



HOW THE ENVIRONMENTALISTS ARE KILLING OUR PLANET

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We only have one planet to live on and for our children to inherit. It's caring and smart to want to protect the planet and preserve it for future generations. In fact, there's a group of very active people working toward that goal now. They have a loud voice and politicians are acting on their demands. Those people are known as environmentalists. They probably feel good about what they are doing and who can fault them for fighting for a good cause? I can...and here's why...

In order to protect the planet, we first have to know what is helpful and what is harmful. Only then can we make wise decisions and be a force for good. Unfortunately, the environmentalists, in their excitement to do good, have used a "ready, shoot, aim" approach. In essence, they have not done their homework and as a result, they are harming our planet. That's a fact and I'm going to prove it. How will I do that? By presenting the evidence from several detailed studies. Rather than just giving my opinions, I will instead cite the studies, so you can be sure I have not added any bias.

Going by your "gut instinct" one would think that paper or cloth bags must be greener than plastic. After all, paper and cloth are made from natural, renewable materials and plastic is man-made. But that's not the whole story. What about the amount of pollution generated when making paper, cloth and plastic? What about the amount of energy used? I had no idea about this either until, as a student many years ago, my professor opened my eyes. He was keynote speaker at a conference about renewable materials. He pointed out that it takes way more energy to make a paper cup than a plastic cup so that the plastic cup works out to be greener overall¹. I already knew plastics were useful, but until then, I hadn't realized they can be the greenest solution too². Let's look at some high-profile examples.

Single-use Plastic Bags

The example above shows that using our instinct doesn't always work. It doesn't give us the right answers. What tool can we use to make sure that we've considered all the relevant factors like energy usage, water use, chemicals used, disposal etc.? There is a tool designed to do exactly that and it's called life-cycle analysis or LCA for short³. LCA considers creation of the product from cradle to grave including raw materials used as well as every conceivable step in production, use, and disposal. What does LCA tell us about single-use plastic bags? I did a Google search for "LCA plastic bag" and found several studies done around the world. You can do the same if you like. I will provide a summary here and you can find links to the studies at the end of the article.

US Clemson University LCA Study⁴

“A compilation of all of the statistically-based, scientific studies of litter in the U.S. and Canada over an 18 year period shows consistently that “plastic bags” (which includes trash bags, grocery bags, retail bags and dry cleaning bags) make up a very small portion of litter, usually less than 1%.”

“Our results also show that Paper bags, even with 100% recycle content, have significantly higher average impacts on the environment than either of the reusable bags or single-use plastic retail bags”

“Our results in this study show that these regulations and policies may result in negative impact on the environment rather than positive. Even though Paper bags come from a renewable resource and are easily recycled, it is likely that they are not the best environmental choice.”

In summary, they found that paper bags are much worse for the environment and that the best two choices were reusable polypropylene bags or single-use polyethylene bags.

UK LCA Study⁵

“The conventional HDPE bag had the lowest environmental impacts of the lightweight bags in eight of the nine impact categories.”

“The paper bag has to be used four or more times to reduce its global warming potential to below that of the conventional HDPE bag, but was significantly worse than the conventional HDPE bag for human toxicity and terrestrial ecotoxicity due to the effect of paper production. However, it is unlikely the paper bag can be regularly reused the required number of times due to its low durability.”

“The cotton bag has a greater impact than the conventional HDPE bag in seven of the nine impact categories even when used 173 times (i.e. the number of uses required to reduce the GWP of the cotton bag to that of the conventional HDPE bag with average secondary reuse). The impact was considerably larger in categories such as acidification and aquatic & terrestrial ecotoxicity due to the energy used to produce cotton yarn and the fertilisers used during the growth of the cotton.”

They also found that plastics designed to degrade were worse for the environment. Non-woven, reusable polypropylene bags have least environmental impact if people actually reuse them several times but in reality, people forget to do so.

Franklin Study⁶

“The study results support the conclusion that any decision to ban traditional polyethylene plastic grocery bags in favor of bags made from alternative materials (compostable plastic or recycled paper) will be counterproductive and result in a significant increase in environmental impacts across a number of categories from global warming effects to the use of precious potable water resources.”

