



CHEMISTRY INDUSTRY
ASSOCIATION OF CANADA

ASSOCIATION CANADIENNE DE
L'INDUSTRIE DE LA CHIMIE

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Environment and Climate Change Canada
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Sent by email: substances@ec.gc.ca

To Whom It May Concern,

RE: Draft State of Per- and Polyfluoroalkyl Substances (PFAS) Report and Risk Management Scope, published in the Canada Gazette, Part I, Volume 157 on May 20, 2023

Thank you for providing the opportunity for the Chemistry Industry Association of Canada (CIAC) to submit comments on the [Draft State of Per- and Polyfluoroalkyl Substances \(PFAS\) Report and Risk Management Scope](#), published in the Canada Gazette, Part I, Volume 157 on May 20, 2023. We note that a [Supporting Document: Ecological State of the Science Report on Short-chain PFCAs, Short-chain PFASs, and Long-chain PFASs](#) was released at the same time, but without an accompanying comment period.

To the best of our knowledge, there is no large-scale commercial manufacturing of PFAS in Canada; however, CIAC members do represent multinational companies that manufacture these substances in other jurisdictions. Use of PFAS is widespread in Canada, providing value to both industrial operations and society in general. Canadian industry uses certain PFAS due to their unique combination of attributes—durability, heat and chemical resistance, and unique dielectric properties—that allow them to perform under the toughest conditions. These substances impart a wide range of important performance characteristics that are vital for industrial safety and the manufacture and performance of medical devices, cell phones and laptops, telecommunications infrastructure and advanced transportation, aerospace, and defence applications, among many others. Moreover, PFAS currently used by Canadian industry have not been shown to be of high risk.

While it is accepted that certain members of the class of PFAS have properties that warrant strict control measures, Canada has already assessed the PFAS known to be of most concern and has had risk management measures in place for many years. This includes PFAS such as perfluorooctane sulfonate (PFOS), salts and precursors, [long-chain perfluorocarboxylic acids \(LC-PFCAs\), their salts and precursors](#), and [fluorotelomer-based substances](#), to name a few.

As detailed in the sections that follow, we believe that the subject publications represent a departure from Canada's reputable Chemicals Management Plan (CMP) process and its foundational science- and risk-based approach. We are advancing several recommendations for your consideration to ensure that these substances are assessed and managed appropriately. We will provide additional comments and recommendations over the coming months as our experts conduct a more thorough analysis of the publications.

Summary of recommendations:

- 1) Conduct individual assessments for the sub-groups of PFAS of interest.**



- 2) *Describe the PFAS of concern as precisely as possible in the Schedule 1 listing(s) resulting from this process, following the OECD 2021 guidelines for interpretation of their definition, instead of defining loosely as a group or class.*
- 3) *Adopt the PFAS definition from Delaware's Drinking Water Protection Act.*
- 4) *Exclude fluoropolymers from any Schedule 1 listing(s) resulting from this process, given their international acceptance as not meeting the criteria of 'polymers of concern for human health or the environment' and qualification as RRR polymers in Canada.*
- 5) *Coordinate with other federal Branches and Departments, who may face setbacks in their own economic, environmental, and social goals and targets as a result of possible supply chain disruptions due to PFAS regulation.*
- 6) *Limit any Schedule 1 determination to the specific PFAS that are entering the environment at levels that may have harmful effects, are in commerce in Canada, and are not captured by an existing Schedule 1 listing or addressed by other federal regulations.*
- 7) *Ensure that any discussions around the selection of alternatives for PFAS are well-informed, evaluated on a case-by-case basis considering technical, regulatory, as well as economic aspects, consider current and potential future concerns, and avoid creating pre-defined timelines.*
- 8) *Provide exact lists with CAS RNs to identify uses and calculate costs for replacement of PFAS that the Departments are specifically interested in.*
- 9) *To avoid catastrophic economic consequences and feasibility implications, do not align Canada's risk management strategy with the EU, as they are currently drafted.*
- 10) *Ensure that any additional PFAS risk management instruments complement existing instruments and minimize regulatory complexity.*
- 11) *Create clearer distinctions between legacy and ongoing uses of specific PFAS within the draft State of PFAS Report.*

Comments on the State of PFAS Report

Departure from Canada's CMP process

The State of PFAS Report has been used as a de-facto risk assessment, while the original intent noted in the April 2021 [Notice of intent to address the broad class of PFAS](#) was to summarize relevant information on the class of PFAS. This represents a significant departure from the well-defined [CMP cycle](#), consisting of information gathering, risk assessment, risk management, compliance promotion, enforcement, and performance measurement. Please see the attached multi-association letter, which highlights the critical CMP process issues in these PFAS publications. If unique approaches are needed to address a class of substances of this magnitude, a [Strategic Roadmap](#) like that of the U.S. Environmental Protection Agency (EPA) would help alleviate concerns and ensure predictability and transparency for stakeholders.

