchitis has been linked to this substance.
- Mercury is known to harm developing fetuses and is passed through the mother's milk to newborns. In adults it can cause brain and kidney damage.
- Beryllium causes acute or chronic beryllium disease, a deadly ailment affecting the lungs.
- Cadmium is a carcinogen and long-term exposure leads to kidney and bone damage.

The Ugly Side of Progress



9



China's harmful e-waste recycling practices
= harmful toys and jewelry, exported back to
the US!!

What Can You Do About It?

- Donate used cell phones
- FreeGeek.org
- Talk to retail appliance stores
- Toner cartridges and batteries
- <http://www.ban.org/Pledge1.html>
- Install Linux!!

10

- **Donate used cell phones**
- **FreeGeek.org** – In 8 years, > 1.5K tons recycled and > 15K computers refurbish – almost all volunteer! There are dozen of similar organizations popping up across the country and around the world
- **Talk to retail appliance stores** – Many will take used and damaged computers back.
- **Toner cartridges and batteries** – Toners are worth \$\$ and batteries often recyclable.
- <http://www.ban.org/Pledge1.html> List of recyclers that refuse to export hazardous ewaste.
- **Install Linux!!** - Refurbishing computers is 20 times more efficient than recycling. Putting linux on a computer doubles it's lifespan.

What Is Open Source?

- It's Free – As in Beer (no licensing fees)
- It's community-driven
- It's hackable *and* secure
- It's built to be sustainable

...And it just works!

11



Thank you!

Visit us at **OpenSourcery.com**
for More Information!

Will Illingworth & Sean Larkin

Credits:

Photos, Statistics and Tips: BAN.org, FreeGeek.org, NationalGeographic.com





Attribution 1.0

You are free:

- To copy, distribute, display, and perform the work
- to make derivative works
- to make commercial use of the work

Under the following conditions:



Attribution. You must give the original author credit.

- For any reuse or distribution, you must make clear to others the license terms of this work.
- Any of these conditions can be waived if you get permission from the author.

Your fair use and other rights are in no way affected by the above.

This is a human-readable summary of the Legal Code

The full license is available here:

<http://creativecommons.org/licenses/by/1.0/legalcode>