

# Inquiring Minds topic – 23 Oct. 2015

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## The Reign of Recycling

🌐 [www.nytimes.com/2015/10/04/opinion/sunday/the-reign-of-recycling.html](http://www.nytimes.com/2015/10/04/opinion/sunday/the-reign-of-recycling.html)

By JOHN TIERNEY

IF you live in the United States, you probably do some form of recycling. It's likely that you separate paper from plastic and glass and metal. You rinse the bottles and cans, and you might put food scraps in a container destined for a composting facility. As you sort everything into the right bins, you probably assume that recycling is helping your community and protecting the environment. But is it? Are you in fact wasting your time?

In 1996, I wrote a long article for The New York Times Magazine arguing that the recycling process as we carried it out was wasteful. I presented plenty of evidence that recycling was costly and ineffectual, but its defenders said that it was unfair to rush to judgment. Noting that the modern recycling movement had really just begun just a few years earlier, they predicted it would flourish as the industry matured and the public learned how to recycle properly.

So, what's happened since then? While it's true that the recycling message has reached more people than ever, when it comes to the bottom line, both economically and environmentally, not much has changed at all.

Despite decades of exhortations and mandates, it's still typically more expensive for municipalities to recycle household waste than to send it to a landfill. Prices for recyclable materials have plummeted because of lower oil prices and reduced demand for them overseas. The slump has forced some recycling companies to shut plants and cancel plans for new technologies. The mood is so gloomy that one industry veteran tried to cheer up her colleagues this summer with an article in a trade journal titled, "Recycling Is Not Dead!"

While politicians set higher and higher goals, the national rate of recycling has stagnated in recent years. Yes, it's popular in affluent neighborhoods like Park Slope in Brooklyn and in cities like San Francisco, but residents of the Bronx and Houston don't have the same fervor for sorting garbage in their spare time.

The future for recycling looks even worse. As cities move beyond recycling paper and metals, and into glass, food scraps and assorted plastics, the costs rise sharply while the environmental benefits decline and sometimes vanish. "If you believe recycling is good for the planet and that we need to do more of it, then there's a crisis to confront," says David P. Steiner, the chief executive officer of Waste Management, the largest recycler of household trash in the United States. "Trying to turn garbage into gold costs a lot more than expected. We need to ask ourselves: What is the goal here?"

Recycling has been relentlessly promoted as a goal in and of itself: an unalloyed public good and private virtue that is indoctrinated in students from kindergarten through college. As a result, otherwise well-informed and educated people have no idea of the relative costs and benefits.

They probably don't know, for instance, that to reduce carbon emissions, you'll accomplish a lot more by sorting paper and aluminum cans than by worrying about yogurt containers and half-eaten slices of pizza. Most people also assume that recycling plastic bottles must be doing lots for the planet. They've been encouraged by the Environmental Protection Agency, which assures the public that recycling plastic results in less carbon being released into the atmosphere.

But how much difference does it make? Here's some perspective: To offset the greenhouse impact of one passenger's round-trip flight between New York and London, you'd have to recycle roughly 40,000 plastic bottles, assuming you fly coach. If you sit in business- or first-class, where each passenger takes up more space, it could be more like 100,000.

Even those statistics might be misleading. New York and other cities instruct people to rinse the bottles before putting them in the recycling bin, but the E.P.A.'s life-cycle calculation doesn't take that water into account. That single omission can make a big difference, according to Chris Goodall, the author of "How to Live a Low-Carbon Life." Mr. Goodall calculates that if you wash plastic in water that was heated by coal-derived electricity, then the net effect of your recycling could be *more* carbon in the atmosphere.

To many public officials, recycling is a question of morality, not cost-benefit analysis. Mayor Bill de Blasio of New York declared that by 2030 the city would no longer send any garbage to landfills. "This is the way of the future if we're going to save our earth," he explained while announcing that New York would join San Francisco, Seattle and other cities in moving toward a "zero waste" policy, which would require an unprecedented level of recycling.

The national rate of recycling rose during the 1990s to 25 percent, meeting the goal set by an E.P.A. official, J. Winston Porter. He advised state officials that no more than about 35 percent of the nation's trash was worth recycling, but some ignored him and set goals of 50 percent and higher. Most of those goals were never met and the national rate has been stuck around 34 percent in recent years.

"It makes sense to recycle commercial cardboard and some paper, as well as selected metals and plastics," he says. "But other materials rarely make sense, including food waste and other compostables. The zero-waste goal makes no sense at all — it's very expensive with almost no real environmental benefit."

One of the original goals of the recycling movement was to avert a supposed crisis because there was no room left in the nation's landfills. But that media-inspired fear was never realistic in a country with so much open space. In reporting the 1996 article I found that all the trash generated by Americans for the next 1,000 years would fit on one-tenth of 1 percent of the land available for grazing. And that tiny amount of land wouldn't be lost forever, because landfills are typically covered with grass and converted to parkland, like the Freshkills Park being created on Staten Island. The United States Open tennis tournament is played on the site of an old landfill — and one that never had the linings and other environmental safeguards required today.

