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Short Lived Climate Forcers and Contaminants (SLCFC) Project Steering Group Terms of Reference

Circumpolar Project Proposal Focusing on Black Carbon Emission Reduction Projects

September 2010

Background

Black carbon is composed of fine particles that are produced from the incomplete combustion of fossil fuels, wood, crop waste and other biomass, and refuse. Fine particles (known as PM2.5), of which black carbon is one constituent, have well known and significant adverse impacts on human health. Many governments have taken action to reduce emissions of particles on the grounds of health impact alone.

In addition to the human health impacts, black carbon also has a significant impact on the environment, in particular in the Arctic. Black carbon is one of several Short Lived Climate Forcers ("SLCF") that includes substances such as hydrofluorocarbons (HFCs) and methane.

Strong evidence indicates that black carbon contributes to climate change by warming the atmosphere and by darkening the surface of snow and ice, speeding melting. Therefore, action to reduce emissions of black carbon that transport to areas such as the Arctic have the potential to result in near-term slowing of glacial

melt. Recent studies suggest that black carbon is responsible for observed warming in the Arctic. Unlike long-lived greenhouse gases such as carbon dioxide, black carbon's warming effects are short-lived, and therefore reductions in emissions will help mitigate Arctic warming in the near term.

Action on black carbon would complement long-term CO_2 mitigation, help reduce the localized albedo effect that is speeding melting of Arctic ice, and result in localized improvements in human health among indigenous peoples and Arctic populations.

The topic of black carbon and other short-lived climate forcers was extensively discussed at the last Ministerial Meeting of the Arctic Council, held April 20, 2009 in Tromsø, Norway. Ministers, in their *Tromsø Declaration*:

> "*Urge* implementation of early actions where possible on methane and other short-lived climate forcers"

According to the Arctic Council Rules of Procedure and the agreed Arctic Contaminants Action Program (ACAP) guidance on project development, "most ACAP projects (inter alia programmes) are developed on the basis of pollution problems identified by the Arctic Council." As the ministers in 2009 have identified short-lived climate forcers as a problem of such particular importance as to urge nations to take early action on these contaminants, ACAP proposes to convene a project steering group to facilitate cooperation on such actions, pending endorsement by the SAOs.

At Tromsø, the Ministers also:

> "*Decide[d]* to establish a task force on short-lived climate forcers to identify existing and new measures to reduce emissions of these forcers and recommend further immediate actions that can be taken and to report on progress at the next Ministerial meeting"

The Short Lived Climate Forcers Task Force (SLCF TF), co-chaired by the United States and Norway, was convened shortly after the Tromsø meeting and has organized its near term work around the science, sources, and mitigation strategies on black carbon.

To help facilitate the work of the SLCF TF, ACAP proposes to provide its expertise in mitigation activities to the SLCF TF in a timely and relevant manner. The intermediate outcomes of ACAP emissions reduction project work on black carbon would be to help develop activities or initial mitigation best practices useful to the SLCF TF work. Since the next Ministerial meeting is in 2011, ACAP believes it would be useful to establish a PSG and undertake project activities as soon as possible taking into account the ongoing work and results of the SLCF Task Force.

Although black carbon emissions inventories are relatively uncertain and pollution from sources outside the Arctic does have impacts within the Arctic, emissions from incomplete combustion represent the largest inventory component by far in the Arctic itself. Emissions of black carbon also involve the co-emission of other pollutants.

Mandate and Functions

The primary mandate of the Short Lived Climate Forcers and Contaminants Project Steering Group (PSG) is to facilitate projects with an initial focus on activities that reduce emissions of black carbon contamination that transports and deposits in the Arctic.

Pending approval by the SAOs acting on behalf of the Arctic Council to establish a project steering group, ACAP through its PSG should undertake project preparation activities (project scoping and assessment, development of financing plan, and detailed project workplan) over the Fall-Winter 2010/2011 timeframe.

