



Saving the Arctic

The Urgent Need to Cut Black Carbon Emissions
and Slow Climate Change

By Rebecca Lefton and Cathleen Kelly August 2014

Introduction and summary

The Arctic is warming at a rate twice as fast as the rest of the world, in part because of the harsh effects of black carbon pollution on the region, which is made up mostly of snow and ice.¹ Black carbon—one of the main components of soot—is a deadly and widespread air pollutant and a potent driver of climate change, especially in the near term and on a regional basis. In colder, icier regions such as the Arctic, it peppers the Arctic snow with heat-absorbing black particles, increasing the amount of heat absorbed and rapidly accelerating local warming. This acceleration exposes darker ground or water, causing snow and ice melt and lowering the amount of heat reflected away from the Earth.²

Combating climate change requires immediate and long-term cuts in heat-trapping carbon pollution, or CO₂, around the globe. But reducing carbon pollution alone will not be enough to avoid the worst effects of a rapidly warming Arctic—slashing black carbon emissions near the Arctic and globally must also be part of the solution. Unlike regular carbon pollution, which remains in the atmosphere for a century or longer, black carbon emissions dissipate in just a few days or weeks but pack a more powerful punch: Black carbon emissions are hundreds to thousands of times more potent than carbon pollution.³ For this reason, immediate reductions of black carbon pollution combined with reductions in CO₂ can deliver measurable decreases in temperatures in the near term, slow the loss of sea ice and Arctic melting, protect public health, and save millions of lives.

This report explains the sources of black carbon pollution, the numerous benefits of reducing black carbon, and the feasibility of ambitious black carbon-reduction targets. Additionally, it calls for the United States to lead ambitious national, regional, and global efforts to address rapid warming in the Arctic and other glaciated regions when U.S. Secretary of State John Kerry becomes chair of the Arctic Council in 2015.

As the incoming Arctic Council chairman, Secretary Kerry should work with the members of the Arctic Council to achieve the following goals:

- Establish climate change as the overarching theme of the 2015–2017 Arctic Council agenda
- Secure strong commitments from all Arctic Council nations in 2015 to set national goals and a regionwide target to limit black carbon pollution

In addition, Secretary Kerry and Arctic Council members should encourage accelerated action from observer nations and drive action to reduce black carbon on a global scale through the following initiatives:

- Secure commitments from Arctic Council observer nations to adopt ambitious voluntary national targets and undertake new initiatives to reduce black carbon emissions
- Launch a Global Ice Preservation and Security Initiative to slow dangerous levels of warming in the Arctic and other cryosphere regions—the Earth’s frozen surface areas

The United States is well positioned to lead ambitious national, regional, and global efforts to address rapid warming in the Arctic and other glaciated regions. Many Arctic nations are already well on their way toward significant emissions reductions. Working together through the council with member and observer nations can mobilize greater ambition among countries to reduce black carbon even further and measurably slow warming in the Arctic.

The Arctic Council was launched in 1996 by eight Arctic nations—Canada, Denmark, including Greenland and the Faroe Islands, Finland, Iceland, Norway, Russia, Sweden, and the United States—to peacefully manage the Arctic’s fragile environment, risks, and commercial opportunities.⁴ Secretary Kerry will take over the chairmanship of the Arctic Council from 2015 to 2017—a position that rotates among Arctic Council countries every two years. Together, Arctic Council nations and observers⁵—including China, India, Japan, South Korea, Germany, the United Kingdom, and others—produce at least 60 percent of global black carbon emissions. Reducing this super pollutant would help prevent global temperatures from spiking more than 2 degrees Celsius by mid-century. Scientists agree that this is the level necessary to avoid the worst effects of global warming.⁶

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