

## Replacing toxic products with safer alternatives

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**ERICH:** The vast majority of chemicals that seep into our bodies and our environment come not from factories or treatment facilities, but from the very products and services we buy and use everyday. Things like furniture, flooring, cookware, children's toys, and lights, or where you get your laundry cleaned or your car worked on. It's these products and services that often lead to massive amounts of contamination in the environment, which is why the Washington Department of Ecology created the Product Replacement Program.

I'm Erich Ebel, communications manager with Ecology's Hazardous Waste and Toxics Reduction program, and I'm speaking today with Product Replacement Program coordinator Sean Smith. Sean, thanks for being here.

**SEAN:** Yeah, thanks for having me.

**ERICH:** So tell me, what is the Product Replacement Program?

**SEAN:** The Product Replacement Program is an innovative strategy for addressing some of the worst of the worst toxic chemicals that are getting into the environment today. The PRP works with consumer products which, as you mentioned, are one of the largest sources of toxic chemicals that get into the environment today, and we look for certain product-chemical combinations and address those either by disposal programs or with reimbursement and replacement programs. So, for example, we have a product-chemical combination in the dry cleaning community. They use a solvent called PERC, which is effective in removing stains but it is also toxic to not only the employees who work at those dry cleaners but also the public, which then wears those clothes that have been treated with that chemical. Ecology is offering dry cleaning business is up to \$40,000 to replace their PERC dry cleaning machines with safer alternatives like professional wet cleaning. They have to take a couple of steps in order to do that. We go out and actually help walk them through the voucher in the reimbursement, then they have to decommission their own old machines, including getting rid of any PERC that they have, and then finally we confirm that they have replaced the old machine with a new one. They sign off on the voucher and we can then cut them a check for the reimbursement.

**ERICH:** So what about the history of the PRP...how did it come about?

**SEAN:** Well, the understanding that the largest source of unregulated toxic chemicals getting into the environment is coming from consumer products has been building not only among the environmental community but within the Washington Legislature and agencies like Department of Ecology. So several years back in 2018, there was a bill passed that created the Product Replacement Program. And in 2019, we were allocated funds to actually start addressing some of these specific product-chemical combinations, including PERC dry cleaners that I mentioned, and PFAS in firefighting foam, PCBs in fluorescent light ballasts, degreasers that might be used in auto body shops to clean their tools, and flame retardants that could be found in foam pits at gymnasiums and recreation centers.

**ERICH:** Were these chemical-product combinations originated by the Department of Ecology, or did they come from the Legislature?

**SEAN:** So, originally they came out of what are called Chemical Action Plans. Ecology has been conducting these plans for a number of years and in those CAPs there are a number of recommendations on what agencies like Ecology should do. But we often lack the funding to actually implement those, so those plans would often sit waiting for the additional resources in order to actually take action to do the work. And, as I mentioned, in 2019 the Legislature recognized the need to implement those CAPs and allocated us about \$6.5 million dollars in order to start looking at a few of those product-chemical combinations and some of those CAP recommendations.

**ERICH:** So the Product Replacement Program...how successful has it been so far? What are some of the highlights that we've seen in recent years?

**SEAN:** That's a great question. I already talked about the PERC placement program. There are roughly 100 dry cleaners in Washington state that use PERC to clean clothes. We've done outreach over the last two and a half years to those dry cleaners and we have converted more than half of those now to replace their PERC machines with safer professional wet cleaning or high flash hydrocarbon. We also are working with fire departments to dispose of PFAS-containing firefighting foam. We have more than 80 fire departments around the state, which represents more than 30,000 gallons of firefighting foam, that have signed up and are interested in participating in this disposal program. Currently, we're going through an environmental impact statement, but once we have that we can then go out to these fire departments and actually collect that.

**ERICH:** And then a different kind of foam, the one that you find in recreational gym facilities, that also has fire retardant chemicals in it that need to be replaced.

**SEAN:** Yes so we're actually starting a pilot project with gymnasiums, schools, and recreation centers. Many of them use these open-cell foam cubes that you might see at your trampoline center.

**ERICH:** Sure.

**SEAN:** Those foam cubes are there for fall protection, but they often contain a chemical for fire suppression. Unfortunately, that chemical often doesn't stay in the foam and can migrate and come out, and it can cause impacts to public health, including anyone that comes in contact with that foam but also the workers that have to work there. So Ecology is looking at a replacement program for these as well, where we could go out, identify if these foam pits have the flame retardant. We would help them to decontaminate their facility and then replace it with a flame retardant-free foam, thereby better protecting the environment and public health as well. We also have a program with Washington state airports where we are providing equipment to conduct tests of their firefighting foam suppression systems. Currently, 11 airports here in Washington state are required by federal rules to run PFAS foam through their systems in order to comply with federal regulations, and those tests have to be done at least once a year, which means thousands of gallons of water and foam could be put onto the ground and get it into the environment. Recently, the FAA authorized the use of these what are called input based test equipment boxes, and they allow for the test to be conducted without the use of foam, thereby saving and preventing a large source of PFAS pollution. And to date, we've had two airports that have participated, we have three more that have indicated they would like to participate, and that means there's six others that we hope to reach and get them signed up as well.

