



2019 ANNUAL UPDATE ON “GORE FABRICS’ GOAL AND ROADMAP FOR ELIMINATING PFCs OF ENVIRONMENTAL CONCERN”

INTRODUCTION

In February 2017, Gore Fabrics announced the “Goal and Roadmap for Eliminating PFCs of Environmental Concern (PFC_{EC})” from the lifecycle of its consumer fabrics products following an intense and fruitful discussion with Greenpeace. This has led to an ambitious research and development (R&D) program for Gore Fabrics that stretches over several years to 2023. This program will allow us to develop new consumer outdoor products targeting the optimal combination of performance and improved environmental footprint.

As we want to make sure that our customers, end consumers and the broader public stay with us on this journey we will publish regular updates on progress we are making in achieving our goals.

Key: ● Completed on time ● On track ● Delayed

PROGRESS REPORT JANUARY 2019

MILESTONES

(see details in GORE FABRICS’ GOAL AND ROADMAP document)

STATUS

PROGRESS

2019

1. Eliminate PFC_{EC} from laminates that correlate with **85%** of finished consumer product units (jackets, shoes, gloves and accessories) by end of 2020, **100%** by 2023

Gore Fabrics has dedicated 7 internal teams to develop new fluorinated and non-fluorinated technology over the coming years, making this a priority in our R&D portfolio.

Although we are working very hard together with our suppliers on delivering against our plan, we have to accept that true innovation is nothing that can be guaranteed. Due to technical challenges we have met, we currently are working towards first shipments to customers in 2020, with a scale-up towards 2021 and complete elimination of PFC_{EC} by the end of 2023. For specialized outdoor / complex technologies the timeline remains unchanged.



2. Gore Fabrics introduces **new, non-fluorinated DWR** for A/W 2018 collection in Q2 2018 (see 2.2.1.)

The new non-fluorinated Durable Water Repellency (DWR) has been selected after a thorough screening and field test phase which demonstrated that this PFC_{EC} free DWR meets our performance standards for activities like lift-served skiing and day hiking.

In the beginning of 2018, Gore Fabrics has begun shipping laminates treated with this new PFC_{EC} free DWR to our customers.

The introduction of our new, non-fluorinated DWR to our general outdoor product range has exceeded our expectations: >50% of our general outdoor product portfolio has transitioned in 2018.



3. **Product labeling** that allows consumers to connect Gore Fabrics’ progress to the products available in the retail market (see 4.0)

We have developed a new product labelling framework, starting with PFC_{EC} free DWRs, and successfully implemented the framework with brand and retail partners.



MILESTONES

(see details in GORE FABRICS' GOAL AND ROADMAP document)

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4. New ePTFE barriers made **without** using PFC_{EC} as polymerization aids (see 2.2.2.)

Gore Fabrics and our suppliers made significant progress in developing new PTFE grades that no longer require PFC_{EC} in their manufacturing. In late 2017, we began early prototyping efforts with these new PTFE grades.

Although we had technical breakthroughs in finding new and high performing PFC_{EC} free materials, commercializing PTFE made without PFC_{EC} will take longer than we originally expected. The progress we are making gives us confidence that we will achieve our goals, albeit delayed.



5. **Alternative** membrane **materials** that are not based on fluorinated materials (see 2.2.3.)

We have been actively pursuing alternative materials at pace, in addition to ePTFE solutions. Following the evaluation of a range of options, we now have a focused effort on the most promising development paths. Major technical uncertainties have been addressed, but there is still technical work to do and this suggests a longer timeline than we had originally anticipated.



6. **PFC_{EC} free DWR** for the most technically challenging uses (see 2.2.4)

The development of PFC_{EC} free DWR for highly demanding end-uses is a significant challenge ahead, but with close external collaboration we have narrowed our work to the most promising routes and are on track to achieve our goal.



7. **PTFE incineration study** to evaluate potential releases of a broad range of PFC_{EC} over representative municipal incineration conditions (see 5.1.)

Gore Fabrics evaluated scientific resources worldwide and commissioned the renowned Institute of Technical Chemistry at the Karlsruhe Institute for Technology, Germany, to conduct the PTFE incineration study in its pilot size municipal incineration plant. An independent third party laboratory was selected to perform sample analyses.

A variety of stakeholders have provided input on the draft of the study plan.

The experimental campaign at the KIT was carried out in February 2018, following a series of validation campaigns in 2017 and 2018.

KIT and W. L. Gore are seeking to publish the study in a peer-reviewed, scientific publication. Pending feedback from relevant journals, we can say that none of the PFC_{EC} investigated during the combustion of PTFE under standard municipal incineration conditions could be detected at significant levels above ubiquitous background concentrations.



8. Implementation of a standardized **Hazard Assessment Approach**, reporting to begin by end of 2018 (see 3.1)

Beyond our long standing work with bluesign® systems and OEKO-TEX® Standard 100, Gore Fabrics will develop and deploy additional protocols to rapidly screen the properties of new materials resulting from its innovation program. Gore's product safety and chemical compliance experts have evaluated a range of emerging methodologies and, based on this work, deployed additional protocols to rapidly screen the properties of new materials resulting from its innovation program. This new approach has been review by third party experts and has been implemented in December 2018. Gore will make the approach available to the public in 2019.

