

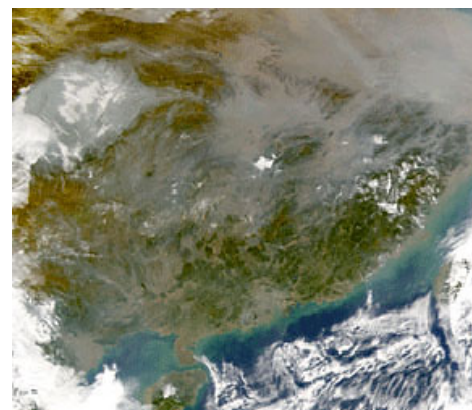


12 June 2008

Jump-Starting Climate Protection: INECE Targets Compliance with Laws Controlling Black Carbon

The International Network for Environmental Compliance & Enforcement (INECE) is launching a program to protect the climate by strengthening compliance and enforcement with national policies and measures pursuant to Article 4 of the UN Framework Convention on Climate Change (UNFCCC) that mitigate climate emissions and enhance carbon sinks. This is the first in a series of INECE Climate Compliance Alerts, and it focuses on black carbon, an aerosol commonly known as soot¹.

Black carbon is the second largest contributor to global warming after CO₂ emissions, and reducing it presents the fastest strategy for slowing climate change. Black carbon warms the atmosphere in two ways. First, its dark color absorbs heat and raises the temperature of the ambient air. Second, black carbon deposits darken snow and ice surfaces, lessening its reflectivity and absorbing heat, thus accelerating melting. Recent estimates of black carbon's climate warming impact is as much as 55% of CO₂'s impact, and is larger than the warming due to any non-CO₂ greenhouse gas (GHG). In some regions such as the Himalayas, the impact of black carbon on melting snow, ice, and glaciers may be



equal to that of CO₂. Black carbon emissions significantly contribute to Arctic ice-melt, and reducing such emissions may be the fastest way to mitigate Arctic warming. Reducing black carbon emissions also may help restore historic rainfall patterns, lessening drought conditions in certain areas.

Atmospheric brown clouds over Asia as seen from space

Photo courtesy of NASA

Controlling black carbon emissions has the potential to increase climate protection for two main reasons: first, black carbon is short-lived in the atmosphere (generally airborne for several days to a month, unlike GHGs – CO₂, by contrast, persists for 50–100 years); and second, the technology already exists for a drastic world-wide reduction in black carbon. Moreover, reducing black carbon could provide very significant human health co-benefits, including avoiding hundreds of thousands of air pollution (indoor and outdoor air) related deaths annually.

For all of these reasons, in its 8th International Conference statement, INECE called upon the entire compliance and enforcement community, as well as the media, to promote compliance with measures that restrict emissions contributing to climate change, specifically including black carbon. The INECE effort will help implement the mandate of UNFCCC for all parties to take national policies and measures to mitigate climate change. This Alert is one of a series of actions INECE will take to raise awareness about black carbon, and the underlying science. Our goal is to identify and assess opportunities presented

¹ Technically speaking, black carbon is only one component of soot, and is responsible for its black color.

through compliance with existing laws and regulations on a global basis to reduce black carbon emissions immediately. Stronger black carbon compliance and enforcement efforts can buy us critical time, allowing necessary advances in controlling CO₂ and other GHGs before critical “tipping points” such as the disintegration of the Greenland ice sheet and Arctic ice–melt are reached. In the weeks to come, INECE will also be starting a black carbon forum on its website, as well as convening a core group of members to actively analyze and advance the issue.



Diesel idling from heavy duty engines is a source of black carbon, though many states have strict controls

of black carbon emissions, offer a particularly good target for reductions. Clearly, the opportunities for minimizing black carbon emissions are not limited by continent or level of economic development.

As an early step to combating black carbon, it would be very useful for INECE practitioners in each country to locate or create black carbon source inventories (which, given the need for rapid action, initially may need to be an informal process). After inventories are assembled, enforcement officials can systematically determine which “laws on the books” address black carbon emissions, and fashion compliance strategies prioritizing the major black carbon contributors that would most benefit from a more robust and focused compliance approach – ranging from more active compliance assistance to enforcement actions against significant or persistent non-compliers. Gaps in enforcement regimes, some of which may require new or revised legislation, will undoubtedly be identified during this process.

Even in preliminary communications with INECE members, it is clear that opportunities abound for ensuring greater compliance with laws that would result in curtailing black carbon. For example, South Africa’s Atmospheric Pollution Prevention Act 45 of 1965, includes the regulation of fuel burning appliances (e.g., the burning of wood and coal) and various smoke control measures (including providing for notices by a local authority to bring about the cessation of emission of smoke from specific premises). In Australia, unlawful clearing of native trees, including through burning, is regulated under the Vegetation Management Act of 1999 (VMA), and has succeeded in reducing air emissions through emphasizing voluntary compliance, though enforcement actions are used where necessary. In the United States a series of more stringent standards for “ultra clean” diesel engines (both on and offroad) are beginning to become effective, as are standards for marine vessels.



Open biomass fires produce brown clouds full of soot and account for 40% of global black carbon emissions

Moreover, compliance assistance has been shown to be a successful strategy in limiting black carbon. In order to promote environmental compliance among small-scale industries in India, some states initiated innovative economic incentive schemes that promote compliance with environmental requirements,

including strict particulate emission standards. For example, in order to facilitate fuel conversion from coal to oil or gas in small boilers and ceramic kilns, in 2001 the West Bengal Pollution Control Board launched a project to provide financial assistance to these industries. Under the scheme, 50% of the capital costs of conversion are reimbursed. This has led to a drastic reduction of emissions of particulate matter from these industrial units. There are many more general examples of existing laws globally addressing black carbon emissions, such as statutes regulating:

- slash-and-burn clearing of forests and savannahs
- shore-based power/electrification of ships at port, regulating idling at terminals
- regular vehicle emissions tests, retirement, or retrofitting
- sale of certain fuels and/or requiring the use of cleaner fuels for certain uses
- laws limiting the use of chimneys and other forms of residential biomass burning
- operation of industrial, power generating, and oil refining facilities through periodic permit renewal and/or modification of equipment
- annual emissions from power generation plants (requiring, e.g., installation of electrostatic precipitators or scrubbers)

Again, you will soon be hearing more from INECE regarding black carbon. Please address any suggestions, comments or questions to Durwood Zaelke, Director of the INECE Secretariat, at zaelke@inece.org or Peter Murtha, on detail to the INECE Secretariat from U.S. EPA, at pmurtha@inece.org. And, if you would like to read more on this subject now, please see the article on the website of our host NGO, the Institute for Governance & Sustainable Development: <http://igsd.org/docs/BC%20Summary%20June%202010.pdf>.