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PROVIDE BASIC GUIDELINES FORELECTRICAL AND ELECTRONICWASTEMANAGEMENT PRACTICESINTHESOCIETY

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ABSTRACT

Electronics technology development along with increasing production on the one hand and the diversity of people seeking short shelf life of the appliance on the other hand has caused. The electronic wastes produced in large volumes and their problems to become major challenge in the field of waste management. Traditional methods such as land filling or incinerating waste in addition to creating environmental pollution caused losses of valuable parts are the same parts. Virulence properties and toxicity of these wastes are high polluters and environmental sustainability wiki are considered. A major part of these parts include heavy metals such as mercury, arsenic, cadmium, copper, cobalt and nickel are some of these elements are of high value and can be recycled, in this paper, we present requirements of electronic waste management practices prevent environmental pollution and to recycle electronics and recovery value of will be discussed. Indeed, although in recent years new technologies in the field of electronics has improved the living conditions of our people, But along with the new problem of e-waste generation have been exposed Compared to the more rapidly growing domestic waste containing hazardous substances have become more and more toxic.

Keywords: Management, Electronic Waste, Environment, Recycling

INTRODUCTION

Electronic waste is a problem that is just emerging As well as a job opportunity that is increasingly considered to be important. A large amount Analysis of this material, iron, copper, aluminum, gold and other materials obtained more than 60% is composed of these

materials **[1].** Indeed, in recent years new technologies to improve the living conditions of our people in the field of electronics, but in parallel with the new problem of e-waste generation have been exposed Compared to the more rapidly growing domestic waste containing hazardous sub stances have become more and more toxic **[2]**. Some of them can be found in various diseases such as Iron deficiency, brain damage, and liver disease and could explain the level of communities.

Thesesubstancesarepollutantswhenburnedorrecycledinuncontrolledenvironmentsare it is the hi ghost percentage of their toxicity **[3]**. "Basel Convention" e-waste as hazardous waste are known Today, along with recognition and destructive effects of dangerous chemicals, they are considered appropriate estate giesto control Only to realizethatpreventionstrategiescanmakemistakesrepeatedlywarnedcountries. Global industry, electronic industry, fastest growing and production and the electronic in dusty, computer industry during the past two decades, has had the highest growth **[4]**. It is precisely because of the rapid development of faster computer equipment and other electronic products become obsolete and outdated. Today, the fastest growing waste generates din industrialized countriesisrelated to computer waste. The waste is growing so fast that developed countries have made serious and fundamentalreactionsandstrategiesagainstthee xcessiveproductionof waste is not done A few years later, these countries will be computed on a mountain of garbage. Generally, electronic waste, special waste is said that they form the core components, including capacitors, transistors, IC, electronic circuits, components are the cathode and anode and the like. Europe EU policies such as waste electrical electronic equipment WEEE and hazardous material restrictions and guideline seemed at improving the environmental performance of electronic products has established **[5]**. Traditionally in Europe (and elsewhere), the legislative approach towards environmental problems of command and control has become The end of the tubetoexpressthe severity of pollution problems **[1]**. Already stressed the responsibility of them an of acuter has changed Whereby those who are responsible for the environmental impacts of products throughout their entire life cycle, from resource extraction to processing time, Reuse and discard Unfortunately ,most developing country Estill have these innovations in waste management **[3]**. Under the law, manufacturers are required to reclaim, recycle

or disposal of their products after their useful life when the law is implemented, the responsibility of manufacturersandimporters of recycling and disposal of e-waste was Putin charge.

The dangers of E-Waste:

Although- waste contains toxic substances are, few people are familiar with the subject; substances such as lead and Cadmium in making circuit boards Lead oxide and cadmium in monitor cathode ray tubes) CRTs),flat panel display screens, mercury, cadmium computer batteries, plastics are used in the computer case, Conventional cables and cables containingpolyvinyl kolorayd during burning (for release of copper from the wires)oxides are toxic fumes. Because of the asterisks, in addition to recycling electronic materials prosecutions, with the environmental problems. Therefore ,by burning or burying waste computer main problems through environmental pollution there will be. Waste burial causes toxins to be released into the water sand groundwater; the burning of toxic materials enters the oxide in to the air. Because of this danger computers recycling and environmental aspects of the job, it would have. Especially when the recycling industry due to it slow profitability, employee safety related regulations do not observe. Effectively manage the increasing volume of e-waste and utility costs and environmental impact is a complex task performance First, certain general condition sarerequiredto collected -waste. Secondly heavy casualties ,including many that are extremely dangerous to human health environment. Therefore requires special treatment approach to prevent the communication environment. Similarly, a rich source of metals such a gold, silver, copper can be recovered and will be returned to the production cycle. **[8]**.

