Yunseo Ha
Mr. Rajasingham
ICS4Ua
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Impact of computers and technology on the environment

Computers and technology have impacted our lives and the environment. Electrical and electronic products such as cell phones, computers, televisions, and medical devices provide a comfortable life and have become indispensable parts of the modern society. However, with the development of new technologies and limited repair options, e-waste is the fastest growing waste on Earth — approximately 53.6 million tonnes according to the Global E-waste Monitor 2020 (Reuters). The serious problem occurs when e-waste is not recycled properly. Solving the E-Waste Problem (StEP) is an international initiative that works to manage e-waste. According to StEP, e-waste is mostly defined as “all types of electrical and electronic equipment (EEE) and its parts that have been discarded by the owner as waste without the intention of re-use". This has become a global concern because of its massive disposal of hazardous substances, such as mercury. There are several implementations designed to reduce e-waste at three different levels: federal/provincial/municipal, institutional, and individual.

After learning about the serious impact of e-waste, citizens across the world are pushing for new regulations, policies, and laws to manage this issue. In Canada, there is no federal legislation specifically for e-waste management, but there are some regulations and policies dealing with electronic products. All three levels of the Canadian government — federal, provincial/territorial, and municipal — are

collaborating to effectively manage e-waste issues. Federal government, such as the Canadian Council of Ministers of the Environment (CCME), regulates toxic substances and hazardous waste movements. They also manage e-waste by implementing the *Canadian Environmental Protection Act* (CEPA 1999). CCME sets the principles for electronic product stewardship to regulate e-waste management within the country. Provincial and territorial governments regulate producer responsibility and intra-provincial movements. Moreover, provincial governments are incentivizing users of greener design electronics with money and carpool lane access. In addition, municipal governments are constantly encouraging organizations to recycle their electronic parts. For example, the Peel region has created a website that educates users on how to properly sort waste. They also opened Peel Community Recycling Centres (CRCs) to help collect e-waste free of charge, while preventing the risk of stolen personal data.

Consumers are also demanding for better protection of the environment from e-waste in companies. Thus, some companies have started to recycle products and publish sustainability reports. A non-profit organization called the Electronics Product Stewardship Canada (EPSC) encourages sustainable solutions for recycling e-waste. EPSC has united thirty tech companies and established programs in 10 provincial/territorial governments in Canada. The 2019 report “Design for Environment" explains the 3 R’s: reduce, reuse, recycle (EPSC 10-22). To improve the environment, companies offer discounts on purchases with return of old devices. For example, Best Buy has trade-in and recycling programs that give customers gift cards or cash in return for their used devices. Some companies also sell refurbished products to avoid unnecessary e-waste. Businesses are also hiring experts to

conduct waste audits and educate employees with the ultimate goals to reduce excessive use of devices and properly dispose of electronics.

Individuals and households should take precautions and stay educated to protect the environment from e-waste. There are several strategies one may use to contribute to society. The first step is knowing the impacts of improper e-waste disposal. Everyone holds a duty to dispose of old, used electronics by doing research on their local community's waste management systems or donating used electronics to social programs. Second, people are encouraged to use their electronic devices to their maximum potential before switching to the newest product. Moreover, people can buy Energy Star rated products, which consume less energy while performing at the same level, if not higher, than non-eco-friendly products. This can help the environment by causing less harmful emissions from power plants.

With e-waste being the fastest growing waste on Earth, we should always be aware of the serious impact on the environment. It is hard to revert the harm already done to the planet, but with the efforts of the government, companies, and individuals, we can prevent further damage. Therefore, we must continue to present novel ideas and implementations and collaborate in a systemic and individual fashion to combat the impact of e-waste on the environment.

Works Cited

EPSC. “About Electronics Product Stewardship Canada.” *Electronics Product Stewardship Canada*, https://epsc.ca/about-epsc/. Accessed on 23 Jan 2022.

EPSC. EPSC, 2019, *EPSC Design for Environment Report 2019*, https://epsc.ca/wp-content/uploads/EPSC_Report_2019_Web_Final.pdf.

ERC. “What to Do With Business Waste.” *ERC of USA*, Environmental Recovery Corporation of PA (ERC), 13 Jan. 2022, https://www.ercofusa.com/blog/what-to-do-with-business-waste/. Accessed on 22 Jan. 2022.

“E-Waste Management in Canada.” *Schroeder & Schroeder*, 29 Oct. 2016, https://www.schroeder-inc.com/white-papers/e-waste-management-in-canada/.

Kumar, Amit, and Maria Holuszko. “Electronic Waste and Existing Processing Routes: A Canadian Perspective.” *MDPI*, Multidisciplinary Digital Publishing Institute, 4 Nov. 2016, www.mdpi.com/2079-9276/5/4/35/pdf. Accessed on 22 Jan. 2022.

Peel. “How to Sort Your Waste- Region of Peel.” *How to Sort Your Waste*, Region of Peel, https://www.peelregion.ca/scripts/waste/how-to-sort-your-waste.pl?action=search&query=Electronic+waste. Accessed on 22 Jan. 2022.

Reuters, Thomson. “Record 53.6 Million Tonnes of e-Waste Dumped Globally Last Year, Says UN Report.” *CBCnews*, CBC/Radio Canada, 2 July 2020, https://www.cbc.ca/news/science/global-ewaste-monitor-2020-1.5634759. Accessed on 22 Jan. 2022

“6 Ways to Minimize Your e-Waste.” *Sustainability at Harvard*, 12 Apr. 2021, https://green.harvard.edu/tools-resources/how/6-ways-minimize-your-e-waste. Accessed on 22 Jan. 2022.

StEP. What Is e-Waste?” StEP initiative, StEP Initiative, https://www.step-initiative.org/e-waste-challenge.html. Accessed on 22 Jan. 2022.

Tesla. “Electric Vehicle Incentives.” *Electric Vehicle Incentives | Tesla Canada*, Tesla, 7 Jan. 2022, https://www.tesla.com/en_CA/support/incentives. Accessed on 23 Jan. 2022.