Though most cities shun landfills, they have been welcomed in rural communities that reap large economic benefits (and have plenty of greenery to buffer residents from the sights and smells). Consequently, the great landfill shortage has not arrived, and neither have the shortages of raw materials that were supposed to make recycling profitable.

With the economic rationale gone, advocates for recycling have switched to environmental arguments. Researchers have calculated that there are indeed such benefits to recycling, but not in the way that many people imagine.

Most of these benefits do not come from reducing the need for landfills and incinerators. A modern well-lined landfill in a rural area can have relatively little environmental impact. Decomposing garbage releases methane, a potent greenhouse gas, but landfill operators have started capturing it and using it to generate electricity. Modern incinerators, while politically unpopular in the United States, release so few pollutants that they've been widely accepted in the eco-conscious countries of Northern Europe and Japan for generating clean energy.

Moreover, recycling operations have their own environmental costs, like extra trucks on the road and pollution from recycling operations. Composting facilities around the country have inspired complaints about nauseating odors, swarming rats and defecating sea gulls. After New York City started sending food waste to be composted in Delaware, the unhappy neighbors of the composting plant successfully campaigned to shut it down last year.

THE environmental benefits of recycling come chiefly from reducing the need to manufacture new products — less mining, drilling and logging. But that's not so appealing to the workers in those industries and to the communities that have accepted the environmental trade-offs that come with those jobs.

Nearly everyone, though, approves of one potential benefit of recycling: reduced emissions of greenhouse gases. Its advocates often cite an estimate by the E.P.A. that recycling municipal solid waste in the United States saves the equivalent of 186 million metric tons of carbon dioxide, comparable to removing the emissions of 39 million cars.

According to the E.P.A.'s estimates, virtually all the greenhouse benefits — more than 90 percent — come from just a few materials: paper, cardboard and metals like the aluminum in soda cans. That's because recycling one ton of metal or paper saves about three tons of carbon dioxide, a much bigger payoff than the other materials analyzed by the E.P.A. Recycling one ton of plastic saves only slightly more than one ton of carbon dioxide. A ton of food saves a little less than a ton. For glass, you have to recycle three tons in order to get about one ton of greenhouse benefits. Worst of all is yard waste: it takes 20 tons of it to save a single ton of carbon dioxide.

Once you exclude paper products and metals, the total annual savings in the United States from recycling everything else in municipal trash — plastics, glass, food, yard trimmings, textiles, rubber, leather — is only two-tenths of 1 percent of America's carbon footprint.

As a business, recycling is on the wrong side of two long-term global economic trends. For centuries, the real cost of labor has been increasing while the real cost of raw materials has been declining. That's why we can afford to buy so much more stuff than our ancestors could. As a labor-intensive activity, recycling is an increasingly expensive way to produce materials that are less and less valuable.

Recyclers have tried to improve the economics by automating the sorting process, but they've been frustrated by politicians eager to increase recycling rates by adding new materials of little value. The more types of trash that are recycled, the more difficult it becomes to sort the valuable from the worthless.

In New York City, the net cost of recycling a ton of trash is now \$300 more than it would cost to bury the trash instead. That adds up to millions of extra dollars per year — about half the budget of the parks department — that New Yorkers are spending for the privilege of recycling. That money could buy far more valuable benefits, including more significant reductions in greenhouse emissions.

So what is a socially conscious, sensible person to do?

It would be much simpler and more effective to impose the equivalent of a carbon tax on garbage, as Thomas C. Kinnaman has proposed after conducting what is probably the most thorough comparison of the social costs of recycling, landfilling and incineration. Dr. Kinnaman, an economist at Bucknell University, considered everything from environmental damage to the pleasure that some people take in recycling (the "warm glow" that makes them willing to pay extra to do it).

He concludes that the social good would be optimized by subsidizing the recycling of some metals, and by imposing a \$15 tax on each ton of trash that goes to the landfill. That tax would offset the environmental costs, chiefly the greenhouse impact, and allow each municipality to make a guilt-free choice based on local economics and its citizens' wishes. The result, Dr. Kinnaman predicts, would be a lot less recycling than there is today.

Then why do so many public officials keep vowing to do more of it? Special-interest politics is one reason — pressure from green groups — but it's also because recycling intuitively appeals to many voters: It makes people feel virtuous, especially affluent people who feel guilty about their enormous environmental footprint. It is less an ethical activity than a religious ritual, like the ones performed by Catholics to obtain indulgences for their sins.

Religious rituals don't need any practical justification for the believers who perform them voluntarily. But many recyclers want more than just the freedom to practice their religion. They want to make these rituals mandatory for everyone else, too, with stiff fines for sinners who don't sort properly. Seattle has become so aggressive that the city is being sued by residents who maintain that the inspectors rooting through their trash are violating their constitutional right to privacy.

It would take legions of garbage police to enforce a zero-waste society, but true believers insist that's the future. When Mayor de Blasio promised to eliminate garbage in New York, he said it was "ludicrous" and "outdated" to keep sending garbage to landfills. Recycling, he declared, was the only way for New York to become "a truly sustainable city."