RESULTS

Retrieve this type of material is the best way to deal with them because they area major source for the production and release of gases from the burning of Dioxin and Furan Furandioxins into the atmosphere we create That has been proven to be carcinogenic, also makes an entry of heavy metals into the air, as well as mercury. If buried in the ground can also cause then try of heavy metals into the soil and eventually the life cycle of plants, animals and humans and nature is the washing effect By flowing water, ground water also influence the cathode ray tube, for example, each number is the local and fill can release significant amounts of lead into the land fill will latex And then there is the possibility office in these places, so generally, electrical and electronic waste to be land filled without

processing and recycling operations should be avoided .E-waste is agenericterm for all majored electrical and electronic equipment discarded by consumers may be use dandies not usable **[3].** The major items of house holed equipment such as refrigerators, microwave ovens, televisions, and computers, handheld digital devices, cell phones and toys are included. But it is possible classify the waste to be which indicates that the contents. Table 2Classification of the waste by the EU guidelines on waste electrical and electronic equipment Europe (Were Directive) is presented. The classifications of the components of e-waste generated on average by 27 EU countries Europe in 2005 are presented separately **[6]**. It should be noted that the figures how may vary from the current data due tithe development New electronic products continuously is definitely on the composition of the waste will be effective. For example, flat panel displays greater share in the composition of the waste will today. However, the classifications done in **Table 1**, cases4-1approximately 95% of the total waste production are included and the 1"major household appliances" almost half of the total weight of heavy because of the waste has these devices are.

Table1: Categories of electrical and electronic waste by the EU Europe ,and middle components of e-waste generated by the27 EU countries Europe in 2005

%Of totaled-waste	The following categories	%Of totaled-waste	Category
27/7	A1.AsidefromB1andC1largehome	49	1st. Largeappliancesappliancesincludingwashing machines, dryers, refrigerators, air conditioner, etc..
17/7	B1. Refrigerators		
3/6	C1.Smalleritems		
0/7	0/7		Two. Small home appliances, including vacuum cleaners, coffee makers, irons, testers, etc..
0/8	A3.ICTequipmentother than theB3andC3	16	Three. ICTequipment, personal computers(PCs),notebooks, mobile phones, telephones, fax machine, copier andprinters,etc..
8/3	B3.CRT displays		
0/0	C3.LCDdisplays		
7/8	A4.Electronic devices other thanB4andC4	21	4. Electronic devices such astelevision,broadcastersVCR / DVD / CD,audio devices, radios,etc..
13/3	B4.CRTTVs		
0/0	C4.Flat-screen TVs		
0/7	A5.Clarifyingdevices	2/4	5. Lightingequipmentsuch as fluorescent lamps, sodium lamps, etc..(Other than thebulbandhalogenbulb)
1/7	B5.Lamps		
3/5	3/5		6. Electrical and electronic tools, electric drills, saws, mowers, sewing machines, etc...(Except: largestationarytoolsand machines)
0/1	0/1		7. Toys, sports and leisure equipment, sports equipment, electrical, Dodrejamachine(treadmill), etc.
0/1	0/1		8. Medical Devices
0/2	0/2		9. Monitoring andcontrolequipment
0/2	0/2		10.AutomaticDispensers

An inedible product of electrical and electronic waste contains a variety of compounds and synthetic sub stances which can contain thousands of distinct matter. Weight of most materials as iron, aluminum, plastic –but other materials such as wood and glass, ceramics and rubber may also be found in them **[9]**. **Figure 1** Mean composition of the materials in e-waste rebased on data from the European Centre for Sustainable Consumption and Production Shows [ETC / SCP].Ashcan be seen, iron and steel waste makes up almost half the weight, while copper, aluminum and other metals make up13% of the remaining weight of the waste. Another large component of plastic from-waste is that it makes up21% of the weight.

