



# BLACK CARBON Key Messages



UNDERSTANDING THE ROLE OF BLACK CARBON IN PUBLIC HEALTH, CLIMATE AND AIR QUALITY

## TARGETING SPECIFIC BLACK CARBON SOURCES CAN IMPROVE PUBLIC HEALTH AND FIGHT CLIMATE CHANGE

The science clearly shows that emissions from black carbon sources cause premature death, damage the global climate and harm important ecosystems. **We can act now** to cut emissions from vehicles, cookstoves and industrial sources of pollution, saving lives and protecting the planet.

### The Science is Strong

Black Carbon (BC) emissions, primarily from incomplete burning of fossil fuels and biomass, and their co-emitted pollutants impact public health and important environmental processes, including the Earth's climate. Key messages about the science of BC:

- Fine particle pollution, PM<sub>2.5</sub>, causes **serious health problems and premature death**. BC and other emissions from BC sources are a significant part of the PM<sub>2.5</sub> linked to these problems;
- **Children are particularly at risk** of health effects from particle pollution;
- BC is the most strongly warming component of fine particle pollution, and has climate impacts beyond warming, for example **disrupting regional rainfall patterns**;
- **The Arctic and the Himalayas are particularly vulnerable** to BC effects;
- **A strong scientific foundation** supports taking action and the scientific case cannot be ignored;
- Action on all sources of BC will improve human health, but only some will reduce the rate of warming. These actions have been clearly identified;
- Taking action now on these 'win-win' sources will achieve lasting benefits for public health, the environment, and climate.

### The Urgency is Now

Particle pollution, including BC, is linked to over 7 million premature deaths each year from outdoor and indoor exposure. BC lasts only short time in the atmosphere (days to weeks). Because of BC's strong warming potential, acting quickly with targeted strategies can be expected to provide relatively immediate climate and public health benefits.

Key messages to encourage action now:

- **It's Time to Act!** To slow the rate of near-term climate change. It's not enough to act, we must act now;
- **Don't Wait!** Act now to reduce BC and produce health and climate benefits now;
- **You Benefit!** Local reductions will bring local health benefits;
- **Solutions are Here!** Technologies and practices already exist and have been implemented around the world.

### Solutions are Known

Cost-effective control technologies and measures are available to reduce emissions from sources of BC. Peer-reviewed scientific assessments point to specific BC sector and mitigation measures which, if implemented widely and rapidly, can make a big difference for climate and public health.

Key messages about measures to reduce emissions of BC:

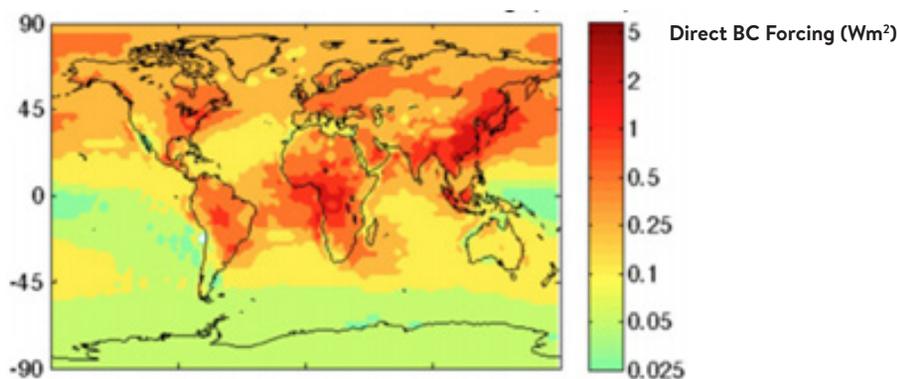
- **Supported by Science** - The science tells us where to start: high emitting diesel engines, residential heating and cooking, brick kilns and coke ovens;
- **Cost Effective** - Accounting for the multiple benefits associated with BC measures makes them cost effective.

