

## Unit 3 – Environmental Impact of ICT



### E-Waste – what's the problem?



Each year, the UK alone produces thousands of tonnes of electronic waste. Most of this waste is not recycled in this country because:

- It is not seen as “economically viable”
- It is cheaper to export it to poorer countries with lower wages and standards of health and safety
- It is not correctly recycled at the point of throwing it away – for example throwing batteries in your normal black bin.

This waste contains hundreds of chemical and rare earth elements which can, and should, be used again. Many are incredibly toxic or dangerous if not recycled properly.

### What happens to our electronics?



Sadly, most of our electronic waste ends up in countries such as India, China, Pakistan and Ghana amongst many others.

Even though the export of electronic waste to these countries is often illegal, it is overlooked by both British and external authorities.

Electronic waste once exported is often transported to large dumps where people literally live amongst the rubbish.

Then, electronics are stripped down and burned to recover the metals they contain.

This process of burning is incredibly unsafe and causes many very serious health problems for those involved, not to mention the environmental impact of burning toxic chemicals.

### Repair, Re-Use



The most important thing any of us can do to reduce our environmental impact is to simply not throw things away in the first place.

Often electronics that we no longer need are perfectly functional – the first thing to do is to give them to people who need or want them.

When items break, it is often an extremely simple matter of replacing a component or two for someone who is experienced and skilled in electronics repair.

You should never dispose of electronics without first checking if they can be repaired – often this costs very little.



## Key Vocabulary and Definitions

Term	Meaning
<b>E-Waste</b>	Electronic waste – the disposal of any item which contains electronic components, circuitry or batteries
<b>Recycling</b>	The process of deconstructing an item to its component parts and then re-using or repurposing those components
<b>Chemical Element</b>	A chemically pure substance – these are the building blocks of all matter, including electronics. Common elements in electronics include copper, tin, lead, carbon, gold, silver and lithium
<b>Rare earth element/mineral</b>	An element or mineral which is usually mined (dug out of the ground). These are often found in small quantities (such as gold) and are therefore quite valuable.
<b>Lithium Ion</b>	A chemical compound used in batteries which provides good battery life/performance. However, these are extremely dangerous if thrown away and should always be recycled carefully.
<b>Burning of electronics</b>	The unfortunate destiny of most electronic waste which is exported abroad – devices are simply burned to extract the metals out of them which are then sold on for small amounts.
<b>Copper</b>	A common element found in electronics and usually in wiring. Copper is an excellent conductor of electricity.
<b>Tin</b>	A component of the solder which is used to build electronic circuits by “soldering” them to a board.
<b>Lead</b>	A component of the solder which is used to build electronic circuits by “soldering” them to a board. Lead is extremely toxic to humans and should not be burned/inhaled.
<b>Basel Convention</b>	An agreement between member countries not to export waste which can be recycled.
<b>Smoke Inhalation (and other respiratory conditions)</b>	An unfortunate side effect for the workers who find themselves on E-Waste dumps. The toxic fumes from the burning of electronics causes many serious health problems, usually respiratory and heart conditions which ultimately end up being fatal.
<b>Export</b>	The process of sending goods to other countries
<b>Right to repair law</b>	A new European law which forces manufacturers to make items easier to repair and to offer spare parts for up to 10 years after the item has been sold.
<b>Single use electronics</b>	A serious part of the E-waste problem – electronics which are designed to be used once and then thrown away.
<b>EU</b>	The European Union – a group of countries that have a common currency and laws
<b>OECD Countries</b>	A group of countries that have agreed to not export electronic waste and other forms of waste to each other.
<b>MP</b>	A Member of Parliament – the person responsible for representing your views and interest in parliament and government if elected.
<b>Formal Letter</b>	A style of writing where we use formal language, structured paragraphs and a well defined layout.

