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Do big plans for recycled content PET mean bottle bills?

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If we want to achieve the kind of environmental gains major brands have been talking about for plastic bottles — like Coca-Cola Co.'s plans for 50 percent recycled content in its plastic containers by 2030 — the United States will need a herculean effort to more than double its recycling rate for PET bottles.

And that could be a reality check for the public amid all the talk about how to make plastics more sustainable.

That analysis of needing to double PET bottle recycling is not mine. It comes from longtime plastics recycling expert David Cornell, who has been making the rounds with the message that the demand for so many more recycled bottles to feed Coke and others will threaten to overwhelm our recycling systems, and lead to much more pressure for national deposit laws.

In talks at conferences and in this podcast from packaging maker Amcor Ltd., Cornell, the former technical director for the Association of Plastic Recyclers, goes through the math and estimates what will need to happen if all the big announcements from Coke, Pepsi and others around using more recycled content become reality. If you follow recycling policy around plastic bottles and how we can make it better, and I put myself in that small group, it's really worth listening to, and I want to use my blog here to dive in.

A big jump

Basically, Cornell calculates that to pull in enough recycled PET soda and water bottles for recycling, the U.S. recycling rate for PET containers will need to jump to at least 70 percent. That would be more than double the 30 percent range it's been stuck at for years.

It'll require, in Cornell's words, a "change in theology" around recycling and deposit laws.

To me, it shows the reality of what will need to happen to achieve sustainability (or at least something closer than we are now) for soft drinks, water and other products in PET bottles.

Cornell is something of an elder statesman for PET recycling. He was voted into the Plastics Hall of Fame last year, and in his several decades at Eastman Chemical Co., had a front row seat on both the commercialization of PET and the growth of its recycling.

Cornell's analysis suggests to me that bottle bills are the only way to realistically collect enough containers to meet those huge plans from beverage companies for recycled content.

It would mean that in the United States, every PET container would require a deposit. Right now, 10 states have returnable deposits, typically set at 5 or

10 cents. Those bottle bill systems typically have recycling rates of between 65 and 95 percent. For those of us who can geek out on recycling policy, Cornell provides a very valuable estimate of the PET recycling rate for curbside systems. He pegs it at 20 percent, meaning that curbside systems probably only collect about one in five of the bottles available to them.

The reason curbside is less efficient is easy to understand. At-home curbside recycling depends on the goodwill of people to throw it in the bin, while bottle bills create a financial incentive to recycle.

Cornell believes there are real limits to how much we can pull from voluntary curbside programs.

If we spent a lot more to educate the public and improve infrastructure, he believes that nationwide, we could get to about a 40 percent PET bottle curbside recycling rate.

That's not a one-time expense. Maintaining that 40 percent would require constant educational booster shots to keep voluntary curbside recycling at that higher level, he said.

He said his analysis assumes that other uses of recycled PET, like fibers and strapping, would continue, even as recycled content in bottles ramps up.

Recycling as infrastructure

There are real world implications to these numbers. Some industry associations have lobbied in Washington to include recycling programs in any new federal infrastructure spending.

That's a good idea, and it will surely help. But if federal infrastructure programs are tied to curbside programs — and those programs struggle to be efficient — Cornell's analysis raises questions about whether that would be enough.

He estimates that getting to a 40 percent curbside recycling rate would translate to providing enough recycled PET for about 15 percent recycled content in PET bottles, across the industry.

But if all the plans from the beverage brands become reality, he calculates that the industry would need enough material to hit about 40 percent recycled content in bottles, on average, which is obviously several times what curbside could top out at.

So, you can see the dilemma is how to collect material.

Cornell suggests that over time, the gap between those commitments and the ability to pull material from recycling systems will ratchet up pressure for deposit legislation nationwide.

But bottle bills have been a tough sell politically in the United States for several decades, in part because beverage companies and grocery chains oppose them. Other countries, like Germany, have nationwide deposits, and the United Kingdom is considering it.

New technologies like chemical recycling/depolymerization are getting more attention as a way to make recycling more economical. But Cornell said their success will still depend on getting enough material cheaply.

We're facing a situation where the recycled content commitments from the beverage industry are setting up tension.

I think everyone would agree Coke, Pepsi and others should use more recycled content. To me it's one of those no brainer, "of course I agree" type of questions. But would as many people be willing to have deposits on bottles to make PET bottles truly circular?

Speaking for me, yes, I would, and Plastics News has editorialized in favor of bottle deposits to boost plastic recycling. But, frankly, I can see others questioning whether new deposits are worth it. And as for getting Congress or 40 state legislatures to pass new bottle bills, that's the more important question.