

Eliminating Electronic Waste Through Sustainable Awareness Within the Community

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For several years, recycling initiatives within communities have changed very much. As more sustainability efforts and environmental activism have spread over the years, recycling measures have increased and trends have shown more awareness of this effort. Communities especially in different geographical areas, have spread and encouraged beneficial actions to maintain a clean and safe environment for all residents. In fact, according to the EPA, in the United States, trends have demonstrated that recycling rates have drastically increased since the mid 20th century until now, and the disposals of waste in landfills have significantly decreased from 94 percent in the 1960s to about 52 percent now.¹ This statistic also applies to one of the more overlooked aspects of recycling, which is electronic recycling. With the rising amounts of electronic gadgets and technology throughout the past years, recycling electronics has become a big issue, and many recycling initiatives have centered around electronic recycling. As technology and electronics become even more widespread in this current day and age, recycling these electronics provides valuable metals that can be reused in certain cases. Also, if not properly disposed, harmful chemicals may seep out of these devices and into the ecosystem, thus hurting the environment. With more technology surrounding our everyday life, communities should focus on the effects of electronic recycling.

Electronic recycling is an aspect that should be heavily regarded, but in order to improve electronic recycling awareness, communities should be familiar with current recycling trends as a whole. Based on several demographic trends within different geographical locations, recycling efforts and initiatives have shown effects on different communities' populations. For example, urban areas - especially large cities- have different methods of recycling and engaging the community of different socioeconomic levels. In order to accommodate and make sure that communities are recycling, cities have several large recycling centers that people can go to and recycle their materials. In larger cities like New York City, recycling centers are spread apart by borough, with one or two large centers located strategically in areas that are accessible for residents. Additionally, many urban areas have other recycling initiatives that are utilized by companies to encourage people to recycle material like metal, etc. These initiatives include dropping off scrap metal pieces, in return for money. This metal later is utilized by these individual companies, or the government to be recycled into material for building other urban infrastructures. In suburban areas with smaller communities and multiple townships close together, town recycling centers are more prevalent and allow for residents to drop off certain materials for recycling. Although there are not many monetary incentives that are offered in suburban areas for bringing recyclable scraps, recycling programs still allow for residents to recycle their materials. Ultimately, these scraps that are dropped off at these recycling centers are brought to private corporations that purchase these recyclable materials to then recycle into other useful parts.

Although these current methods used by cities and towns within these geographical locations have their intended effects that are positive for the environment, there is still a lack of awareness and action taken about recycling, and specifically electronic recycling. Surprisingly, statistics indicate that even though 74 percent of Americans claim that recycling is a priority,

¹ "National Overview: Facts And Figures On Materials, Wastes And Recycling | US EPA". 2017. *US EPA*.

<https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials>.

only about 34.7 percent of Americans actually recycle.² According to reasons why recycling is not upheld, many Americans are at fault for laziness, and other reasons include a lack of knowledge about recycling.³ As a result, with such a large population of Americans not already recycling, waste ends up at the wrong locations. Typically, this happens when everyday recyclables are placed in the wrong containers and disposals, which leads to placement in landfills that eventually become contaminated. Contamination often disrupts large amounts of recycled material at recycling locations, which may result in delays or even shut downs.⁴ In the case of electronics, with harmful chemicals that may still be within these devices, contamination is extremely dangerous and can create long lasting harmful effects to nearby ecosystems. Not only would animals and plants be affected by such contamination, but also humans as well are victims to these harmful chemicals that could cause diseases for future generations. By educating and spreading awareness of electronic recycling, not only would people be able to begin recycling their own waste at home, but also it may educate many others on how to properly recycle their materials.

In addition to a lack of education and awareness of recycling within the public, recycling processes that involve companies have also demonstrated inherent flaws in their practices. Usually, when a local recycling center collects recyclables from residents, these materials may be sent over to individual companies that would then recycle the waste into reusable parts. In the case of companies that purchase these recyclable electronic devices, they would have the opportunity to sell and redistribute the recycled materials and valuable metals to other companies that use them for their products. Additionally, governments may even tend to gravitate towards these electronic recycling companies for materials like metal, which can be used for other needs. However, the problem arises when these recycling companies that collect electronic recyclables from centers process the materials to other distributors- typically in third world countries- for cheap labor costs.⁵ What this means is that certain US companies are willing to send their recyclables to areas in China or Africa, where costs of recycling the actual materials is far less cheaper than in the United States. Although it may be economically beneficial to both sides, the processes that are used in these third-world locations are usually non-environmentally friendly, and go in hand against the whole concept of environmental friendliness. By burning these electronic recyclables for their valuable metals, or creating large landfills of waste that affect surrounding ecosystems, these processes develop harms that not only exploit US recycling practices, but also threaten the global environment in areas that are in need the most.

² "It's "America Recycles Day." Is The United States Set Up For Recycling Success? | U.S. PIRG". 2020. *Uspirg.Org*.
<https://uspig.org/news/usp/it%E2%80%99s-%E2%80%9Camerica-recycles-day%E2%80%9D-united-states-set-recycling-success>.

³ "Why Americans Aren'T Recycling - Waste Advantage Magazine". 2019. *Waste Advantage Magazine*. <https://wasteadvantagemag.com/why-americans-arent-recycling/>.