### BC is Warming Everywhere

Black carbon warms directly where it's emitted, but the effects are felt globally. BC can be transported over long distances, for example from Asia to the Arctic. In addition, the heat generated over Asia is transported elsewhere, for example to the Arctic, thousands of kilometres from where the BC is emitted.

"If someone proposed that you could save close to 2.5 million lives annually, cut global crop losses ... and curb climate change, what would you do? Act, of course..."

Achim Steiner  
Former Executive Director,  
UNEP



## Take Action with the CCAC

The CCAC is working to ensure rapid delivery of climate and clean air benefits by reducing black carbon and other key short-lived climate pollutants (SLCPs), including methane and hydrofluorocarbons (HFCs). Key messages about how CCAC can help reduce BC:

- **Resources are available:** The CCAC can work with you to identify the most cost-efficient and practical ways to reduce emissions;
- **Be a Partner:** The CCAC is a non-binding, voluntary international partnership, bringing together diverse and experienced global partners;
- **Make Your Success Happen:** The CCAC encourages national action, looks for barriers to action and helps to surmount them; and promotes best practices, showcasing successes.

## Black Carbon Measures

Measures to reduce BC also reduce other components of particle pollution, significantly improving public health for those who live and work near these sources of pollution. Targeting certain sources can achieve a win-win for both climate and public health.

## ABOUT THE CCAC

The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) is a voluntary global partnership of governments, intergovernmental organizations, business, scientific institutions and civil society committed to catalysing concrete, substantial action to reduce SLCPs (including methane, black carbon and many hydrofluorocarbons). The Coalition works through collaborative initiatives to raise awareness, mobilise resources, and lead transformative actions in key emitting sectors.

## RESIDENTIAL SOURCES

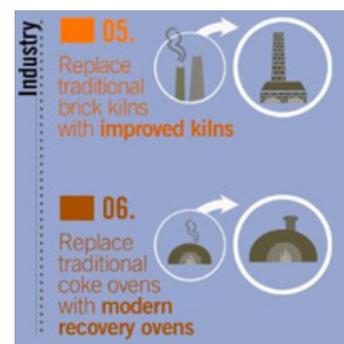
Household cooking and domestic heating are significant sources



of SLCPs like methane and BC. Residential solid fuel burning is responsible for 25% of all BC emissions. 84% of these homes are in developing countries.

[www.ccacoalition.org/en/initiatives/cookstoves](http://www.ccacoalition.org/en/initiatives/cookstoves)

## INDUSTRIAL SOURCES



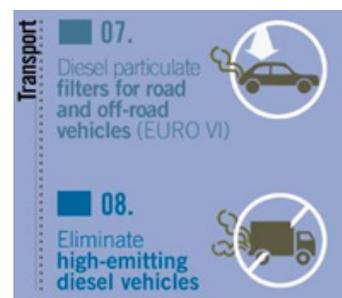
Brick production is still an ancient practice in many countries, where bricks are produced in artisanal kilns fueled by coal, wood, dung and other biomass materials. As a result, large amounts of particle pollution, including BC, are spewed into the atmosphere, contaminating the air, water, earth, and lungs of millions of people.

[www.ccacoalition.org/en/initiatives/bricks](http://www.ccacoalition.org/en/initiatives/bricks)

## TRANSPORTATION SOURCES

The transport sector is a major contributor to ambient fine particles in major cities, and emits some 19% of BC globally. Recent research has identified diesel vehicles and engines as one of the most attractive sectors for black carbon mitigation. Fine particles and BC from diesel vehicles and engines can be virtually eliminated through technologies that are present on half of new heavy-duty vehicles sold today.

[www.ccacoalition.org/en/initiatives/diesel](http://www.ccacoalition.org/en/initiatives/diesel)



## MORE INFORMATION

[www.ccacoalition.org/en/initiatives/snap](http://www.ccacoalition.org/en/initiatives/snap)

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