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MARCH 16, 2017

Our Plastic World: Promoting Sustainability Through a Circular Economy

BY:  **NICK MARINOFF**

This is the first piece in a three-part series about recycling and the efforts of



Solving Plastic Pollution, One Piece at a Time

By Haley Jain Haggerstone Maybe you've heard about the giant floating island of plastic in the middle of the Pacific...

the [Plasticity Forum](#).

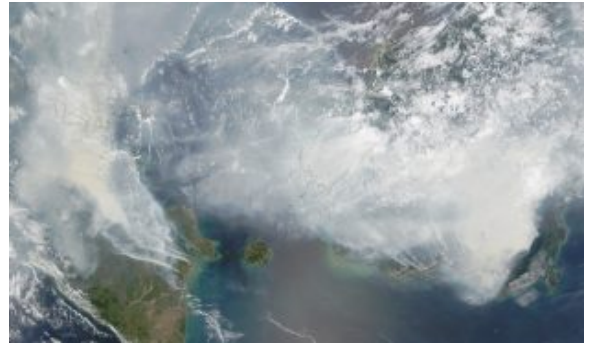
Plastic is everywhere: in our homes, our offices, our schools – we can't seem to get away from it. Even products not made of plastic are usually wrapped in it.

It isn't all bad. Plastic is a cheap material that allows manufacturers to package merchandise with ease while saving money. Lower costs mean companies can charge less. This stimulates spending and keeps our economy healthy. But recycling is [also economically feasible](#), and we're just not doing it enough.

In Developing World, Dumping Is Status Quo

Most developing nations boast linear economies. A product (in this case plastic) is bought, used and simply discarded. It's never cleaned, sorted, or reused; it's quickly "dumped" without regard for where it will wind up. Most developing nations don't have the equipment necessary to manage proper sorting or recycling methods, so most of the waste they produce is dumped in the streets, thus making its way into nearby oceans and water sources by way of nasty weather and sewer systems.

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Our Plastic World: Designed for Reuse, But Often Tossed Aside

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Beaches in Hong Kong, for example, have done a good job of attracting more plastic than tourism lately, though Stuart Clark, managing director of FOY Group, lists the biggest plastic havens as India, the Philippines and Indonesia. Speaking with Planet Experts, Clark describes a harsh and unforgiving reality in Southeast Asia.

“A lot of plastic and garbage is just dumped. There is no system to properly collect, aggregate and recycle,” he says. “Many people then try to use the waste plastic to make a living. People are so poor in these countries, they’re going through the garbage and selling what they can find, but it is all very unhygienic, inefficient, ineffective and unsafe. Meanwhile, the piles of waste just get higher”

But this only represents one portion of the world, right? There’s no way countries like the United States, with all their infrastructure and alleged recycling power, aren’t doing as well as they should be. We teach kids from an early age how important it is to recycle and we can confidently say we’ve gotten the message across... can’t we?

Americans Not Recycling Enough Plastic

Douglas Woodring is the founder and



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managing director of the [Plasticity Forum](#). Since 2011, the organization has brought entrepreneurs, designers and innovators together to discuss [new methods and ideas for handling plastic pollution](#). The Forum recently held conferences in Shanghai and [London](#), and will visit [Dallas](#) and [Anaheim](#) in April and May, respectively.



The remains of an Laysan Albatross chick that starved to death because its parents fed it too much plastic flotsam. (Photo: Duncan / Flickr)

Woodring sat down with us to discuss the haphazard recycling efforts one witnesses in countries like the United States. He says [only 27 percent of plastic](#) in America is properly recycled, and that the greater majority winds up in oceans or landfills, leading to several problems.

In landfills, plastic mixes with food waste

and creates methane, a greenhouse gas with roughly [30 times more heat-trapping potency](#) than carbon dioxide, and plastic in oceans can poison sea life. More than 700 aquatic species are known to consume plastic on a regular basis, while nearly 85 percent of seabirds likely have plastic in their stomachs (compare that to [just five percent 50 years ago](#)).

Even then, plastic is not strictly an ocean problem. It's inadvertently consumed by land animals as well, from cows to camels to giraffes. Any creature that mistakenly identifies plastic as food faces health problems.

The Challenges of Circular Thinking

The U.S. touts a circular economy – one where waste is often reduced or reused to avoid pollution – but are we as circular as we think? Steve Russell, the Vice President of the

Steve Russell, the Vice President of the [American Chemistry Council](#), feels that America and developed nations follow the steps necessary to employ circular economies, but says that “nobody’s perfect” and circular economies sometimes ignore the bigger picture.

