

# **1 THE ACTION**

## **1.1. Description of the Action**

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#### *1.1.1.1 Context*

This proposal is submitted in response to the Commission Implementing Decision on the 2016 Annual Action programme for the Partnership Instrument: Action Fiche for Black Carbon in the Arctic.<sup>1</sup>

Climate change is having profound effects on the Arctic cryosphere – the Arctic climate is moving to a new state. Arctic climate plays a strong role in the global climate system and impacts of climate change on the Arctic cryosphere will have implications for other regions of the world through, for example, sea level rise and increased frequency of extreme weather events.

In adopting the Paris Agreement, to “limit warming to well below 2°C above pre-industrial levels ...”, the Parties to the UNFCCC recognized that reductions in the emission of carbon dioxide are the backbone of any meaningful effort to mitigate climate forcing. However, in order to slow the pace of warming over the next two to three decades, both globally and in the Arctic, countries must also reduce emissions of powerful short-lived climate pollutants (SLCPs) such as black carbon and methane as an essential complement to reductions of carbon dioxide and other long-lived greenhouse gas emissions. Short-lived climate pollutants are gases and particles that cause warming but which have life-times in the atmosphere of a few days to a few decades - much shorter than that of carbon dioxide. The shorter the lifetime, the more quickly atmospheric concentrations can be reduced by lowering emissions to provide climate mitigation benefits in the short term. The focus of this action is on black carbon (commonly known as soot) - a component of fine particulate matter (PM<sub>2.5</sub>) emitted from the incomplete combustion of fossil fuels and biomass. Black carbon particles absorb solar energy and have a warming influence on the climate. Black carbon emissions are estimated to be the third largest contributor to current warming, after CO<sub>2</sub> and methane.

Under the Arctic Council’s Arctic Monitoring and Assessment Programme (AMAP), the 2015 *AMAP Assessment of Black Carbon as an Arctic Climate-forcer* concluded that, due to their proximity to the Arctic, Arctic States are uniquely positioned to slow Arctic warming caused by emissions of black carbon. Despite generating just ten percent of global black carbon emissions, Arctic States are responsible for 30 percent of black carbon’s warming effects in the Arctic. Consequently, the Arctic Council adopted a Framework for Action on Black Carbon and Methane under which they committed: “to take leadership ... by further reducing the overall black carbon and methane emissions from [Arctic] countries and by

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<sup>1</sup> The action, as described in the Commission document ‘Action Fiche for Black Carbon in the Arctic’ is a response to the Joint Communication proposing an integrated European Union policy for the Arctic [Joint Communication to the European Parliament and the Council JOIN (2016) 21; [http://eeas.europa.eu/arctic\\_region/docs/160427\\_joint-communication-an-integrated-european-union-policy-for-the-arctic\\_en.pdf](http://eeas.europa.eu/arctic_region/docs/160427_joint-communication-an-integrated-european-union-policy-for-the-arctic_en.pdf)] and forms part of the EC Implementing Decision on the 2016 Annual Action programme for the Partnership Instrument. The European Union policy for the Arctic identifies specifically that “alongside its CO<sub>2</sub> commitments for 2030 and 2050, the EU should contribute to international efforts to limit emissions of short-lived climate pollutants such as black carbon and methane”.

working with Arctic Council Observer States and others to also reduce emissions produced beyond the borders of Arctic States.”, and “to take enhanced, ambitious, national and collective action to accelerate the decline in our overall black carbon emissions and to significantly reduce our overall methane emissions.” Through enhanced actions they further committed “to provide black carbon inventories starting in 2015; to establish an aggregate summary of black carbon and methane emissions; and to adopt an ambitious, aspirational and quantitative collective goal on black carbon...”.

To support the strategic policy objectives outlined under, inter alia, the Paris Agreement and the Arctic Council, the European Commission (EC) adopted in 2016 a decision with a view to finance an Action on Black Carbon in the Arctic. The Action is viewed as an integral component of ongoing international initiatives promoting action on short-lived climate forcers in general. Specifically, it is intended to “complement existing activities of the EU and other actors”. The plan to implement the Action presented in this document therefore recognizes the role of other key international organisations in addressing black carbon emissions. These organisations include, among others, the UN-Economic Commission for Europe (UN-ECE) through the Convention on Long-range Transboundary Air Pollution (CLRTAP); the Arctic Council (AC) and several of its subsidiary bodies; work through the UN Framework Convention on Climate Change (UNFCCC) and Intergovernmental Panel on Climate Change (IPCC); and the Climate and Clean Air Coalition (CCAC). EU Member States and the EC actively participate in the work of most of these international fora either as formal members or observers.

