



THE ARCTIC COUNCIL AND BLACK CARBON

“[W]e know that short-lived climate forcers like methane, black carbon, and tropospheric ozone contribute significantly to the warming of the Arctic. And because they are short lived, they also give us an opportunity to make rapid progress if we work to limit them.” U.S. Secretary of State Hillary Clinton, speaking to the Joint Session of the Antarctic Treaty Consultative meeting the Arctic Council, April 6, 2009

Three weeks after Secretary Clinton made the above observation, at a ministerial meeting in Tromsø, Norway, the Arctic Council enthusiastically launched a multilateral effort to reduce black carbon and other short-lived climate forcers (SLCFs) that contribute significantly to warming in the Arctic and globally.

Unfortunately, little has happened since. Although subsequent reports of the Council’s own “SLCF Task Force” and other bodies, including UNEP’s Integrated Assessment of Black Carbon and Tropospheric Ozone,¹ have only confirmed the seriousness of the threat and the immediate benefits to be gained from addressing it, no Arctic government has taken significant steps to reduce emissions beyond those already in place. This lack of follow-through calls into question the commitment of the Arctic countries and the adequacy of the Arctic Council to address a global threat arising out of their management of the northern polar region.

Black carbon (soot), methane and tropospheric ozone have come to be called short-lived climate forcers because they contribute significantly to regional and global warming but persist in the atmosphere for only a fraction of the time CO₂ does. Black carbon is estimated to cause up to 30 percent of the human-caused warming in the Arctic but ceases to have an impact within a matter of weeks, not centuries. Rapid reductions in emissions of the short-lived climate forcers have been identified as perhaps the most effective strategy to slow rapid warming and melting in the Arctic and other glaciated areas in the near-term, and avert abrupt, irreversible changes while strategies to reduce emissions of CO₂ are implemented to limit long-term consequences. Black carbon is a component of fine particulate matter, a traditional air pollutant with significant health impacts. Black carbon’s short atmospheric residence time of about a week, means that emissions reductions provide rapid climate benefit.

Major sources of black carbon include diesel engines, agricultural burning, forest fires, and residential stoves. Most Arctic nations regulate diesel engines to reduce particulate matter, of which black carbon is a constituent, for health reasons. Some, principally in Scandinavia, have successfully reduced agricultural burning. Nevertheless, real progress on both fronts is limited. Diesel engines are designed to run for many years, and the recession has slowed fleet turnover to newer, clean designs. Efforts to accelerate fleet turnover or provide incentives for retrofits have so far been stymied by concerns about the cost or regulatory intrusion. Agricultural burning is still a major problem in Russia and a significant problem in some Canadian provinces and U.S. states, and no significant effort has been made to further reduce such burning for climate protection.

¹ The United Nations Environment Program (UNEP) Integrated Assessment of Black Carbon and Tropospheric Ozone: Summary for Decision Makers. Available at: www.unep.org/dewa/Portals/67/pdf/Black_Carbon.pdf

Arctic climate dynamics will affect climate globally. A report released by the Arctic Council's Arctic Marine Assessment Program (AMAP) on May 4th indicates that accelerated melting of the Greenland Ice Sheet is a very significant contributor to the predicted 1.2 meter sea level rise this century. This reality calls for leadership from Arctic nations to spur faster action to abate emissions of black carbon and other short-lived climate forcers.

The Arctic ministers and the Arctic countries need to act in a much more decisive manner to spur real progress on this important issue and to demonstrate that they are truly capable of managing the Arctic to protect both the Arctic and the global environment. Actions that could be endorsed and taken now, without further treaties or formal agreements, include:

- Major programs to replace or retrofit polluting diesel engines.
- Serious controls on agricultural burning, especially in the spring.
- Reductions of black carbon emissions from all ships operating north of 50° N. latitude.
- Maximum possible reductions in hydrocarbon flaring.
- Comprehensive inventories of black carbon sources north of 50° N. latitude, together with analyses of their impacts on the health of Arctic communities and indigenous peoples.