“This study supports the conclusion that the standard polyethylene grocery bag has significantly lower environmental impacts than a 30% recycled content paper bag and a compostable plastic bag.”

Reason Foundation Study USA⁷

“Proponents claim that banning plastic shopping bags will benefit the environment. Yet, as this study has shown, there is very little empirical support for such claims. Indeed, the evidence seems to point in the other direction for most environmental effects. Some of the alleged benefits are simply false, such as the claim that eliminating plastic bags will reduce oil consumption.”

“Unfortunately, policymakers have been cajoled into passing ordinances that ban plastic bags. That is bad news for consumers. It is also bad news for the environment, since the public has been misled into believing that by restricting the use of plastic bags, the problems for which those bags are allegedly responsible will be dramatically reduced.”

We can see that this topic has been studied in detail by various groups and in every case, it was concluded that standard plastic grocery bags are better for the environment than paper bags, cotton bags or degradable plastic bags. To replace plastic bags with paper bags requires 2.7x more energy, 1.6x more carbon dioxide emissions and 17x more water usage. It has also been estimated that replacing the plastic bags in the EU would require cutting down an astonishing 2.2 million more trees per year⁸ and require 60 000 Olympic swimming pools more water⁸.

Plastic Food Packaging

CNN featured news about the World’s first supermarket aisle free of plastic packaging⁹. They touted the move to “new compostable bio-materials as well as traditional materials” such as glass, metal and cardboard.” That sounds admirable enough, but they presented no evidence that what they had done was actually green. So, is their idea environmentally sound or just a publicity stunt? The only way to be sure is to look for the evidence.

A good starting point is a leaflet called Preventing Food Waste from the American Chemistry Council¹⁰. It shows that plastics are incredibly good at protecting our food and preventing waste. The food is protected during transportation and then it helps prevent spoilage. Cucumbers last 11 days longer, bananas last 21 days longer and beef 26 days longer. They showed that good packaging can save many billions of dollars and millions of tons of food¹¹.

Here's a statement from the conclusions of a detailed report published by the American Chemistry Council¹².

"Plastic packaging has many properties that are vitally important for packaging applications, including light weight, flexibility, durability, cushioning, and barrier properties, to name a few. This substitution analysis demonstrates that plastic packaging is also an efficient choice in terms of environmental impacts."

"For the six packaging categories analyzed – caps and closures, beverage containers, stretch and shrink film, carrier bags, other rigid packaging, and other flexible packaging –14.4 million metric tonnes of plastic packaging were used in the US in 2010. If other types of packaging were used to substitute US plastic packaging, more than 64 million metric tonnes of packaging would be required. The substitute packaging would result in significantly higher impacts for all results categories evaluated: total energy demand, expended energy, water consumption, solid waste by weight and by volume, global warming potential, acidification, eutrophication, smog formation, and ozone depletion, as shown previously..."

From this we can see that plastic packaging is by far the best solution for our environment. In fact, another study showed that plastic packaging also leads to enormous reductions in CO₂ emissions because they help food stay fresh longer. Food production is a major cause of carbon dioxide production and plastic packaging greatly reduces CO₂ even accounting for the carbon dioxide from plastic production.

What about other uses for plastics? What do the lifecycle studies show for other applications of plastic versus renewable materials? I went looking for more information and found LCAs done by the Bank of Canada¹³ and the Bank of England¹⁴. Both showed that polypropylene plastic bank notes were far greener than cotton notes. In fact, after days of searching, every LCA I have found shows plastics to be the best solution.

Conclusions

We hear that plastics are bad, but it turns out that all of the data from around the world says the exact opposite. Plastics are by far the greenest solution and replacing them would lead to more energy wasted, more water consumed, more chemicals used and more CO₂ in our atmosphere. Is that what you want?