CIAC feels that this approach of first publishing a summary report on the class of substances should have been done with the express purpose of delineating and prioritizing sub-groups of PFAS. This would then lead to individual screening-level risk assessments and data gap identification for those sub-groups or representatives of these sub-groups. Such an approach would be particularly appropriate when we consider the most recent science:

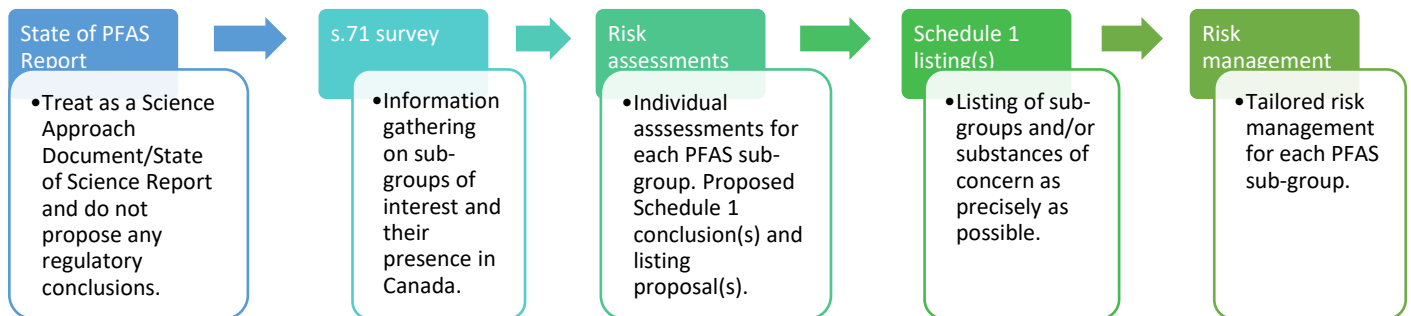
- SciPinion is an international panel of experts that aim to introduce clarity and certainty from the expert community to the world's toughest science problems, instilling universal trust in science. In the following [SciPinion article](#), most experts agreed that all PFAS should not be grouped together for

risk assessment purposes, and specifically, it is scientifically unacceptable to read-across the hazard properties of some PFASs to other only distantly related substances.

- The primary author, Dr. Janet Anderson, notes, “It’s clear that for a chemical class as diverse as PFAS, a scientifically rigorous approach to risk assessment is needed. We need to acknowledge that “risk assessment” is not a one-size fits all tool and the context matters, and that effective communication of uncertainties and data limitations is required.”
- Another article, [Perfluoroalkyl and polyfluoroalkyl substances in the environment: Terminology, classification, and origins](#), by Buck et al. divided PFAS into two large categories, nonpolymeric and polymeric, and further identified sub-groups within those categories based on molecular structures. Such an approach is useful as molecular structure can help us understand chemical and biological behavior among the diverse classes of PFAS. A summary graphic of these sub-groups can be found [here](#).

With many PFAS used broadly throughout the economy, the chemicals management process for these substances cannot be rushed without a proper assessment of which PFAS pose a risk to Canadians and the environment. A measured and purposeful roadmap should be developed, and specific assessments should be conducted based on sub-groups of PFAS to ensure sound science and economic feasibility. It should also be noted that any sub-groups should be developed in a transparent manner, allowing stakeholders to understand which substances fall under each sub-group. Canada should not follow the example of other jurisdictions, who have proposed sweeping prohibitions of this class of substance and who will likely face economic hardship and significant consequences to a variety of value chains, requiring correction after the fact.

Recommendation #1: Conduct individual assessments for the sub-groups of PFAS of interest, following the process described in the following graphic.