**ERICH:** You've mentioned PFAS a few times. I've read about PFAS in the news headlines a lot lately.

**SEAN:** Yeah, PFAS is a chemical that's being used, and that's an acronym stands for per- and polyfluoroalkyl substances. There are about 5,000 other chemicals in the class, but it's been around since the mid 60s. It's a highly useful chemical in that it is very durable, it's water soluble, it's resistant to heat, and that's why it's added to products like firefighting foam. But the problem is once the fire's out or the product that it was added to is no longer used, that chemical does not break down, so it ends up in our landfills, it ends up in our water, and it's extremely difficult to get out. I've heard that it is toxic at minute levels...parts per trillion. The analogy that best illustrates it for me is that a single drop of PFAS added to an Olympic-sized pool would make that water toxic. And it's used in a whole host of products from, like I said, firefighting foam, but it's also added to raincoats to repel water, it's added to carpet to repel stains, it was in Teflon in our non-stick pans, so we're finding it in a lot of places. And it therefore then gets into the environment and we're finding it throughout the globe. And recent studies have found that it's in the vast majority, if not everyone's blood, so it is an emerging environmental issue and Ecology is on the front lines of addressing it.

**ERICH:** So you've told me about a few of the projects that the PRP is working on, but the PRP has plans to expand beyond its original mission. Tell me about that effort.

**SEAN:** We actually work with a whole host of partners around the state and sister agencies. The Department of Health is a big partner of ours, but we also work with what's called the Pollution Prevention Assistance program, and they're a collection of 27 local and city jurisdictions that help us implement this. And soon after the new year, we're going to pull that committee together and start working on our next round of product-chemical combinations that we'd like to address. As I mentioned earlier, we have roughly five projects that are going on right now but we're going to start looking at others after the new year, and not surprisingly, PFAS will probably be one of those chemicals that we continue to look at. 6PPD is another chemical that's emerging right now. It's one that's found in tires and the rubber of the tires and it's been discovered that it's highly toxic to aquatic species like fish, so potentially another product-chemical combination that we would work on. We will also take input from our PPA partners and see what they're seeing out there as well. We're going to have a process where we take input from our partners to then come up with a list of our next potential product-chemical combinations.

**ERICH:** Certainly no shortage of work to be done in the Product Replacement Program.

**SEAN:** You know, that that's exactly right. There are emerging chemicals that we are discovering more information about their toxicity and their impact on the environment, and as we get that information we then put that into our potential list of product-chemicals that we might want to look at. But yeah, there's a never-ending list of potential product-chemical combinations that we could work on.

**ERICH:** So with no end in sight, what does the future look like for the PRP in the next, say, 5 to 10 years? What's the threshold for success?

**SEAN:** That's a great question. Hopefully, as I said, this is kind of an innovative program where we're moving farther and farther up the production line. Historically, regulatory action regarding pollution prevention was aimed at the tailpipe or the smokestack, and while those efforts have been successful at reducing pollution and cleaning up our air, they're often very time consuming, labor intensive, and very cost prohibitive. So we recognize that a smarter, cheaper, and probably more sustainable way to address this is to keep the chemicals from getting into the environment in the first

place. And that means working with manufacturers and others to substitute toxic chemicals out of those products. So I believe that as awareness grows about the threat, you'll see more demand generated for these chemical-free products. I see that there will be product-chemical combinations that we have to work on, but I also expect that companies will recognize that it's probably in their best interest to prevent the use of these chemicals or eliminate these chemicals in the first place and substitute with safer alternatives. So hopefully we won't be seeing these chemicals go into the environment in the numbers that we're seeing now.

**ERICH:** Sean anything else you think the public should know about the Product Replacement Program?

**SEAN:** Yeah, if the public wants to get more information on the work we do, I would encourage them to check out our website, which is [www.ecology.wa.gov/productreplacement](http://www.ecology.wa.gov/productreplacement), and they can learn about our current projects as well as upcoming projects.

**ERICH:** Very good. Sean Smith, project coordinator with the Product Replacement Program, Washington Department of Ecology. Thank you for joining us.

**SEAN:** Thank you.