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Groups seek to banish plastics from infrastructure projects

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A coalition of groups are urging communities not to use plastic pipe as they upgrade water infrastructure to eliminate lead service lines.

The Plastics Pollution Coalition has launched a new campaign urging federal and local officials not to replace lead service lines with plastic pipe and to provide all households

with options other than bottled water before, during and six months after lead lines are removed.

The Washington-based group says the goal of the Filtered Not Bottled campaign is to make sure the **$15 billion approved by the federal government to replace lead service lines** does not result in the use of more plastic products or create plastic pollution.

Some 6 million to 10 million lead service lines deliver drinking water from water mains under streets to their houses, according to the U.S. Environmental Protection Agency.

As those lead pipes are removed, the coalition is calling on EPA and municipalities to follow two recommendations:

• Provide all households options for filtered water, such as water filters certified to NSF/ANSI standard 53, or government-funded reusable bottles, tanks or water buffalos.

• "Utilize non-toxic materials for the replacement pipes, not plastics."

Recycled copper should be used to replace lead service lines, according to the coalition, which is joined by 22 other organizations, including Greenpeace US and Black Millennials for Flint.

In September, the group sent a four-page letter to EPA Administrator Michael Regan urging the agency to distribute guidelines for safe water sources and pipe replacement materials that excludes plastic.

The Filtered Not Bottled campaign launched Oct. 25 and follows other coalition initiatives, such as Last Plastic Straw and Flip the Script on Plastics.

"When it comes to clean drinking water, we shouldn't have to pick our poison — lead vs. plastic. Filtered, not plastic bottled water, offers a safe solution that puts community health first. We must ensure communities impacted by lead pipes have access to clean, toxic-free drinking water — and that means prioritizing non-plastic solutions," Julia Cohen, co-founder and managing director of Plastic Pollution Coalition, said in a news release.

However, the two main trade groups representing plastic pipe producers say the coalition is putting out bad information about the safety and life cycle of their products, which have been in use for decades and meet standards set by NSF/ANSI, just like the water filters that the coalition recommends.

"Plastic pipes have been used in potable water systems for more than 60 years and no health issues have been reported. We have a tremendous track record," David Fink, president of the Irving, Texas-based Plastics Pipe Institute (PPI), said in a phone interview.

Plastic pipes also are cost effective, don't tuberculate — or allow small nodules to break off — allow biofilm buildup and have a positive life cycle story, Fink added.

"We're lower in greenhouse emissions and we're recyclable at the end of use of life. We win when it comes to being the greenest of piping materials," he said.

Fink also questions the coalition's push to replace lead service lines with recycled copper, which is expensive and take a lot of energy to melt and mold compared to plastic products.

Copper prices have risen about 21 percent this year, partly because demand is up from the solar, battery and electric vehicle markets relying on it as a conductor of electricity and heat.

"Plastics are readily available and cost effective for rehabilitation of lead service lines," Fink said. "Copper is probably three times more expensive and not readily available. The coalition isn't even really providing a solution, in my mind."

Bruce Hollands, executive director of the Uni-Bell PVC Pipe Association, also in Irving, Texas, said PVC isn't used for water service lines as much as high density polyethylene, cross linked polyethylene (PEX) and copper. But when PVC pipe is used, it's safe.

"PVC is one of the most researched and tested materials in the world used to carry potable water and over 60 years of use confirm its safety and effectiveness," Hollands said in an email.

He takes issue with the coalition website saying PVC pipes leach hormone-disrupting chemicals.

"PVC pipes used in drinking water systems do not release chemicals that wreak havoc on hormone systems," Hollands said.

The two spokesmen for plastic pipe producers also point out the coalition is pushing for water filters that meet NSF/ANSI standards but ignoring the fact that their products do, too.

"You're relying on this party to filter your drinking water but you're not going to trust them to say plastic piping materials are safe," Fink said. "That's frustrating."

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President Joe Biden signs the infrastructure bill at the White House in late 2021.

Safety standards met

In the United States and Canada, NSF/ANSI/CAN 61 is the legally recognized national standard for human health effects from drinking water contact materials, components and devices. Plumbing codes and state water utility regulations

require certification to this standard to ensure products are safe for use.