But cities have been burying garbage for thousands of years, and it's still the easiest and cheapest solution for trash. The recycling movement is floundering, and its survival depends on continual subsidies, sermons and policing. How can you build a sustainable city with a strategy that can't even sustain itself?



Refilling instead of recycling could provide local jobs and avoid the costs, economic and environmental, of transporting the recycled material vast distances to be reutilized.

New labeling could be applied to help alleviate the American abhorrence of “used” containers.

ANDREA GOLDEN - Arlington, Mass.

To the Editor: John Tierney misses the point of recycling by largely limiting his viewpoint of its benefits to monetization of waste. Surely the question of whether money can be made from recycling is of interest only to corporations in the business of processing waste.

Few countries in the world are blessed with both enough space to hide waste in landfills and the infrastructure needed to move waste from consumers to landfills. In traveling the globe, I've been struck repeatedly by scenes such as the vast numbers of plastic bags blowing across the Moroccan desert and household waste simply dumped in many Asian villages.

Many people living in or close to poverty simply have no options for getting rid of inorganic household waste that cannot be processed locally. Recycling is one important channel in a comprehensive program for waste management that delivers a clean, safe living space.

While first-world countries can pat themselves on the back for progress with paper, metal and plastics, the record is not good for many other kinds of waste, much of it dangerous. In the United States, options for handling toxic fluids such as automotive oil and paint thinners are inconvenient to consumers and not widely available. The same is true for pharmaceuticals, which when flushed into bodies of water endanger wildlife and whole ecosystems.

Globally, there remains much to be done, and making a buck should not be anyone's priority.

KEVIN GROSS - Stow, Mass.

To the Editor: While it is true that recycling post-consumer plastics has been a tough nut to crack technologically, and recovery rates have plateaued at about 30 percent nationally, tremendous progress has been made in just the past few years.

I am chairman of a recycling company that has spent the past eight years developing a sustainable business model, driven by new technology and no government handouts, to take unsorted post-consumer plastic waste from residents and separate everything automatically so that every single resin type and plastic form is usable by a paying customer

Just last year, we signed our first contract to supply 300 million pounds of previously nonrecyclable plastic to a Fortune 500 company. Our projections are that this technology, when rolled out nationally, will be diverting three billion pounds of plastic waste from our city streets, oceans and landfills by 2020.

With so much blood and treasure spent to secure the petroleum-based resources to make plastics, it is thoroughly immoral to simply throw them back into a hole.

MITCH HECHT - Wilton, Conn.

To the Editor: Incredibly, John Tierney fails to mention the most obvious, and most important, alternative (or complement) to recycling: reducing waste to begin with. It's not that hard.

Ten years ago I started carrying around a stainless steel water bottle everywhere I go. This one easy step dissolved my need for not only bottled water, but most other to-go drinks, too. Same goes for my trusty morning thermos – my coffee stays hotter, there's no leaching from cheap Styrofoam or plastic-lined cups, and no waste. Same for take-out: Eat there or cook at home, and forgo the mountain of waste.

The list goes on: reusable grocery bags, buying bulk dry goods rather than individually packaged, forgoing the plastic bag at the corner store. You get the idea. These few strategies dramatically reduce the amount of trash *and* recycling I generate on any given day. It's not hard; just do it.

ELLIOT COHEN - Boulder, Colo.

To the Editor: The elephant in the room in John Tierney's article is: Why do we continue to manufacture plastic for spurious purposes? We hear about the Great Pacific Garbage Patch, about microplastics that are poisoning the sea, about turtles shaped like hourglasses because they grow inside a six-pack ring.

We can drink tap water out of nondisposable containers rather than bottled water; we do not need to drink coffee from a Styrofoam cup with a half life of hundreds of years; and we do not need large plastic toys for children. Plastic should be treated as a special material that can be a life saver in medical uses (stents) and marvelous for things like flexible plumbing pipe. But pretending that we can throw it away without consequences is criminal.

JULIA O'NEAL - Ocean Springs, Miss.

To the Editor: While John Tierney is correct in describing the current economic plight of the recycling industry, he doesn't mention how the recycling industry – and the solid waste industry of which it is a part – is changing.

Driven by technology and economics, parts of the country are moving away from the current recycling model. Optical sorting, computerized scanning and enhanced mechanical devices have made such developments possible. Montgomery, Ala., established a new system in which residents no longer sort their trash. Instead, the material goes to a sorting facility, where organics are separated from inorganics, and metals, paper, glass and plastic are sorted. The plan is for the organics to go to an anaerobic digester; only the residue from the process will be landfilled.

In California, localities such as San Jose are experimenting with a system in which “wet trash” (organics) are placed in one bin, and “dry trash” (everything else) in another bin. The dry portion is mechanically and optically sorted for recyclables of value, and the organic fraction is diverted to an anaerobic digester and used for energy.

While neither of these approaches achieves zero waste, 60 to 70 percent of the stream is being repurposed.

EILEEN BRETTLER BERENYI - Westport, Conn. - *The writer is president of Governmental Advisory Associates.*