The PSG, is to:

1. Select chairs and co-chairs, as appropriate, at its first meeting;
2. Focus its initial work on black carbon emissions but may also choose to undertake additional activities on other short lived climate forcers and related activities relevant to the Arctic;
3. Develop early action projects, including work on diesel black carbon sources etc.;
4. Undertake its work in a circumpolar manner, in conjunction with priorities identified by the SLCF Task Force, to help identify best technologies and practices and lessons learned that can be widely applicable to mitigating sources of black carbon emissions transported to the Arctic;
5. Incorporate the needs of local and indigenous populations in the design of project(s);

6. Welcome representatives of Arctic Council observer countries/groups and other experts with technical and financial resources to participate in the PSG, as appropriate;
7. Design projects with the goal of informing decision-makers of the climate and human health benefits as well as the costs associated with mitigation activities;
8. Liaise with the Short-Lived Climate Forcers Task Force, the Arctic Monitoring and Assessment Programme Working Group, and other relevant bodies, as appropriate;
9. Provide a status and progress reports in writing to the chair of ACAP prior to ACAP and SAO meetings;
10. Adhere to the Arctic Council Rules of Procedure and ACAP Project Preparation Guidance document, as appropriate;
11. Propose amendments to these terms of reference, as needed, to ACAP for its consideration.

Timing

The PSG starts its work after it is established by the Arctic Council and will operate in accordance with the Arctic Council Rules of Procedure and ACAP project operating guidelines.

PSG Chairs

The United States is pleased to chair the project steering group and the following vice chairs:

Russia

Norway

Sweden

Additional members of the PSG include, but are not limited to:

Canada

Finland

NEFCO

RAIPON

SLCF Task Force

AMAP

Funding

A number of countries and other possible participants have expressed interest in providing funding to this PSG. For example, the United States Government and the Russian Federation plan to contribute funding to finance certain activities set out in this ToR. Norway, Sweden, and the Nordic Environment Finance Corporation (NEFCO) expressed an interest in participating, in the context of Arctic Council cooperation, by co-financing development and implementation of appropriate energy efficiency, clean technology, and transportation related projects. Additionally, funds may be available from the Project Support Instrument (PSI), once operational.

All activities are contingent upon the availability of funding which may be from Member States/Observers/Other PSG Participants, the Project Support Instrument, national development assistance, or other sources. Listing of activities in this document does not constitute or imply a promise of funding. Further it is recognized that not all activities may be eligible for all types of assistance indicated in this paragraph.

Background Attachment to the Terms of Reference

Elements of an Initial Black Carbon Project Proposal by the United States for Consideration by the PSG

The PSG would undertake circumpolar projects on black carbon sources as a priority. The United States is expected to propose to the PSG and, has funding immediately available for, a project on diesel sources of black carbon.

Reducing black carbon from diesel sources first requires a change to ultra-low-sulfur diesel fuel. On its own, ultra-low sulfur diesel fuel (ULSD) only marginally reduces black carbon. The cleaner fuel must be used in tandem with improved engine technologies and exhaust treatment technologies to achieve the maximum benefit.

Globally, there are a wide range of diesel retrofit projects of on-highway and non-road vehicles and marine vessels underway. The Arctic demonstration projects would utilize the expertise and experience gained in these programs, and would bring in ULSD to facilitate use of advanced emission control technologies in a variety of applications, including:

A. Mobile and stationary diesel engines, including rural generation units

B. Certain marine and port operations

The proposed project would:

- Assess primary sources of black carbon emissions in the Russian Arctic and/or other Arctic Countries;

- Develop a baseline emission inventory for black carbon from diesel sources where lacking;
- Implement targeted, on-the-ground demonstration projects for reducing black carbon from diesel; and
- Establish policy recommendations including options for parallel activities across Arctic nations and financing options for reducing black carbon/diesel sources in the Arctic.

Additional details and project scoping activities on the U.S. black carbon diesel project would be discussed at the first meeting of the PSG.