“A circular economy looks specifically at recyclability, which is a very important

aspect of sustainability,” he tells Planet Experts. “It’s what we put out and what is put back. This very noble and laudable goal is to keep a molecule in motion, but this isn’t where sustainability should stop.”

To illustrate his point, Russell mentions two popular cars: a 1966 Ford Falcon and a modern F-150 pickup. In a circular economy, the Falcon appears supreme at first glance. It’s made exclusively from steel and is 100 percent recyclable, yet it gets a measly six miles to the gallon. The F-150 is not fully recyclable, but weighs considerably less and gets 35 miles to the gallon, meaning it’s going to emit far fewer greenhouse gases. Sustainability should consider emissions as much as recyclability, meaning the F-150 may not be so bad after all.

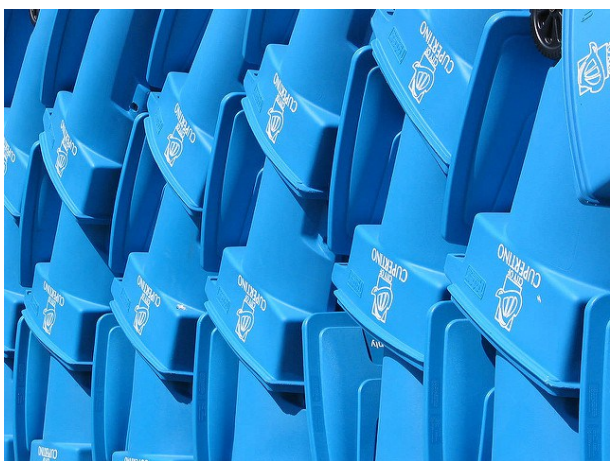
Clark also offered his economic standpoint.

“We promote circular, but we are becoming more linear in our mental approach,” he says. “We’re not thinking enough about the world we’re leaving for our children. We need to find commercially viable methods for dealing with plastic, but there aren’t that many available right now.”

Tools For Promoting Plastic Reuse

The good news is that recovery methods have become more advanced. Plastic is a product that's typically derived from petrochemicals, so it can be reused to provide necessary road-ready fuel. Clark's company, the FOY Group, does this through a process known as pyrolysis. Plastic is recovered and returned to liquid form through the application of extreme heat in an oxygen-free environment. This process breaks down the molecules and turns the material into a petrochemical, which is then immediately refined into road-ready diesel and petrol.

“We provide a profitable solution that benefits the environment,” he says when discussing the economic benefits of FOY's process. “Carbon emissions are lower by up to 38 percent, we reduce the utilization of fossil fuels, and we put value on plastic so people are less inclined to dump it. We also create jobs, put downward pressure on fuel prices, and reduce reliance on imports.”



Not all communities provide recycling bins like the ones pictured here. (Photo: Peter Kaminsky / Flickr)

Russell believes education is one of the best ways to recover more plastic. He recalls an experiment in New York by the [World Plastics Council](#) (of which he's a participant) where pedestrians were asked which plastic materials could be recycled. Often, things like dry-cleaning bags, bottle caps, yogurt cups and butter tubs were dismissed by interviewees, when in truth, they're just as recyclable as any bottle. He says giving people the information they need could lead to higher levels of recycling and stronger recovery rates.

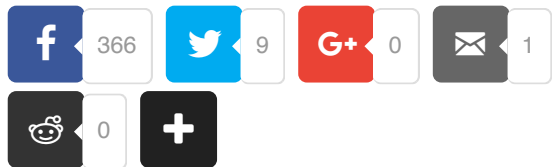
"A lot of consumers don't recycle plastics because they don't know how," he explains. "They don't know which plastics are recyclable."

He also says many communities don't provide the necessary tools for recycling — [such as rigid containers](#) — as costs tend to run high, but that doing so could ultimately prevent financial turmoil on a wider scale.

"If we manage plastic well, there are no economic problems," he says.

If you'd like to get involved with the Plasticity Forum, be sure to check out their upcoming events: [Innovating for Scale, Recovery and Reuse in Dallas](#),

***Texas on April 21, 2017; and
Technology, Design and Knowledge —
Driving Plastic Sustainability in
Anaheim, California on May 9, 2017.***



One Response



W. Douglas Smith says:

March 16, 2017 at 5:07 pm

In EPA we used to call this cradle to grave recycling. Everybody's waste is somebody's raw material. And the beat goes on and on. We have built an economy on endless consumption not reuse. It doesn't take a genius to realize that at some point it has to stop. A good place to start might be to look at Economist Jeffery Sachs on YouTube. It might speed the dialog up a little.



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