

The Reduction of Film Plastic

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Executive Summary

Film plastic waste has become an overwhelming substantial environmental concern and I would like to propose some ways to take control of this issue. I am a grade 12 student environmental representative who would like to inform and therefore regulate film plastic disposal methods and issues, not only in my province but globally.

Film plastic is a contributory material for large corporations and other businesses to package goods as it has a lighter environmental footprint than other materials. Yet the responsibility of disposing of these materials properly is the issue that occurs with the usage of film plastic. Film plastic must be disposed of in a certain way which is outlined by various corporations such as Divert NS, but they continue to be misplaced when being disposed of. The misplacement of plastic waste creates an environmental hazard and results in large amounts of waste being left in landfills.

The solution to this problem begins with the output of information from corporations and the local government. The information on how to properly recycle is the key to achieving a reduction in film plastic waste. Through the endorsement of large corporations and resources, our society can easily learn the ways to avoid this substantial waste that's impacting our oceans and our environment. There are many technological advances, involving upcycling and 3D printing, that can be a tool to continue reducing film plastic waste to protect our current and future environment.

First of all, it's important to realize a large number of film plastic in the world and its effect on the planet when not properly recycled. But what is film plastic? Film plastic is thin polyethylene plastic used for wraps, packaging or commercial/retail use bags. The plastic film is lightweight, versatile, reusable and strong which makes it the perfect material for large corporations to use as packaging. It is a very valuable material for large retailers as it has many benefits, especially for preventing food waste, such as "Plastic film and overwrap can prevent food spoilage and maintain hygiene in fresh goods, and reduce the amount of food sent to landfill. For example, wrapping meat in ultrathin plastic can extend its shelf life by at least 21 days." (Canadian Plastics Industry Association, 2015) The plastic packaging can provide barriers to oxygen, light, temperatures, moisture, microbes, critters and dirt, which can greatly extend the shelf life of food and retard spoilage which reduces food waste that could highly impact the environment. Another reason to use plastic is that it prevents "Food loss and waste which amount to a major squandering of resources, including water, land, energy, labor and capital and needlessly produce greenhouse gas emissions, contributing to global warming and climate change." (Canadian Plastics Industry Association, 2015) Therefore, the plastic packaging results in a lighter environmental footprint than other alternatives, most notably in terms of preventing food waste.

But why should we recycle film plastic? It is a great resource for large amounts of packaging and is definitely a more sustainable option than other materials, yet when they can no

longer be used safely and hygienically, the next best option is to recycle them. In 2017, the total amount of plastic estimated to be produced in the world was 8.3 billion tons and only 6.3 billion had turned into plastic waste. Only 9 percent of that waste was recycled and 12 percent was incinerated. A whopping 79 percent ended up in landfills or the environment. (Science Advances, 2017) Recycling the large amount of film plastic that is being produced helps to prevent these large amounts being left in landfills which cause great harm to the environment. Once the plastic is recycled it can become many different products which prevent unnecessary materials usage and promotes renewable materials. Most bags and film are turned into composite lumber, but they can be reprocessed into small pellets or post consumer resin, which can be used to make a variety of new products, such as new bags, pallets, containers, crates, and pipe. (APR, 2017) Overall, the recycling of film plastic makes for a sustainable material that can benefit many different sectors when reused properly and efficiently.

Currently, in Nova Scotia, there has been some progress in reducing the levels of waste made from plastic materials especially plastic shopping bags. The provincial government is working on an analysis that considers the impacts of a plastic bag ban in the province. (Steve Silva, 2018) In the prior fiscal year, nearly one-fifth of materials collected and delivered to the Halifax Recycling Plant ended up in a landfill. If the provincial government could implement this ban on plastic shopping bags this would reduce the amount of waste as the sorting process would be made simpler. This large amount of waste is associated with the plastics being recycled not having been cleaned properly or disposed of properly. Divert NS is a not-for-profit corporation that helps eliminate this large issue of not knowing where to dispose of certain items.

Through their various programs and resources, they teach how to properly dispose of recyclable materials which creates a positive impact on the recycling issues. Corporations, such as Divert NS, have a substantial impact on the general population when they promote proper recycling which could be the key to reducing plastic waste and other environmental problems that are associated. If recycling conferences or information programs could be implemented yearly for large corporations then the general population would be more knowledgeable about waste reduction and could spread the information through their own families and communities.

Globally, the issue of plastic waste is being heavily recognized and initiatives are being set to help with the reduction, most notably in the world's oceans. There are a few countries that have contributed the largest amount of plastic waste into the ocean and the best estimates say there are around 8 million metric tonnes of plastic going into the oceans each year. The topic has been addressed at the UN's Ocean Conference in New York, with the international group's first target to: "By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution." (Asaesja Young, 2017) As well, the CSIRO, Oak Family Foundation, and Schmidt Marine have launched the world's largest marine pollution project to help reduce the waste globally.

Looking to the future, there are new solutions being developed such as upcycling. Recycling takes consumer materials and breaks them down so that their base materials can be remade into a new consumer product, often of lesser quality. The difference with upcycling is that it may be refashioned but it's still made of the same materials as when it started which is

typically better or the same quality as the original. “Companies such as GreenMantra Technologies, based in Brantford, Ont., is perfecting a process that breaks down waste plastics — including hard-to-recycle grocery bags and plastic film — into small molecules. Instead of being reassembled as they were, the components become entirely new products, such as waxes and lubricants, that are up to five times more valuable.” (David Paterson, 2017) The technologies available through these companies creates even more sustainable options for waste after it has been disposed of. Another use of plastic film is to be reused in 3D printers eliminating production wastes and end product wastes. 3D printers are becoming a popular piece of technology that is often used for creating prototypes which have a great opportunity to aid in the reduction of plastic film waste. Long-term, there are many new developments in technology being created and being currently used that can advocate for the future of sustainable recycling of plastic film.

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