Definition of PFAS and link to Schedule 1 listing

If the OECD 2021 definition of PFAS is adopted in Canada, it is critical to implement the [guidance](#) that has been developed around this definition. The OECD recognizes that the term PFAS does not inform whether a compound is harmful or not, but only communicates that the compounds under this term share the same trait for having a fully fluorinated methyl or methylene carbon moiety. They note that their revised definition of PFAS does not conclude that all PFAS have the same properties, uses, exposure and risks and that their decision to broaden the definition compared to *Buck et al.* is not connected to decisions on how PFAS should be grouped in regulatory and voluntary actions. As PFAS are a chemical class with diverse molecular structures and physical, chemical, and biological properties, the OECD recommends that such diversity be properly recognized and communicated in a clear, specific, and descriptive manner.

In summary, OECD 2021's guidance emphasizes that their definition should not be used to guide regulatory action, given the diversity of PFAS. For example, some specific PFAS are small molecules that can enter cells, bioaccumulate, and move easily through the environment. Others are large, stable polymers that are too large to pass through cell membranes and therefore do not bioaccumulate or otherwise interact with biological systems.

Designation of all substances meeting the 2021 OECD definition would violate OECD's own caution against using the definition as a basis for regulatory actions and would have considerable unintended consequences on critical uses, such as [pharmaceutical drugs](#), that meet the definition. Understanding that the definition of PFAS is not by itself a regulatory action, the Schedule 1 designation(s) for the specific PFAS of concern must be measured, precise, and the diversity of the PFAS class and their sub-groups must be properly recognized and communicated. The OECD 2021 definition should not be directly connected to any Schedule 1 listing(s) and/or any corresponding regulatory action(s). Instead, a categorized approach is more appropriate. The previous section, focused on process, provides a potential pathway for implemented of this categorized approach.

Recommendation #2: Describe the PFAS of concern as precisely as possible in the Schedule 1 listing(s) resulting from this process, following the OECD 2021 guidelines for interpretation of their definition, instead of defining loosely as a group or class.

Additionally, while the OECD 2021 definition for PFAS is well-known, CIAC feels that the definition from [Delaware's Drinking Water Protection Act](#) is a better model. It contains exclusions for gases and volatile liquids, which have very low solubility in water and partition to the atmosphere. This definition would promote greater alignment with the U.S. from a North American perspective, supporting Regulatory Cooperation goals.

Recommendation #3: Adopt the PFAS definition from Delaware's Drinking Water Protection Act.

Fluoropolymers are substances of low concern

Fluoropolymers are a distinct group of PFAS that are large, high molecular weight, stable, insoluble in water and most solvents, and are highly resistant to degradation by heat, abrasion, corrosion, or biological processes. Based on peer-reviewed scientific articles by [Henry et al.](#) and [Korzeniowski et al.](#), many of these meet internationally accepted and OECD-defined criteria to be considered polymers of low concern (PLC) to human health and the environment. They would also qualify as [Reduced Regulatory Requirement \(RRR\) polymers](#) under the New Substance Notification (NSN) Regulations (Chemicals and Polymers) as they meet the specific criteria prescribed in those regulations.

As the peer-reviewed scientific studies cited above conclude, fluoropolymers are inert, insoluble substances and concerns about the mobility of much smaller, highly water soluble PFAS do not apply to fluoropolymers. Additionally, fluoropolymers are neither bioavailable nor bioaccumulative and do not transform into long-chain non-polymeric PFAS like PFOS and perfluorooctanoic acid (PFOA), its salts, and its precursors in the environment.

Recommendation #4: Exclude fluoropolymers from any Schedule 1 listing(s) resulting from this process, given their international acceptance as not meeting the criteria of 'polymers of concern for human health or the environment' and qualification as RRR polymers in Canada.

Specific PFAS are essential to achieving Canada's climate change goals

To further demonstrate why skipping key steps in the CMP process and a rapid jump to overly broad regulation of the class of PFAS would be detrimental, it should be noted that PFAS as a class falls within a juxtaposition of policy priorities. Specific PFAS are key components in the production of green hydrogen, electric vehicle batteries and solar panels – all of which contribute to clean energy and emissions reduction. Canada will not achieve its climate change goals without PFAS.

