



## Abstract

E-waste, also known as electronic waste, is a salient issue across the world that has not yet garnered the attention it deserves. It poses a serious risk to both human health and the environment. To reduce its negative effects on the environment and public health, e-waste must be properly managed not only because it includes toxic elements but also because of the ever-increasing use of technology especially when correlated to the world's increasing population. The overview of this issue with e-waste, its dangerous components, and potential remedies are outlined in this poster presentation. The management of e-waste by both people and governments is also highlighted as well. While this poster presentation is not a directly suitable model for use in the current climate of the commencement of discussions around planetary exploration, it does pose relevant questions and could prove a useful template especially with relevant modification with the parameters needed for consideration when human beings do eventually gear up and begin to undertake interplanetary migration and travel one day.

The above image is a picture of space junk floating around Earth. Photo credit : <https://visibleearth.nasa.gov/>

## Objective

Electronic garbage, or e-waste, is a critical issue that has to be addressed by all parties, including individuals, corporations, and governments. The presentation aims to highlight the growing problem of electronic waste (e-waste) and its impact on human health and the environment. This poster aims to explore the scale of the problem, the risks associated with e-waste, and potential solutions to manage and reduce the harm caused by e-waste. Electronic trash is growing exponentially and presents serious dangers to the environment and human health due to the widespread use of electronic devices and the quick speed of technological development. This poster presentation aims to increase public awareness of the severity of the issue and the necessity of taking action. We may better appreciate the seriousness of the problem by looking into the dangers of e-waste, such as the discharge of harmful compounds into the air, water, and land.



## Results

Government studies, as well as studies published in peer-reviewed publications, show how harmful e-waste is to the environment and people's health. The United Nations University reported that around 53.6 million metric tons of electronic garbage were produced globally in 2019. If nothing is done, this waste will grow by 38% over the next ten years. This emphasizes the need to properly manage e-waste since it contains potentially harmful materials that can affect the environment and human health. According to research, e-waste disposal is mostly undertaken in underdeveloped nations, where it is disposed of in ways that are bad for the environment and people's health. The danger of exposure to harmful compounds, which can cause major health issues, is more serious for e-waste workers in underdeveloped nations, according to research published in the Journal of Environmental Science and Health.

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## Reference

What is e-waste and what can we do about it? | natural history museum. (n.d.). Retrieved March 23, 2023, from <https://www.nhm.ac.uk/discover/what-is-ewaste-and-what-can-we-do-about-it.html>

## Background

E-waste is a significant problem worldwide, and it is increasing every year. For example, in Bangalore alone, 30,000 computers become obsolete every year from the Information Technology, Research and Technology industry. The city is home to more than 1200 foreign and domestic technology firms and figures prominently on the danger list of cities with e-waste hazards. In Bangalore, annually, 1000 tones of plastics, 300 tones of lead, 0.23 tones of mercury, 43 tones of nickel, and 350 tones of copper are generated. Similarly, in Delhi, approximately 15,000 PCs are meant for dismantling, excluding PCs handled by large dealers who get scraps from foreign sources. The issue of e-waste management is further exacerbated by the involvement of over one million poor people in manual recycling operations.

## Methods

Understanding the scale of the issue and identifying viable solutions requires an examination of the available literature and studies on e-waste. Peer-reviewed journal publications offered useful insights into the scientific facets of e-waste, such as the make-up of electronic devices and the effects of their disposal on the environment. On the other hand, government publications provide a broader view on the problem and include policy suggestions and rules for the management of e-waste. The information about e-waste also found in online resources like databases and webpages. They give users access to a variety of information, such as statistics on the production and disposal of e-waste, case studies of effective e-waste management techniques, and details on recycling and disposal facilities. There are various e-waste management methods that could be applied to mitigate the potential harm to the environment including:

- **Reduce:** One of the most effective ways to manage e-waste is to reduce the amount of electronics that are purchased and used. This can be accomplished by encouraging consumers to repair and upgrading existing devices instead of buying new ones, as well as by choosing to purchase products that are more durable and have a longer lifespan.
- **Reuse:** Another way to manage e-waste is to reuse electronics that are still functional. This can be done by donating them to schools or other organizations, or by selling them to secondhand electronics stores or online marketplaces.
- **Recycle:** Recycling is an important method of managing e-waste. Many electronics contain valuable materials, such as gold and copper, that can be extracted and reused. Recycling also helps to prevent toxic substances, such as lead and mercury, from entering the environment.
- **Proper disposal:** It's important to properly dispose of e-waste that cannot be reused or recycled. This can be done by taking electronics to a designated e-waste collection site or by contacting a reputable e-waste disposal company.
- **Legislation and policy:** Governments can play a role in managing e-waste by implementing laws and regulations to govern the disposal and recycling of electronics. This can include requiring manufacturers to take back old products and providing funding for e-waste management programs.

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