#### ***1.1.1.2 Objectives of the Action***

The overall objective of the action, as outlined in the Action Fiche, is “to contribute to the development of collective responses to reduce black carbon emissions in the Arctic and to the reinforcement of international cooperation to protect the Arctic environment.”

The specific objectives of the proposed action are:

- To support, promote and enhance the process of setting clear commitments and/or targets on major BC sources with the potential to affect the Arctic, in particular on gas flaring and domestic heating sources mainly from outside the EU and with consideration of maritime shipping<sup>2</sup>; and
- To move forward a process leading to enhanced international cooperation on black carbon policy in the Arctic region.

The Action has clear policy objectives and the implementation plan is therefore strongly focussed on supporting these.

The Action will, inter alia:

- i. develop modelled scenarios for different policy options to reduce BC emissions and establish publicly available datasets for international inventories and projected emissions that affect the Arctic;

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<sup>2</sup> Since the adoption of the ‘Action Fiche’ by the European Commission, the Arctic Council has adopted recommendations developed by its Expert Group on Black Carbon and Methane (EGBCM) in this respect to adopt “ambitious, aspirational and quantitative collective goal on black carbon” provides an additional foundation for work planned under the Action.

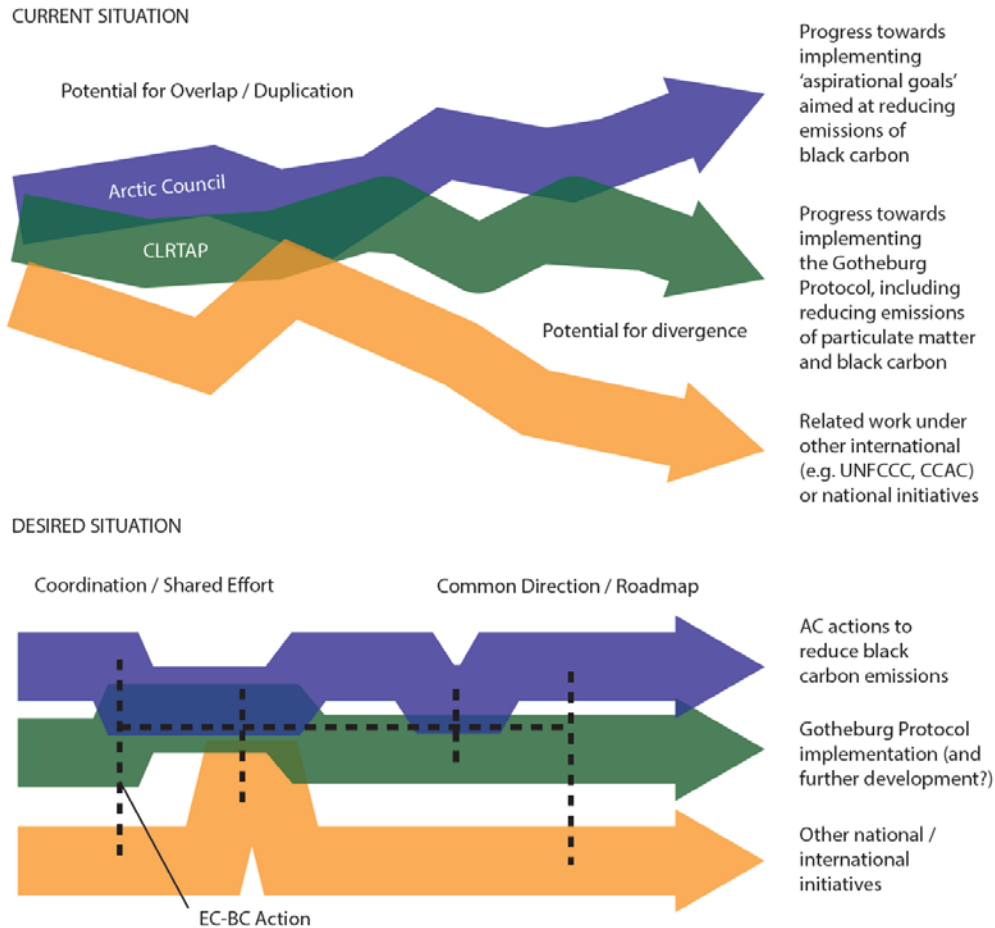
- ii. assess and synthesize BC information and data to identify knowledge gaps, improve source quantification, and evaluate the climate impacts in the Arctic;
- iii. develop outreach materials and communicate findings to key stakeholders including policy-makers, with a special focus on efforts to facilitate coordination with the Arctic Council and UN ECE CLRTAP; and
- iv. outline an indicative roadmap for enhanced international cooperation under a number of key national, regional and global initiatives.