NSF certification involves rigorous product testing and assures buyers that certified products meet the requirements of the national standards, according to Jeremy Brown, NSF regulatory affairs manager.

In a **guest column for *Water Online***, Brown says if a service line material complies with NSF standards, regardless of whether it is copper, HDPE, PEX or PVC, it will not contribute harmful levels of contaminants to the drinking water.

"NSF is audited and accredited by the American National Standards Institute, the Standards Council of Canada, and other agencies for its laboratory operations (ISO 17025) and its product certification programs (ISO 17065) to ensure NSF is following certification policies, standards and ensures NSF is impartial in its evaluation of products," Brown said. "NSF has been a trusted and respected certification body for over 78 years and has helped protect and improve global human health through impartial product testing throughout operations."

To determine compliance, a formulation review is performed to list the possible contaminants that could leach into drinking water and what type of chemical extraction testing is necessary. Then, the pipes and fittings are tested by exposing the products to formulated exposure waters, which are then analyzed for contaminants.

NSF looks for volatile organic compounds, regulated metals, such as antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, selenium and thallium, and other potential contaminant identified during the formulation review.

To evaluate non-regulated contaminants, the NSF Health Advisory Board (HAB) independently reviews available toxicology data per NSF/ANSI/CAN 600, which sets health-based pass/fail levels. The board is made up of toxicologists from EPA, state regulatory agencies, Health Canada, academia, consultants, and manufacturers.

Any contaminants found must be below levels set by EPA and Health Canada. If they are, the pipes or fittings will be certified by NSF and bear either the NSF-61 mark or the NSF pw (potable water) mark.

The NSF pw mark also indicates the product meets performance, long-term strength and quality control requirements in NSF/ANSI 14, which regulates plastic piping components and materials.

Pushing for action

Still, the plastic pipes industry could be facing a grassroots battle as the coalition enlists the public's help to further its goals.

The group's website urges visitors to sign a petition, write their mayors and download an advocacy packet.

The petition refers to water bottles as single-use plastics that are "a health threat at every stage of their existence," from the air pollution emitted by plastic processors to the "toxic chemicals and microplastics released by plastic when it is consumed and disposed."

The petition also says plastic pipe materials can leach toxic chemicals while the NSF says all water contact materials

have the potential to leach contaminants into drinking water. Brown says the question is whether the type and quantity of contaminants in the finished drinking water are at safe levels.

The suggested letter to the mayors says many water bottles are made from PET, which "can be an endocrine disruptor," although PET resin does not contain endocrine disruptors like Bisphenol A, according to the National Association for PET Container Resources.

The advocacy packet urges individuals to protect their rights to safe drinking water by raising concerns about PVC, CPVC and PEX pipes. It also has a flyer for download that likens the replacement of lead service lines with plastic pipe as a choice "to pick our poisons."

In defense of plastic

The trade groups for plastic pipe extruders plan to push back by highlighting the safety and benefits of their products. They can point to Paradise, Calif., where a 2018 wildfire sparked by a faulty electrical transmission line swept through the mountain town. About 18,000 of the 20,000 structures were reduced to rubble and benzene was detected in the water distribution system.

There were allegations that heat from the fire created a chemical reaction in the buried plastic water pipes, which generated benzene from within the pipes themselves.

PPI officials conducted their own investigation and found benzene contamination in both plastic and metal service lines, such as steel and copper. They surmised the two main sources of benzene were trees and the combustion of wood, followed by the burning of homes, cars and other structures.

When the Paradise water system was rebuilt, plastic pipe was installed again. City officials selected HDPE (PE4710)for the service lines. They said the plastic pipe met industry standards and the water utility had previous experience with the product and a comfort level with installation practices.

"That's a great testimony to the benefits of plastics," Fink said. "Our products were readily available, cost effective, and easier to install than alternate materials like copper, steel and ductile iron.

"From an economic standpoint, you can do more for the community. Plastic will provide more miles of service lines for the same spend than other materials. There are some impoverished communities struggling with replacement. That's why this lead service line problem still exists and why the government has stepped up to help fund the replacement," Fink said.