

Keeping the Arctic White: Regulatory Options for Reducing Short-Lived Climate Pollutants in the Arctic (WHITE)



The WHITE project brings together a combination of law, atmospheric physics and environmental science to identify ways to strengthen the regulatory framework for reducing emissions of short-lived climate pollutants (SLCP) in the Arctic region. Strengthening action on SLCPs is a new, promising area of climate policy that could slow down climate change in the short-term while simultaneously improving local air quality.

SLCPs are pollutants with a significant short-term warming influence on the climate, especially in sensitive regions like the Arctic. They include black carbon, methane, tropospheric ozone and some hydrofluorocarbons (HFC). According to estimates by the United Nations Environment Programme, reducing SLCP emissions, especially methane and black carbon, could slow the rate of global climate change by 0.5°C by 2040. Rapid action on SLCP emissions holds important potential to complement efforts to reduce the emissions of the main greenhouse gas carbon dioxide, leaving more time for transitioning to a low-carbon economy.

The Arctic region is warming faster than the global average and the extent of Arctic sea ice has been declining dramatically. Recent research indicates that SLCPs contribute to Arctic warming. Without new controls, there is a risk that the emissions may increase, driven, for example, by expanding economic activities in the Arctic region. In addition to their warming impact, SLCPs are, in many cases, harmful air pollutants. Reducing pollution from black carbon and methane could therefore have important co-benefits.

The WHITE project builds on the idea that prompt action to reduce emissions of SLCPs in the Arctic could improve local air quality and limit climate change and glacial melting, resulting in a multitude of benefits for the region. The project will produce a comprehensive analysis of regulatory options for reducing SLCP emissions in the Arctic region on the basis of latest research on SLCP emission models and climate change impacts of the various regulatory options.

The project includes four interlinked subprojects. Subproject 1 will study the multi-level legal and regulatory framework for regulating SLCPs in the Arctic, with a special focus on the relevant national, regional and transnational initiatives. Subproject 2 will study and develop emissions scenarios for the different regulatory options to reduce SLCPs in the Arctic. Subproject 3 will improve understanding of climate impacts of SLCPs and measures to mitigate them in the Arctic region through short- and mid-term climate simulations. Subproject 4 will collect outcomes from all other subprojects and produce an interdisciplinary synthesis of the key outcomes.

More information:

- Principal investigator: Professor Kati Kulovesi, Law School, University of Eastern Finland (UEF)

Subproject PIs:

- Professor Kari Lehtinen, UEF Department of Applied Physics
- Dr Kaarle Kupiainen, Finnish Environment Institute
- Dr Ismo Pölönen, UEF Law School