Electrical and electronic wastes as well as wastes that contain variety of toxic and dangerous substances have been identified If the material released during recycling processes and eliminating the risk of seriousrisksto human health hand the environment will be followed by [UNEP 2005]. For example, e-waste contains a wide range of heavy metals such as lead, cadmium and mercury and persistent organic compounds as inhibitors of ignition Bromine (BFRs) and phthalates are For example, e-waste contains a wide range of heavy metals such as lead, cadmium and mercury and persistent organic compound of ignition Bromine (BFRs)and phthalates are. In another's tidying order to identify separate components of e-waste by the Swiss Federal Laboratories for Materials and Industrial Research (Empa) was performed Contaminants present in the waste, on average, 7/2% is estimated **(Figure 1)**. But it should be noted that many of thesepollutantsaspurecompoundsinthesewaste scan not be found butt eingredientsare basic components such ascombustionretardant materials in plastics, or are hiding inside the electrical components such asmercurys witches, and so it would be difficult to separate them from other components **[7]**. It is very difficult and expensive to recycle these wastes, the recycling of environmentally seems necessary. To avoider pious pollution to the environment and human damage, proper management to waste bines very important, In particular, we are considering the bulk waste. On the other hand, e-waste can be In particular, we are considering the bulk wastes are produced globally On the other hand, e-waste can be considered as a resource that contains many valuable compounds that recovery may also be useful. For example, these wastes often contain

significant amounts of copper (often 20-5wt. %), as well as high-quality precious metals such as gold(1/0%), silver (2/0%) and Pd(005/0 %) which is in electrical and electronic equipment due to their resistance to corrosion and their super-conductivity are used. The main economic incentive for recycling –waste metals are such that95% of the total value of these waste smaybeincluded. However, some metals and other materials from t he economic point of view it may be worth recycling, Such as lead, nickel, various plastics **[9]**.Thus, not only from the perspective of electrical and electronic waste recycling, waste management, recycling and resource point of view, but is considered very important **[6]**.

Based on the results of the Swiss Federal Laboratories for Materials Testing and Research Industries (Empa) **[7]** substances in electrical and electronic equipment and waste most of them are found Topcon the lists is. However, other parts can be found in these waste smack on and may than thoselistedabovewillbe seeninthese parts. In this section a complete list of hazardous substances and wastes from these facilitiesmayexistwill be presented **[8]**.