At the same time, it should also be noted that Canada is taking steps to phase down the production and consumption of hydrofluorocarbons (HFCs), which are short-lived but extremely potent climate pollutants, under the Kigali Amendment to the Montreal Protocol. Canadian [HFCs regulations](#) are helping to make common products such as new refrigerators, air-conditioners, and foam products more climate-friendly.

a) Electric vehicles: *no semiconductors mean no cars, and no PFAS mean no semiconductors*

Canada's Minister of Innovation, Science and Industry (ISED) has previously [shared](#) the federal government's ambition for Canada to be a strategic global leader in the semiconductor industry. ISED's [Semiconductor Challenge Callout](#) represents Canada's initial commitment to investing in innovation projects that will reinforce and scale up our innovative semiconductor ecosystem.

Semiconductors, often called chips or microchips, are critical to Canada's national security, economy, and technological interests. However, without specific PFAS, the ability to produce semiconductors (and the facilities and equipment related to and supporting semiconductor manufacturing) would be put at risk. Such specific PFAS provide unique capabilities within semiconductor process chemistries, semiconductor manufacturing equipment and facilities, as well as the electronic products they drive. Allowing the "final product" to perform, their unique combination of properties can handle high-purity chemicals and operate at very high temperatures, allowing semiconductors to perform better and faster, with greater energy efficiency and lower defectivity.

b) Hydrogen: *fluoropolymer membranes create an environmentally safe way to generate large amounts of hydrogen without carbon dioxide emissions*

[Canada's Hydrogen Strategy](#) aims to have 30 per cent of end-use energy be from clean hydrogen by 2050. As noted in the "Hydrogen Production from Water & Electricity" of this strategy, electrolysis is a promising option for carbon-free hydrogen production, and the core of both proton exchange membrane (PEM) water electrolyzers and PEM fuel cells is an electro-chemical reaction through a membrane. These membranes help to reduce production disruptions, maintain consistently higher outputs, and promote an environmentally sustainable solution to hydrogen production.

However, the proper functioning of electrolyzers, fuel cells and other technologies across the hydrogen value chain rests on the essential use of a specific category of PFAS – fluoropolymers. As noted in the following [Hydrogen Europe paper](#), no alternatives possess all the unique properties of fluoropolymers while delivering the same high level of performance. These fluoropolymers are produced and used in a highly controlled industrial environment, where their emissions are negligible and – due to their high initial price – their reusability and recyclability are actively investigated.

c) Renewable energy: *fluoropolymers are integral to technologies driving sustainability*

Canada is a world leader in the production and use of energy from renewable resources, and as energy consumption increases, the world will need to transition to cleaner, more efficient energy solutions. Specific PFAS are a key component of these solutions. In particular, fluoropolymers are a

critical and irreplaceable material in renewable energy applications. By enhancing product durability, fluoropolymers extend the lifecycle of many important products, preserving resources and preventing excess waste.

- Wind turbines: Fluoropolymers are used in paints and coatings on the towers and blades of wind power generators because they provide high weather resistance and increased service life.
- Solar installations: Fluoropolymers are used in coatings for solar thermal installations as a protective armor from harsh environmental conditions, including extreme heat and moisture. Fluoropolymers also provide electrical insulation in the wiring of many critical components that are contained within solar panels, extending the lifetime of solar panels by up to 25 years.
- Energy Storage Systems: Fluoropolymers are a crucial component of energy storage systems like lithium-ion batteries, flow batteries, and PEM fuel cells which comprise an increasing share of renewable energy.

d) Connection across industries and applications

Given their unique properties, PFAS (and in many instances fluoropolymers) are used in applications where they enable high levels of product performance. Fluoropolymers are critical in many sectors such as chemical, aerospace, marine, industrial machinery, food production, electronics—to name just a few. These sectors do not operate independently of each other as they rely on and are supported by the key technologies and product applications across a range of industries, countless of which rely on fluoropolymers. Click [here](#) for further details on fluoropolymer applications and uses in a variety of industries.

***Recommendation #5:** Coordinate with other federal Branches and Departments, who may face setbacks in their own economic, environmental, and social goals and targets as a result of possible supply chain disruptions due to PFAS regulation.*

Schedule 1 proposal and risk management scoping are premature

To preface our comments on the Risk Management Scope, we must emphasize that **the work completed by the Departments to date has not satisfied the statutory requirements to add a substance or a group of substances to Schedule 1.** Information on the health and environmental effects is only available for a small number of PFAS, with information gathering activities not due to occur until this Fall, and most notably, **a screening level risk assessment has not been completed.**

