Collaboration for fluorine-free waxing in competitive skiing

Press Release: Sept 3 2019

Key stakeholders from ski sports in Europe gathered recently, to stimulate the phase-out of highly fluorinated substances with high environmental and health risks in competitive skiing. The POPFREE Ski Goes Global project, led by RISE Research Institutes of Sweden and Peak Innovation, has fluorine-free competitive skiing as main goal. A survey among elite skiers shows that 86% are in favour of fluorine-free waxing, if equal for all.

Vegard Ulvang, Olympic champion in cross-country skiing and chairman of the cross-country committee in the International Ski Federation (FIS) is active in the transition.
- There is a movement in ski sports towards fluorine-free skiing. When a robust fluorine detection method is available, it is fully possible to adapt restrictions even on international elite competition level. But it is the national ski associations and the competition organizers who must lead the way, says Vegard Ulvang.

Highly fluorinated substances, so-called PFAS, are used in many consumer products because of their ability to repel water, dirt and grease. But they are very difficult to break down and therefore accumulate in nature, posing a great environmental and health risk. In skiing, there is a direct exposure risk of these substances during ski preparation and waxing, but there is also a spread of these substances in the environment during skiing.

A phase-out of PFAS in all disciplines of ski sports, where they are often used to provide optimum glide, is thus desirable from an environmental and health perspective. From a sports viewpoint this is a challenge, as neither regulations nor ethical values today prevent the use of PFAS. A survey in the POPFREE project shows that standards in skiing are mainly set by the elite, both for other competitors and for recreational skiers. Therefore, in order to achieve a wide phase-out, competitive skiing needs to go ahead and show the way.

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POPFREE VINNOVA Sweden's Innovation Agency

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- The latest survey we have done among elite skiers and their teams showed us that there are good conditions for creating change. Many people want to contribute to a better environment and reduced health risks. But for this to happen, they must be sure that everyone skis on equal terms, says RISE Project Manager Lisa Skedung.

Joel Svedlund from Peak Innovation can already observe attempts to change in the industry.

- The Vasaloppet 2019 initiative to remove the fluorinated waxes in their waxing service was very well-timed. In Norway, a national decision was made last winter for fluorine-free children's and youth competitions and several clubs in Sweden made similar attempts. Very likely, the demand for high-performance fluorine-free ski waxes will increase substantially in the coming years.

One technical challenge resides in the fact, that in certain conditions there are no solutions today offering the same glide. For this reason, solutions are mainly needed in three different areas: innovative fluorine-free waxes, regulations and voluntary bans for wax usage and effective testing to identify unauthorized use in competition. When it comes to rules and testing, they also need to be able to apply from local club level to major international competitions without hampering practice and reducing the attractiveness of skiing.

Martin Schlabach at NILU - The Norwegian Institute for Air Research, together with Fraunhofer IVV in Germany, has during the last two years developed and pilot-tested a method for indicating fluorinated substances on skis.

- We now have a test method that works and can identify functional amounts of PFAS on skis before start. It was tested last winter in Norwegian children's and youth competitions and we will continue in 2020 with sampling at larger competitions for ages up to 16 years, and if everything falls into place even at junior and senior level.

Participants in the first international meeting on this issue included representatives from national skiing and biathlon associations, suppliers and developers of test methodologies, ski manufacturers, ski wax producers and waxing experts, competition organizers, academy and research from Switzerland, Germany, Austria, Norway and Sweden and Swedish authorities. The results of the workshop conducted will form the basis for development projects and continued phase-out activities at ski competitions during the winter of 2020 and onwards.

POPFREE Ski Goes Global is a pre-study, funded by Vinnova, run by RISE and Peak Innovation in 2019. More information about the project can be found at https://www.ri.se/sv/popfree/om-popfree-ski-goes-global.

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