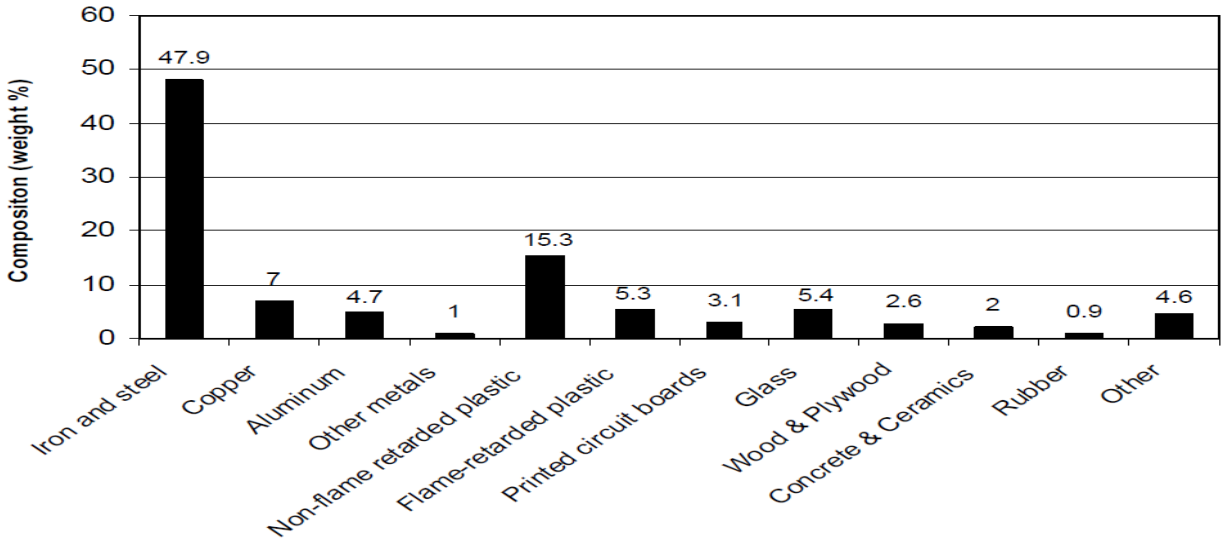

Figure 1: The average composition of them arterials found in-waste, according to the European Centre for Sustainable Consumption and Production (ETC / SCP) [7]

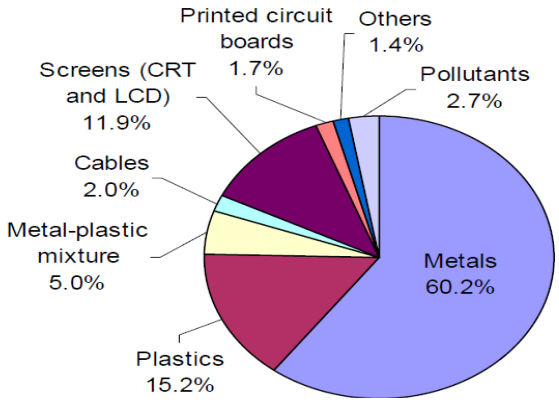

Figure 2: The average composition of the materials found in e-waste

Table 2: Components and materials tha tare of tenfoundinelectrical and electronic equipmentcontainginghazardoussubstancesare

Notable compounds	Indications	Components
Pb and Sbinboilingcompoundsare Cd and Connectors and switches Mercuryinswitches andrelays Inga sleds BFRplastics	Everywhere,rangingfromWindowsPCs	Printed circuit boards(PC-boards)
NiandCuinNi-Cdbatteries Pinhead-acid batteries. Hginmercury cells-a	Various portable electronic devices	Batteries
Hg	aerostats, sensors, relays, switches, gas discharge lamps, Medical and hospital equipment and telecommunication equipment	Components containing mercury
Pb and Sb in CRTglass Different metals such as Cd in phosphorusglass The pages accessed Balance select ronacceptor	Old televisions, computer displays, instrument vibro meter (oscilloscope)	Cathoderaytubes(CRTs)
Their quid crystal display screens	Often display devices such as mobile phones, notebooks, ...	Liquid crystal displays(LCDs)
Polymers as PVC and Teflon on BFRs, Cd, Pb, Bioorganic and phthalatesasadditives	Wire insulation, plastic containers, printed circuit boards, ...	Plastics and Polymers
PCB	Inman electronic circuits	CapacitorscontainingPCB
Freon	Refrigerators, freezers,aircooling	Refrigeration circuits
Ink, carbon black	Laser printers, copyandfaxmachines	Cartridges

DISCUSSION

In order to properly recycle electronic waste is the first comprehensive system for collecting waste from authorities such as municipalities, collecting cost predicted to be greatly reduced. In order to properly recycled tectonic waste is the first comprehensive system for collecting waste from authorities

such as municipalities collecting cost spredictedt o begreatly reduced. On the other hand, should the planet quipmentin preparation of different parts separated waste(according to their nature) to be considered .For example, crushing and pressing go plastic and metal parts, equipment, crusher, magnetic paratordonors, press and...Is required. Wediscussthe important issue of recycling increasing original recovery unit that includes the isolation of preparation and the recovery unities the printed board. This unit could bea good prospect to start her ecoveryprocesscan provide key parameters in order to make better decision sabot continuing the recycling process. No doubter solve issues related to electronic pollution without trilateral cooperation among government officials and environmentalists, and represent simporters and sellers of computer equipment and the people will not be possible to coordinate the relations of these three types, legality and many things can be very beneficial to prevent fraud. About policies and measures, the following is recommended Culture, education, people, taking particular electronic waste collection statione stablish responsibility for domestic manufactress and importers so that their parts and products to buy from companies with environmental standards.

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