Brainstorming list of ideas for PFAS CAP goals and options

Ecology and Health invite interested parties to provide feedback on this draft list of goals and options during the October 4, 2018 Advisory Committee meeting. This list of draft goals and options are based on comments and suggestions from PFAS CAP Advisory Committee members and other interested parties. Ecology and Health will use this list of goals and options to make PFAS CAP recommendations.

> If you are unable to attend the October 4th meeting (in person or on the webinar), submit your comments or suggestions by email to Kara.Steward@ecy.wa.gov by October 5, 2018.
>
> More information about the PFAS CAP meeting is available at: www.ezview.wa.gov/?alias=1962&pageid=37105

The Per- and Polyfluorinated Alkyl Substances Chemical Action Plan (PFAS CAP) will include (per WAC 173-333-420(1)(e)):

> *A list of options for managing, reducing and phasing out the different uses and releases of the PBTs addressed in the CAP. The range of options for particular uses and releases will include:*
>
> *(i) A no-action option;*
> *(ii) An option that results in the phase out of PBT uses and releases;*
> *(iii) An option to manage chemicals to reduce exposure; and*
> *(iv) Other options, including the use of available substitutes, which will enable full consideration of the opportunities and constraints for reducing particular uses, releases and exposures.*

CURRENT GOALS

1. Reduce exposure to people through drinking water.
2. Identify, prioritize, and clean up sources of PFAS contamination in drinking water.
3. Evaluate and reduce releases of PFAS to people, homes, or the environment.
4. Evaluate and identify the need to regulate or reduce releases of PFAS.
5. Identify actions that residents can take to reduce PFAS exposure.
6. Identify the state's top priorities for federal agencies and industry partners.

During the October 4, 2018 PFAS CAP meeting, this draft list will be revised based on feedback.

CURRENT LIST OF OPTION IDEAS

Activities already underway are also listed by agency (DOH: Department of Health; ECY: Department of Ecology; EPA: U.S. Environmental Protection Agency; DOD: U.S. Department of Defense).

Goal 1 - Reduce exposure to people through drinking water.

OPTIONS

a. Strategy: Determine which groundwater supplies are impacted by PFAS above health-based advisory levels.
   i. Option: Test for PFAS more broadly in Group A public drinking water systems.
   ii. Option: Identify private well owners and Group B public water systems near where we know PFAS was detected; recommend they conduct their own PFAS sampling and report their results to the state.

iii. Option: Educate water systems and the public about how to test for PFAS and what labs are accredited to conduct EPA approved analytical methods. (Current method 537.1 measures 14 PFAS).

b. Strategy: Implement exposure mitigation when PFAS levels exceed health advisory values.
   i. Option: Inform Group A water systems of their obligation to notify consumers when PFAS levels in drinking water exceed a health advisory value.
   ii. Option: Update public water systems on PFAS treatment technology.
   iii. Option: Develop consumer education about PFAS drinking water advisory levels.

c. Strategy: Notify local governments when private well owners and Group B systems are near impacted aquifers. Assist with information about testing and mitigation options.

ACTIONS UNDERWAY

- DOH: conducting targeted testing for PFAS in public water systems using Method 537 (14 PFAS), anticipate results in early 2019.
- DOH: developing a recommendation for the State Board of Health for state drinking water quality rules to guide mitigation. Anticipate rulemaking complete in early 2020.
- DOH: developed consumer education materials to help residents understand PFAS drinking water advisory levels and human health effects.
- DOH: making drinking water state revolving loan funds available to Group A public water systems to mitigate PFAS above a health advisory value.
- DOH: notifies local governments when private well owners and Group B systems are near impacted aquifers; and provides information about testing and mitigation options.

Goal 2 - Identify, prioritize, and clean up sources of PFAS contamination in drinking water.

OPTIONS

a. Survey industries that may have used PFAS to map areas of potential risk.
b. Require/encourage potentially liable parties to test soil and groundwater around probable release sites or sites with drinking water detections (from water testing for Goal 1).
c. Require/encourage cleanup of hotspots of PFAS contamination in soil to protect groundwater aquifers.
d. Establish clean-up values for mixtures of PFAS.
e. Establish guidance for remediation of PFAS-contaminated soil, groundwater, sediments, and surface water.
f. Investigate urban watersheds to identify sources of PFAS in waterbodies and fish.

ACTIONS UNDERWAY

- DOH: Developed a map of known PFAS release sites from past uses.
- ECY: Maintaining a list of industrial user codes and commercial categories that have been associated with PFAS use or discharges in WA and other states.
- ECY: Testing soil and groundwater around Issaquah to inform remediation decisions.
- ECY: will establish cleanup levels for soil, surface water, and groundwater.

Goal 3 - Evaluate and reduce releases of PFAS to people, homes or the environment.

