

Committee: Special Conference on the Environment

Issue: Eliminating the effects of techno-trash

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Position: Chair and Co-chair

Dear delegates,

My name is Despina Petradakis. I'm senior in Arsakeia Schools of Psychiko. I will be chairing alongside Chris on the topic of e-waste. I hope this study guide helps you familiarize yourselves with the topic. Alongside my Co-Chairs, I hope to make this MUN a memorable one. I look forward to seeing you all at the conference.

My name is Chris Antonopoulos, I am 15 years old and I am a student in 10th grade in Ekpedefiki Anagennisi. My hobbies are football, basketball, robotics and debate. This is the first time I will be serving as a student officer and I am sure we will have a great time.

TOPIC INTRODUCTION

Waste management has always been a considerable matter for humans, as the years pass new types of trash have been created, since we consume more goods and use more electronic devices, which eventually become waste. Techno trash is nowadays one of the most rapid-growing type of waste, it is estimated that 60 million tons of electronic waste are being produced each year. From them, only 15%- 20% is being recycled or reused. Electronic waste recycling is considered to be a highly profitable and absolutely necessary business. This lies to the fact that many electronic parts of devices can be reused in others, for



instance used RAM's (Random Access Memory) can be used in new computers. Moreover raw metals can be recovered from electronics in order to be recycled and make others, doing so will cut manufacturer's spending for special materials. The lack of regular recycling has resulted in trash to expand in a problematic scale, where electronic waste does not have the necessary treatment which results in the potential release of hazardous chemicals from different parts of devices such as lead-acid from batteries. A possible solution in order to face this environmental harm and take

advantage of techno trash is raising public awareness in order for the consumers to know the damage being made in nature; such an action will have as aftereffect the increase of the number of devices being recycled. All this having the condition that a good recycling system

for electronic and electric devices exists. Through such measures sustainable development in this sector can be achieved.

DEFINITION OF KEY TERMS

Trash:

Unwanted waste materials that may be worthless broken or unneeded, frequently replaced by words such as waste, rubbish and garbage.

Techno trash:

Techno trash or electrical waste are discarded electrical or electronic devices that may also be broken or malfunctioning.

White goods:

Large electric goods for domestic use such as refrigerator and air-conditioner. It's one of the three sources of electric waste and the products

Brown goods:

Brown goods are household devices which enhance our way of living and are primarily used for our entertainment such as television and audio player.

Grey goods:

Grey goods are the third source of electronic waste and it mostly consists of computers, smartphones and cameras.

Recycling:

Recycling is the process of converting trash materials or devices into new objects and devices ready to use.

Reuse:

In this particular case reuse means that many used devices can be used as humanitarian aid in other countries. For instance the used phones of the citizens of MEDC (More economically developed country) can be transported and used by the citizens of a LEDC (Less economically developed country)

Landfill:

Landfills are special areas where all garbage including techno trash are being buried under the surface. This process is considerably harmful for the environment and many European countries have stopped using this method.

Incineration:

Incineration is a trash treatment process that involves the combustion of organic substances contained in waste materials. Incineration is a type of "treatment" of rubbish that converts

waste materials converts the waste into ash, flue gas and heat. It is also hazardous for humans and harmful to the environment as it produces carbon monoxide and carbon dioxide.

The Basel Convention:

On the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, usually known as the Basel Convention, is an international treaty that was designed to reduce the movements of hazardous waste between nations and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs).

BACKGROUND INFORMATION

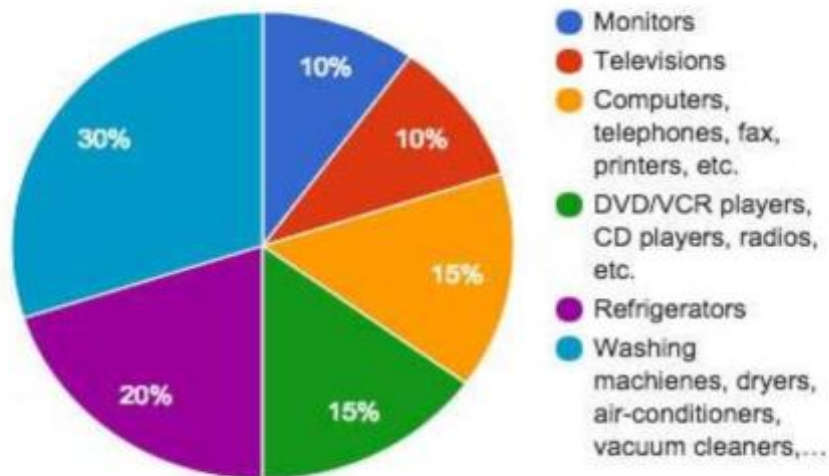
The problem of techno trash was firstly occurred in the 1930's but in a much smaller scale. As the years pass more and more electric and electronic waste is being produced. The UN has estimated the amount of techno trash discarded each year as 60 million tons. Furthermore, the United States discard 30 million computers each year, while 100 million phones are being disposed each year in Europe. Moreover, the UNEP (United Nations Environmental Programme) has estimated in its report with the title "Recycling – from E-Waste to Resources", that the production of techno trash could rise up to 500% during the next decade. The country with the highest e-waste production is United States, discarding 3 million tons of e-waste each year. China comes second producing 2.3 million tons of techno trash in 2010.



Sources

The sources of techno trash are divided in 3 main areas. The white, brown and grey goods. As previously defined the white goods are mostly household electric devices while brown and grey goods are electronic devices. White goods are the biggest source of e-waste and have the largest mass.

E-Waste



The graph shows the sources of techno trash.