With that as context, and while we believe that any risk management-related discussion is premature until a screening level risk assessment has been performed to inform a science-based proposal to list a substance or group of substances on Schedule 1, we offer the following comments on the Risk Management Scope. **We hope to have the opportunity to comment more formally on additional, process-driven Risk Management Scoping documents for the sub-groups of interest once they have been delineated and screening level risk assessments have been performed.**

Comments on the Risk Management Scope

PFAS presence in Canada

Recognizing that the OECD 2021 definition captures over 4,700 substances, it should be noted that this represents more substances and more information than the Departments have requested from the entire CMP program (~4,300 substances) to date. To narrow this list, CIAC has identified ~210 different PFAS that are legally allowed to be used in Canada (i.e., on the Domestic Substances List (DSL)), meaning about 4,500 of the PFAS captured by the OECD 2021 definition are not in commerce in Canada, or are limited by volume in accordance with the NSN Regulation Schedule allowances. These 4,500 PFAS cannot meet the Schedule 1 definition because there is no possibility of unacceptable exposure. To use these non-DSL PFAS in Canada, an NSN application would be required.

Information gathering activities, including the upcoming s.71 survey on PFAS, should be focused on substances included on the DSL. Use of a structural definition of substances as a basis for reporting will cause considerable confusion and uncertainty and likely result in erroneous reporting. Facilities will not have access to information other than that provided by the manufacturer, many of which are overseas and not subject to similar reporting requirements.

Building on this point, it should also be noted that some information regarding PFAS presence in Canada will be challenging to find. Canada is largely an importing economy, which creates significant information gaps regarding impurity content of the PFAS being imported and the identity and impurity profile of PFAS imported in articles. Businesses have limited control over specific PFAS utilized in articles being imported or over impurities in the materials they acquire unless the substance under question is “intentionally added” and declared by the vendor. Some existing regulations, such as the Prohibition of Certain Toxic Substances Regulations (PCTSR), include exemptions for “incidental presence”, which allows the government to regulate a substance while providing an allowance for impurities. Otherwise, Canada cannot regulate for an impurity whose presence is unknown unless the exporting jurisdiction has removed it entirely from commerce.

Recommendation #6: Limit any Schedule 1 determination to the specific PFAS that are entering the environment at levels that may have harmful effects, are in commerce in Canada, and are not captured by an existing Schedule 1 listing or addressed by other federal regulations.

Availability of alternatives to PFAS

The current uses of PFAS are highly diverse and have such specific technical requirements that it is extremely challenging to find viable alternatives. This is particularly true in industrial applications due to the demanding and highly diverse conditions, product performance specification requirements, and the many interlinked processes with many different PFAS uses. Often if there is a possible alternative, testing, qualification, and potential re-constructing of equipment can take years – grossly disrupting supply chains. The possibility of regrettable substitution is an ever-present concern, and any selection of alternatives must be well considered.

- **Case study: Alternatives to PFAS in the semiconductor industry**

As noted in the following [paper](#) by the Semiconductor Industry Association (SIA), no known alternatives exist for many of the semiconductor industry’s uses of fluorocarbon-containing materials. In many instances, a successful invention of an alternative substance needs to occur before subsequent steps of qualification can be undertaken.

The SIA notes the timeline needed to develop, qualify, and implement alternatives falls into the following four broad categories:

3 to 4 years	From 3 to more than 10 years:	From 5 to more than 25 years and successful invention is required:	No alternative is achievable:
If an existing non-PFAS alternative is available, does not require infrastructure alterations, and can be demonstrated to provide adequate performance for a specific application, then it typically takes 3 to 4 years to conduct the necessary manufacturing trials and implement the successful alternative into high volume manufacturing (HVM).	In some applications, an existing non-PFAS alternative may be viable but requires tooling and/or process or facility changes before it can be successfully introduced into high volume manufacturing. In these cases, it may take from 3 to more than 10 years to introduce changes to the semiconductor manufacturing and related equipment (SMRE) and/or processes, and then perform qualification testing, and implement the non-PFAS alternative into HVM.	For some applications, it is not currently possible to demonstrate that a non-PFAS alternative can fulfil the application specific performance requirements. In these cases, it may be necessary to invent and synthesise new chemicals, and/or develop alternative approaches to device fabrication that provides the necessary electrical and computational performance. Invention is an open-ended endeavour without a fixed timeline or guarantee of success.	In some cases, it may ultimately be found that a non-PFAS alternative is not capable of providing the required chemical function. If a non-PFAS alternative chemical cannot be invented, then the integrated circuit device structure may need to be abandoned in favour of an alternative device structure that may or may not provide equivalent performance. In some cases, the fundamental laws of chemistry and physics prevent the use of PFAS-free alternatives.