OPTIONS

a. Evaluate releases of PFAS:
   i. Test consumer products in the home:

1. Sample cosmetics, floor polishes and waxes, carpet and carpet care products, waterproofed textiles, fabric treatments for upholstery, leather and clothing, car waxes.
2. Identify products that release PFAS that are bioavailable and persist in soil, surface water, and groundwater.
3. Test for bioaccumulative PFAS (PFOS, PFOA, PFHxS, and PFNA) and their precursors in current imported products.
4. Evaluate the impact of PFAS in products used in the home on people.

ii. Test for PFAS in urban and rural areas:
1. Sample sediment, soil, groundwater, fish, wildlife and surface water.
2. Evaluate the impact of those PFAS on the environment and wildlife.
3. Conduct additional analyses to determine the source of PFAS.

iii. Identify PFAS contamination in food:
1. Review USDA testing results to identify PFAS contaminated foods.
2. Research emerging science on sources of PFAS in food crop.
3. Monitor FDA and USDA recommendations about allowable PFAS levels in food.

b. Reduce releases of PFAS:
i. Require users of AFFF to follow best management practices for storage and use.
ii. Establish a buyback program to reduce AFFF stockpiles; state funded or manufacturer funded.
iii. Review emerging science and alternative assessments for non-PFAS firefighting foams suitable for military, FAA, and chemical tank farm use.
iv. Conduct alternative assessments to identify suitable replacements.

ACTIONS UNDERWAY

- ECY: investigate availability of state funding to assist with disposal and disposal costs.
- King County: evaluate non-PFAS firefighting foams.
- ECY: collect fish tissue samples for PFAS analysis from four western WA lakes.
- ECY: contract for the food contact material alternatives assessment and report to the legislature in 2019 for the ban on PFAS in food contact material.
- ECY: test consumer products for PFAS, including using the total oxidizable precursor assay.

Goal 4 - Evaluate and identify the need to regulate or reduce releases of PFAS.

OPTIONS

a. Evaluate the need to regulate PFAS releases:
i. Develop a health advisory level or threshold.
ii. Determine the need for investigation of PFAS in air emissions.
iii. Identify potential non-industrial sources of PFAS into the environment.
iv. Determine the need for further investigation of PFAS in industrial waste and municipal wastewater discharges following health advisory level development.
v. Add PFAS to disclosure and reporting laws/rules, like TRI data reporting.

b. Reduce PFAS release potential from different product categories by:
i. Implementing source control based on known products and implement other pollutant minimization requirements.
ii. Restrictions of product types to the legislature.

iii. Establishing state purchasing preferences for items that are PFAS-free.
iv. Encouraging local governments to adopt similar purchasing preferences.
v. Encouraging private sector to adopt similar purchasing preference.
vi. Development of green chemistry alternatives.

ACTIONS UNDERWAY

- DOH: will assess ECY fish tissue data and determine the need for a consumption advisory to protect health.
- ECY: Evaluate industrial categories for discharge potential.
- ECY: Continue Agency sponsored investigations of treated effluent, groundwater, landfill leachate and other potential sources.
- EPA: Standardize methods for use in dirty/non-drinking water matrices.
- ECY: Dangerous Waste Regulations include halogenated organic carbons as state-only dangerous waste, including PFAS, at concentrations above 100 parts per million in the waste.

Goal 5 - Identify actions that residents can take to reduce PFAS exposure.

OPTIONS

a. Add a tap water filter.
b. Ask water providers to test for PFAS and share sample results.
c. Increase handwashing to reduce indoor dust exposure.
d. Vacuum with a HEPA filter to reduce indoor dust.
e. Purchase PFAS free consumer products: carpets, furniture, cosmetics, and clothing.

Goal 6 - Identify the state's top priorities for action by federal agencies and industry partners.

OPTIONS

a. Communicate priorities to relevant federal agencies, industry, and the state legislature.
   i. Participate in policy development and implementation steps that address these priorities.
b. Collaborate with EPA and FDA to obtain more toxicity data.
c. Request federal PFAS limits in CERCLA, CWA, RCRA, TSCA, CAA and SDWA.
d. Develop analytical methods for a larger number of PFAS compounds (current drinking water method reports on 14 PFAS, modified method reports on 29 analytes).
e. Develop analytical methods for other environmental media, aside from drinking water, for soil, sediment, fish tissue, and consumer products.
f. Request federal support to reduce PFAS use, conduct more monitoring, fund cleanup efforts: CDC, FAA/DOD.
g. Request more information from industry on PFAS toxicity testing.
h. Work with industry to conduct alternatives assessment and move to safer alternatives.

ACTIONS UNDERWAY

- EPA: completed community and tribal meetings; accepted public comment; is developing a PFAS Management Plan (2018).
- EPA: established an intra-agency workgroup to look into PFAS actions at the federal level.
- EPA: provides information on the PFAS in Your Environment website – includes a link to EPA's Drinking Water Treatability Database which includes treatment options and data for PFAS.

- EPA: working on groundwater PFAS cleanup goals; market analysis of PFAS in commerce; analytical method development.
- DOD: investigating fluorine-free firefighting foam.

List of Acronyms:

AFFF – aqueous film forming foam
CAA – Clean Air Act
CAP – Chemical Action Plan
CDC – Centers for Disease Control and Prevention
CERCLA – Comprehensive Environmental Response, Compensation and Liability Act
CWA – Clean Water Act
DOD – U.S. Department of Defense
DOH – Department of Health
ECY – Department of Ecology
EPA – U.S. Environmental Protection Agency
FDA – U.S. Food and Drug Administration
HEPA – high efficiency particulate filter
PFAS - Per and Polyfluorinated Alkyl Substances
PFHxS – Perfluorohexane sulfonate
PFNA – Perfluorononanoic acid
PFOA – Perfluorooctanoic acid
PFOS – Perfluorooctane sulfonate
RCRA – Resource Conservation and Recovery Act
SDWA – Safe Drinking Water Act
TRI – Toxics Release Inventory
TSCA – Toxic Substances Control Act
USDA – U.S. Department of Agriculture
WA – Washington State
WAC – Washington Administrative Code