⁴ Cho, Renee. 2020. "Recycling In The U.S. Is Broken. How Do We Fix It?". *State Of The Planet*.
<https://blogs.ei.columbia.edu/2020/03/13/fix-recycling-america/>.

⁵ "Toxic E-Waste Dumped In Poor Nations, Says United Nations - Our World". 2020. *Ourworld.Unu.Edu*.
<https://ourworld.unu.edu/en/toxic-e-waste-dumped-in-poor-nations-says-united-nations>.

In order to tackle these two problems based on the current situations, appropriate community action needs to be in place to provide the most rational solution possible. At the peak of this current problem, communities must be fully engaged in making change for the sake of the environment, as well as their own well being.

First, in order to address the problem of a lack of awareness about electronic recycling in communities, community members and leaders should take the effort to educate the public about the benefits of recycling, and the negative aspects of avoiding recycling. This method is by far the most basic approach to this problem, but can also be the most effective in the long run. By talking about the drastic effects of recycling, many community members may be more encouraged to do what is right for the environment. Communities and local governments can spread awareness directly to residents through flyers, mail notices, and with the use of technology, CRM systems (customer relationship management systems), can be modified for communities to send out large scale notices about recycling. Within these platforms, information about recycling center availability and what types of electronics are accepted for disposal can be added to inform the residents. Local schools ranging from elementary to the collegiate level also have the potential to educate their students about the benefits of electronic recycling, and specifically how to properly dispose of their electronics after use. This is extremely appropriate for student learning because many schools and institutions are heavily reliant on technology, and often replace them every couple of years. Other forms of community engagement can be to host events that involve direct electronic recycling. For communities that may not have recycling centers or any designated electronic recycling drop-off, people can host annual electronic recycling drives to collect any form of electronics. Such events like these really make a long lasting impact by involving the community as a whole, and can even strengthen communities by doing something that is environmentally friendly.

Once the basis of educating these communities about how to recycle and its importance is established, communities should begin to further educate residents about the electronic waste lifecycle, and what happens to their electronics specifically after they are brought over to be recycled. This addresses the second problem related to the flaws in the business practices of electronic recycling companies. Specifically in the electronic waste lifecycle, community residents should be well informed about waste being brought over to different facilities owned by companies, to then be taken apart for recycling. Depending on if communities are in partnerships with external companies that collect these recyclables for financial reimbursement, local governments should re-examine their current status with these companies and decide whether or not their practices are environmentally ethical. If not ethical, communities should begin to look for partnering companies that have some sort of environmental certification, which means that they are approved by environmental organizations for their safe practices. Establishing this form of partnership with environmentally friendly companies provides the basis and can even provide incentives for the future. Finally, once these partnerships and decisions are made between the community and company, communities should release public statements about their recycling decisions, and all the new changes that may affect current recycling trends. By releasing critical information as such, it would further establish a basis of trust between communities, its residents, and partnering businesses.

Another approach for both of these problems that may be more effective but demanding is a call for political support from local governments, or even larger scale involvement within a county or

state. For instance, involving governments with electronic recycling efforts can incentivise community residents to really focus on recycling their electronics. Governments can pass laws or bills that make it necessary for recycling to be maximized in locations where it hadn't been before. This would be able to pressure citizens to recycle their waste, and continue these good habits for the sake of the community,

Within my local community, I've decided to take on this initiative myself so that those around me would be educated about electronic recycling and its benefits. After viewing the type of trends and actions that my community took, I've designed a website and educational organization to educate people within my community. This organization, called E-Salvage.com, was designed to provide general information about the recycling centers within my town, and also the types of electronics available to be delivered. As a part of a hands-on initiative, I've also decided to expand this organization to pick up electronics and drop them off to local electronic recycling centers. Many local community residents were able to fill out online forms for inquiry about pick up and drop off of their recyclables, due to conditions that may have been inconvenient for them to do so themselves. This hands-on experience really allowed for a better look on the efforts made within the community and also how the current trend can be fixed for more recycling. On top of working directly with community residents, other opportunities to work with the local recycling center directors arose to communicate on how to improve the current situation, and get even more people to be involved with electronic recycling. Through this relationship, I was also able to receive information on the business partners with the community and the specific vendor that collects the electronics from these deposits. By gaining information about the current partnerships, I was able to contact these vendors and get some insight about their practices. From this, I was ultimately able to give more advice to the local recycling community directors on how to make certain changes within electronic recycling, and also provide more direct information on my website for the public to learn from. Finally, with this type of relationship set up as an ambassador for the community, I was able to use my platform and website to encourage my peers and those interested to join the initiative. Through certain connections, I was able to expand the E-Salvage organization to different states including California and Connecticut, where there are multiple chapter directors involving the community in electronic recycling. Since then, E-Salvage has been asked to host multiple electronic recycling drives within different communities, and present numerous presentations to educate younger students about the benefits of electronic recycling. Going forward, E-Salvage looks to expand its activities by working with other educational institutions around the community to spread awareness of the values of recycling electronic waste.

In the end, by educating the community and taking a hands-on effort in making better decisions, communities were able to benefit and drastically increase the amounts of electronics brought over to be recycled. By making large efforts like this to encourage the community to recycle, there will be no doubt of environmental benefits for communities, and also there would be a greater look for younger generations to push for more awareness and create better electronic recycling trends for the future.

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