By its nature, the invention of an alternative has no clearly defined timeline, and, for some applications, there may be no known alternative. When the alternative is not viable, the process will loop back to invention, research, and development steps to find a different chemistry or technology that does not have the same issues. If alternatives decrease production yield even by very small percentages, significant increases are required in semiconductor manufacturing facility size, resulting in correspondingly increased chemical, water, and energy consumption, as well as waste generation. A decrease in the performance of PFAS-free alternatives would therefore increase the consumption of parts and waste generation for some uses.

Recommendation #7: *Ensure that any discussions around the selection of alternatives for PFAS are well-informed, evaluated on a case-by-case basis considering technical, regulatory, as well as economic aspects, consider current and potential future concerns, and avoid creating pre-defined timelines.*

Costs and feasibility of elimination or replacement

To preface our comments on costs and feasibility of elimination/replacement, it should be noted that stakeholders need exact lists with Chemical Abstracts Service Registry Numbers (CAS RNs) to identify uses

and calculate costs for replacement, which should be narrowed down to the substances in which the Departments are specifically interested.

We assume that the government's interests lie with the 107 substances that will be subject to the expected PFAS s.71 survey this Fall. However, as this is not explicitly stated and the PFAS under question are broadly defined under the OECD 2021 definition, at this time, CIAC can only comment on cost and feasibility impacts that have been (or will be) faced in other jurisdictions as a result of their proposed actions to regulate PFAS.

Recommendation #8: Provide exact lists with CAS RNs to identify uses and calculate costs for replacement of PFAS that the Departments are specifically interested in.

First, the EU's [PFAS restriction proposal](#), published in February 2023, is unprecedented in its scope and ambition. While there may be widespread agreement that the emissions of certain of the thousands of different types of PFAS need to be minimised, the 'total' ban being proposed with few derogations does not seem to be based on sound science, risks causing massive impacts on the EU chemicals and downstream industries and may be highly detrimental to the achievement of key EU objectives, such as the EU Green Deal. The implications of such a broad-based restriction, covering a group of substances which have many, varied physicochemical properties, toxicity profiles, and important uses, is largely a matter of conjecture. The scope of some of the proposed derogations are very limited and unlikely to be sufficient to ensure the continued supply of PFAS that are essential for uses central to the achievement of key EU objectives. Also, even if some uses of PFAS are subject to the proposed derogations, it is possible, even likely, that PFAS manufacturers will stop producing the PFAS necessary to support those uses and the downstream users will stop using them, as the market will not be sufficient to justify the necessary ongoing investment. This could have largely unforeseen yet important impacts on, for example, the need for EU supply chain autonomy. This is a huge risk for the EU and the implications to the achievement of key EU objectives could be catastrophic.

The United Kingdom (UK) is taking a more measured approach than the EU. In April 2023, the Health and Safety Executive (HSE) – Britain's national regulator for workplace health and safety – published a [Regulatory Management Option Analysis](#) (RMOA) under UK 'REACH' – the framework for managing the risks from chemical substances in Great Britain. The RMOA addresses the PFAS that are potentially in commerce (as substances, mixtures or in articles), by applying a grouping approach. The UK is not looking at PFAS as one class, understanding that there is no scientific basis for that:

"The Agency initially collated and consolidated all the individual groupings presented by the various published sources to remove duplication and to ensure only those relevant to our working definition of PFAS were included. The groups were further refined to reflect the chemistry of the PFAS identified in UK and EU REACH registration databases to provide a representation of the PFAS on the markets. PFAS families may be divided into two primary categories; non-polymeric and polymeric."

Their approach identifies the most common and most harmful uses of PFAS and what measures could be put in place to control and manage them. In fact, one of the key proposals is that, due to more comprehensive information being available, fire fighting foams are prioritised for action. This will be founded on scoping work with stakeholders including industry, firefighters, and those with expert knowledge of alternative foams.