Transportation

The export or import of techno trash or any type of waste is illegal since the mid-1990's, however a significant amount of MEDC's is exporting e-waste in LEDC's because they either don't have the facilities needed in order to deal with trash or they do not want to have techno trash buried underneath the surface because of serious environmental concerns. The latter happens because every country that has more garbage landfills than it needs per capital is obliged to pay fees because of the environmental harm they do. Moreover, some countries like Monaco don't have enough land to make garbage landfills so they have to export their trash. In the United states 80% of e-waste is being exported each year, most of them travelling to Hong Kong.

Export of e-waste



Recycling and dangers

Techno trash without being correctly processed can be proved dangerous and maybe lethal for a significant amount of workers. Substances contained within the items themselves, for example lead in solders or mercury in backlights for liquid crystal screens can pollute the air in landfills. Moreover, when burying electronic devices or batteries that consist of lead and other similar substances the undersurface water channels can be polluted. The water then, flows to the sea or in lakes where many farmers water their land, polluting the products that are going to be consumed by humans. Moreover, incineration of plastics creates dioxins; dangerous for our health. However, when treated correctly, techno trash can be recycled and create new devices ready to use. By this way, manufacturers will cut their spending for materials. Furthermore, valuable materials such as copper gold and cobalt can be extracted from devices and sold to the market.

Why e-waste is a problem

Electronic waste is valuable but can be hazardous

An average mobile phone contains more than 45 elements including:



COUNTRIES AND ORGANISATIONS INVOLVED

Ghana, Nigeria, China, Pakistan, India, Vietnam are turning into illegal e-waste hubs, bypassing the legitimate global waste and recycling market -thought to be worth \$410 billion a year.

India is second to China in e-recycling volume, followed by Nigeria, Ghana, Ivory Coast, Benin and Liberia

China, India, Pakistan have established several businesses that dispose the waste without proper government oversight. Though there are regulations, local authority figures generally do not see e-waste as a high priority and in many cases, ignore the issue.

Haiti has signed but not ratified the Basel Convention.

China's government established a collecting fee of \$50 US per ton of waste collected.

Exporting of e-waste to developing countries is prohibited in the **European Union**, but the practice remains legal in the U.S.

E-waste still makes it out of illegally, but those doing it can be prosecuted. To legally ship from the EU, equipment must first be tested and proven functional.

In early 1987, the so-called New York "garbage barge" tried to unload 3,186 tons of solid waste from Islip, New York, on Little San Salvador.

The **US** has signed but not ratified the Basel Convention.

TIMELINE OF EVENTS

Prior to the 1970's, very few places in the world had strict regulations pertaining to the disposal of hazardous waste; dumping the waste into landfills was a very common practice.

Over the course of the 1970's, many developed countries began to approve regulations that managed the treatment of hazardous waste and chemical use in the environment such as the toxic substances control act, clean water act, and clean air act. In compliance with these new regulations, companies producing hazardous waste were forced to spend more time, money, and resources to dispose of it properly. Businesses began to search for alternatives as to how to dispose of the waste at a lower cost.

Until the middle 1980's, almost all of the hazardous waste (including e-waste) produced in the US and Europe stayed there.

In the late 1980's, US and European companies began to apply for UWEPA approval. This approval granted these companies permission to ship hazardous waste to developing countries overseas.

When developed countries such as the US began shipping their e-waste to developing countries in the late 1980's, receiving nations started to form a new business sector that disposed of the waste without proper regulations, equipment, or safe disposal techniques. These businesses created jobs for people in these developing countries, and helped support many poor families. The governments running these countries also had financial incentives to accept e-waste from developed nations.

The Basel Convention was opened for signature on 22 March 1989, and entered into force on 5 May 1992.

As of November 2016, 184 states and the European Union are parties to the Convention.

20 December 1988, the U.N. General Assembly adopted resolution 43/212, which among other things, urged all States, bearing in mind their respective responsibilities, to take the necessary legal and technical measures to halt and prevent the illegal international traffic in, and the dumping and resulting accumulation of, toxic and dangerous products and wastes; urged all States generating toxic and dangerous wastes to make every effort to treat and

dispose of them in the country of origin to the maximum extent possible consistent with environmentally sound disposal."

In 2007, Sony was the first to establish a recycling collaboration between a major electronics manufacturer and a national waste management company.

Best Buy started its e-waste Trade-In program back in 2009, offering to collect cell phones, computers

POSSIBLE SOLUTIONS

Tackling the problem of e-waste does not solemnly need the change of governmental policies. There are several things people and companies can do so as to help. Firstly, by donating operable machinery to a local family, friend, school, or non-profit organization such as Goodwill or Technology Training Foundation. Secondly, before ridding any machinery, consult businesses that focus on safe recycling of such products. For example, the IBM PC Recycling Service allows consumers and businesses to recycle any computer for a small fee, including shipping. Hewlett Packard offers a similar service. Businesses can as well consult with a company such as Newtech Recycling, which provides equipment resale, donations, or recycling. Furthermore, when talking about e-waste reduction solutions, the common, environmental slogan "Reduce, reuse, recycle" comes to mind. In the case of e-waste, it represents an important, easy-to-remember hierarchy of recycling benefits. First, reduce the consumption of products that ultimately become e-waste by maintaining older equipment or purchasing higher quality products with a longer useful life. Secondly, reuse products by selling them or donating them to others, especially computer re-use organizations, extending their useful life and keeping them out of the waste stream. Finally, recycle your unwanted electronics with an environmentally responsible recycler who will either refurbish them for reuse, or break them down to commodity level where they can be used again as raw materials.

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