Who is giving us such dangerously faulty information? The environmental groups, who take our donations and claim to be acting for the good! I have spent days of my time downloading and reading reports to arrive at an informed opinion. Why didn't the so-called environmental groups do the same? They've had a decade and millions in funding. Surely they could have found 5 minutes to type "LCA plastic bag" into Google, like I did. Could it be that they care more about getting our donations than they do about protecting the planet or are they just incredibly incompetent? Either way, their advice is dangerously wrong. They are undeserving of our donations and all the media coverage that is lavished on them.

Unfortunately, our movie stars, politicians and CEOs are parroting this recklessly erroneous information and making poor decisions based on it. Plastic is not a perfect material. Like any other resource, we should not use it wastefully, reuse it when we can and dispose of it properly.

Winston Churchill once stated:

"...it has been said that democracy is the worst form of Government except for all those other forms that have been tried...."

I think now we can say:

"...it has been said that plastic is the worst form of material except for all those other forms that have been tried...."

I hope that this article has opened your eyes. The evidence is in and it turns out that the environmental groups are encouraging us to destroy the planet they swore to protect. Now you are armed with the truth and I have provided links to more information, so you can read it for yourself. By the way, if you know the CEO of Kroger or other decision makers, please send them this article and ask if they still want to ban plastic bags. In fact, send it to anyone you know who cares about protecting our future!

Short Biography

Chris DeArmitt PhD FRSC
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Chris is considered one of the top plastic materials experts and problem solvers in the World, which is why companies like HP, Apple, Exxon, P&G, Eaton, Total and Disney come to him for help.

A deep understanding of materials, combined with high creativity, allow him to quickly solve even the toughest problems. As one example, he solved a serious production problem that had plagued BASF for 30 years and cost them millions. Chris has also received 6 open innovation cash prizes placing him among the top 0.01% of innovators.

In 2016 he published the book Innovation Abyss which reveals the true reasons for innovation failure and the proven path to success. In 2018 he was featured on CBS 60 Minutes with Scott Pelley as an expert witness in a class-action lawsuit related to Marlex mesh plastic implants. He helped thousands of women get settlements.

Chris has a multitude of granted patents as well as numerous articles, book chapters, encyclopedia chapters and conference presentations to his name. He is a keynote speaker on plastics and innovation related topics.

If you need a breakthrough solution, some training, or want to know how to make innovation work, contact Chris today!

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Further reading

- 1 [Reusable vs. Disposable Cups](#). University of Victoria 1994
- 2 Environment Fact Sheet – [Ban the Bag](#)
- 3 [Wikipedia entry on Life-cycle assessment](#)
- 4 Kimmel, Sc.D., Robert M., "[Life Cycle Assessment of Grocery Bags in Common Use in the United States](#)" (2014). Environmental Studies. Book 6.
- 5 [Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006](#) The Environment Agency (UK Government) Report: SC030148
- 6 [Resource and environmental profile analysis of polyethylene and unbleached paper grocery sacks](#), Final Report, Franklin Associates Ltd, 1990
- 7 Julian Morris and Brian Seasholes, [How Green Is that Grocery Bag Ban?](#) An Assessment of the Environmental and Economic Effects of Grocery Bag Bans and Taxes, Reason Foundation
- 8 [Plastic bags versus paper bags](#) online article based on Life Cycle Assessment for three types of grocery bags, Boustead, 2005
- 9 [World's first plastic-free supermarket aisle debuts as momentum builds to reduce waste](#), Madalena Araujo and Isa Soares, CNN 2018
- 10 [Reducing Food Waste Through Plastic Packaging](#), American Chemistry Council
- 11 [Quantifying the Value of Packaging as a Strategy to Prevent Food Waste in America](#), Ameripen 2018
- 12 [Life Cycle Impacts of Plastic Packaging Compared to Substitutes in the United States and Canada: Theoretical Substitution Analysis](#), For the American Chemistry Council by Franklin Associates 2018
- 13 [Life Cycle Assessment of Canada's Polymer Bank Notes and Cotton-Paper Bank Notes](#), Bank of Canada 2011.
- 14 [LCA of Paper and Polymer Bank Notes](#), Bank of England Final Study Report 2013