On a related note, in October 2021, the U.S. EPA identified several activities as part of its PFAS Strategic Roadmap. Their approach is guided by their goals to: (1) invest in research and development to increase understanding of PFAS, (2) prevent PFAS from entering the environment at adverse levels, and (3) broaden

and accelerate the cleanup of PFAS contamination. In this roadmap, it is noted that while hundreds of individual PFAS compounds are in production and use in the U.S., a relatively modest number of industrial facilities produce PFAS feedstock, and a relatively narrow set of industries directly discharge PFAS into water or soil or generate air emissions in large quantities. This context helps to pinpoint clear opportunities to restrict releases into the environment. Additionally, the U.S. has decided to group PFAS into 24 smaller groups and base testing on representative PFAS. Such a targeted approach helps remove cost and feasibility barriers, while focusing resources where they can deliver the most value – i.e., on the exposures of concern.

Recommendation #9: *To avoid catastrophic economic consequences and feasibility implications, do not align Canada’s risk management strategy with the EU, as they are currently drafted.*

Complementing existing risk management actions

So far, Canadian risk management actions for substances that fall within the OECD 2021 definition of PFAS have been targeted. For example, the *Prohibition of Certain Toxic Substances Regulations, 2012* (PCTSR) target three well-defined sub-groups of PFAS and are one of the main instruments through which the Government of Canada meets its obligations under the Stockholm Convention on Persistent Organic Pollutants ([SC-4/17](#), [SC-9/4](#), [SC-9/12](#), [SC-10/13](#)). In addition, the Government of Canada nominated LC-PFCAs to the Stockholm Convention. Following our comments to the proposed PCTSR 2022, our members are actively looking towards adopting alternatives for aqueous film-forming foams (AFFF) that are used in firefighting, while upholding their commitment to safety and security.

Additionally, through the Great Lakes Water Quality Agreement, binational strategies have been published for select PFAS, including PFOS, PFOA, and LC-PFCAs. We also expect that the provinces and territories will be adopting drinking water standards for specific PFAS, following the publication of Health Canada’s draft objective for PFAS in Canadian drinking water earlier this Spring.

With so many actions and initiatives already underway, it is critical that any additional risk management measures work with, and not against, these efforts. For example, Canada may wish to take several short-term actions to address concerns expressed in the State of PFAS Report, including prohibiting the use of AFFF containing PFAS for training, testing and certification. These activities are estimated to account for 90 percent of historic releases of PFAS-containing AFFF.

Recommendation #10: *Ensure that any additional PFAS risk management instruments complement existing instruments and minimize regulatory complexity.*

We also note that the draft State of PFAS Report is focused on existing contamination, however, since CEPA can only address present and future releases to the environment, any risk management will presumably address ongoing uses. Substances that are not in commerce in Canada cannot be added to Schedule 1, and since certain PFAS have already been prohibited in Canada, a Schedule 1 determination can only be made for the few specific PFAS that are entering the environment at levels that may have harmful effects. Risk management of existing contamination with PFAS no longer in commerce should be addressed with other federal and provincial authorities, and the report should draw distinctions between legacy and ongoing uses only.

Recommendation #11: *Create clearer distinctions between legacy and ongoing uses of specific PFAS within the draft State of PFAS Report.*

Conclusion

Thank you again for the opportunity to comment on the Draft State of PFAS Report and Risk Management Scope. We hope that you will consider these recommendations to ensure that Canada's CMP can maintain its reputation as a world-class, risk- and science-based chemicals management program.

Should you have any questions or concerns, please do not hesitate to contact me.

Sincerely,



Bob Masterson
President and CEO

About the CIAC

The Chemistry Industry Association of Canada is the association for leaders in Canada's chemistry and plastic sectors—adding \$64 billion and \$39 billion respectively to the Canadian economy. The Association represents over 100 members and partners across the country. We provide coordination and leadership on key issues including innovation, investment, plastics, taxation, health and safety, environment, and regulatory initiatives.

About Responsible Care®

Any action by CIAC members to address the environmental, economic and community impacts of our operations are governed by Responsible Care. Responsible Care, a chemistry ESG, is the flagship program of our industry that ensures our members innovate for safer and greener products and processes, and work to continuously improve their environmental, health and safety performance. Launched in Canada in 1985 and now adopted globally and recognized by the United Nations, Responsible Care compels CIAC member-companies to “do the right thing and be seen to do the right thing.” This is our commitment to sustainability – delivering results for the betterment of society, the environment, and the economy. This includes continued improvement of our air, water and land emissions, and waste management as well as successful past commitments to reduce our emissions of substances listed on Schedule 1 of the Canadian Environmental Protection Act (CEPA).