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## **Cutting Black Carbon Provides Fast Benefits for Climate, Health**

### **Congressionally mandated EPA study shows “win-win” potential**

Washington, DC, March 25, 2011 –Black carbon (BC) is “ripe for ‘win-win’ emissions reduction approaches that bring both climate and public health benefits”, according to a new U.S. EPA study mandated by Congress.

The study, which is now undergoing peer review, states that reducing “BC emissions can halt the effects of BC on temperature, snow and ice, and precipitation almost immediately.” The EPA study also states that cutting BC will protect public health and help agriculture.

“Cutting BC provides the biggest benefits for the regions making the cuts,” said Durwood Zaelke, President of the Institute for Governance & Sustainable Development. “This is an attractive strategy for regions with high emissions, including Asia.”

Zaelke added, “Cutting BC is an essential strategy for vulnerable regions like the Arctic and Himalayas. If we don’t cut the BC emissions that end up in these vulnerable regions, we risk triggering positive feedback mechanisms that accelerate warming.” (An example of a positive feedback is loss of Arctic sea ice; when it is replaced by darker water, it absorbs more incoming radiative energy and accelerates warming.)

BC emissions may be half or more of the warming in the Arctic, and in the Himalayas as well. In the Arctic, the average springtime forcing from BC is 1.73 watts per square meter. This compares with global warming from CO<sub>2</sub> of 1.66 watts per square meter. The report notes instantaneous warming of up to 20 watts per square meter in some places in the Himalayas in springtime.

In the U.S., BC is reducing snow cover and overall snowpack and contributing to earlier spring melting. This reduces melt-water later in the year when it is most needed.

While cutting BC will provide powerful climate protection in the short run, it has limited impact on long-term warming. In contrast, cutting CO<sub>2</sub> has little benefit in the short-term. CO<sub>2</sub> stays in the atmosphere for decades to millennia. After cutting CO<sub>2</sub>, the climate is slow to respond because the atmospheric concentrations that have accumulated since 1750 remain relatively constant for long periods.

“We can only win,” Zaelke said, “if we cut BC and the other short-lived climate pollutants, while also slamming on the brakes for CO<sub>2</sub> emissions. It’s not one or the other. We need to cut both for the Planet to continue to be habitable for humans.”

In the U.S. and other developed countries, most BC is from diesel use in the transport sector. For these sources, BC emissions can be reduced with ultra-low sulfur diesel, along with new engine standards and retrofits of existing engines. In developing countries, BC emissions are from residential cookstoves, as 3 billion people worldwide still cook with biomass or coal in rudimentary stoves or open fires. This source of BC pollution not only causes significant regional warming, it also causes 2 million deaths a year, mostly women and children.

Improved cookstoves are available and there is “greater potential to achieve large-scale success in this sector today”, according to the EPA report. Existing technologies also are available for other sources of BC in the developing world, including brick kilns, coke ovens (largely from the production of iron and steel), and industrial boilers. Open biomass burning is another source of BC emissions globally, but is mixed with cooling pollutants as well. The EPA report concludes that open burning causes warming over snow and ice, but more data is needed to determine the impact in other regions.

EPA has posted the draft study here:

<http://yosemite.epa.gov/sab/sabproduct.nsf/WebCOUNCIL/6A702A1E6287B6C78525780E005074BA?OpenDocument>

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The Institute for Governance & Sustainable Development’s mission is to promote just and sustainable societies and to protect the environment by advancing the understanding, development and implementation of effective, accountable and democratic systems of governance for sustainable development.

Beginning in 2006, the Institute embarked on a “fast-action” climate mitigation campaign to promote non-CO<sub>2</sub> strategies that will result in significant emissions reductions in the near-term, to complement cuts in CO<sub>2</sub> which are essential for the long-term. These strategies include reducing emissions of local air pollutants such as black carbon, methane, and tropospheric ozone; mitigation of hydrofluorocarbons (HFCs) through the Montreal Protocol ozone treaty; and carbon-negative measures such as biosequestration through expanded biochar production.

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