### ***1.1.1.3 Overall Concept for implementing the Action***

The overall concept for implementing the Action focusses strongly on integrating it with ongoing activities under, in particular, the Arctic Council and CLRTAP in order to support those initiatives. These two international fora are at the centre of international work to address SLCPs and their impacts in the Arctic context.

In the case of the Arctic Council, the Action will be closely coordinated with the work of the Arctic Council's Expert Group on Black Carbon and Methane (EGBCM). It will support the EGBCM work programme addressing policy initiatives to establish and realize targets for black carbon emissions reductions, including work elements to coordinate national initiatives addressing BC and other SLCPs. It is also closely connected to work that will be implemented by the AC's Arctic Monitoring and Assessment Programme (AMAP) SLCPs Expert Group. Specifically, this concerns utilising the results of the Action's technical work focussing on BC emissions and scenarios in, e.g. the climate impact assessment work that will be performed by AMAP in the period to 2021. The AMAP work, which will also be coordinated with modelling work by groups under CLRTAP, is conceived as an integrated process addressing BC and other SLCPs.

Other international initiatives with a more global context, such as the work under the CCAC and UNFCCC/IPCC, are also relevant and considered in the implementation proposal, but to a lesser degree. The planned approach therefore involves embedding work to implement the Action into ongoing wider international initiatives with the intention of both supporting these existing initiatives and maximising the probability that Action goals can be realised, and conducted in a cost-effective manner (Figure 1).



*Figure 1. Overall Project Concept. Embedding the work to implement the Action into other ongoing international initiatives will enhance the relevance of the Action and its results. By leveraging existing expertise and funding opportunities and avoiding duplicative efforts, the Action will support existing initiatives and ongoing activities to increase (cost-effective) coordination.*

Furthermore, the implementation work will take account of, and integrate as far as possible, relevant national strategies to address black carbon emissions (such as the Canadian Strategy on Short-lived Climate Pollutants – 2017 [[http://ec.gc.ca/GES-GHG/FF677357-F627-463A-A7C4-9068CEF3C3D9/5003-SLCP%20Strategy%202017\\_EN.pdf](http://ec.gc.ca/GES-GHG/FF677357-F627-463A-A7C4-9068CEF3C3D9/5003-SLCP%20Strategy%202017_EN.pdf)]). Acceptance and implementation of policy aimed at reducing emissions associated with gas flaring and domestic heating in particular will rely strongly on national initiatives.

In relation to the goals established in the bullets (i)-(iv) in section 1.1.1.2:

The development of scenarios for different policy options to reduce BC emissions is a core element of the Action that will be embedded in wider activities under other initiatives to examine scenarios for other SLCPs and greenhouse gases. Performing this work early in the Action will maximise opportunities for resulting scenario datasets to be used by Arctic Council and CLRTAP groups (external to the Action) that

will undertake a new assessment of climate and environmental impacts of SLCPs emissions. This in turn will provide information that better quantifies uncertainties in scenario projections and identifies co-benefits that will be incorporated in the subsequent 'analysis of options'. The scenario modelling efforts will also be integrated into activities (both under and external to the Action) to improve emissions reporting and inventory development, through established collaboration with the Arctic Council groups and CLRTAP engaged in this work; these efforts are already expanding to connect to CCAC and IPCC work in this field. The Action will also address important knowledge gaps related to evaluating impacts in the Arctic, as well as source quantification related to domestic heating, gas flaring and possibly maritime shipping. This work will complement and feed into the work being undertaken by the Arctic Council, CLRTAP, International Maritime Organisation (IMO), IPCC and the CCAC. The Action's results will thus provide essential information for evaluating options for international and national policy actions.

The Action outreach initiatives will contribute to efforts to promote a wider understanding and acceptance of the need to act on both GHGs and SLCPs. Engagement with Arctic Council and CLRTAP groups in the development of the proposal has secured a pre-implementation awareness of the Action and an understanding that results of the Action will be made available for work under their processes. Wider stakeholder communication efforts will target key sectors and focus on the most relevant stakeholders, expanding on this as widely as possible within the available resources.

Communication channels have been opened with groups responsible for policy-development, in particular the AC EGBCM and CLRTAP Executive Bodies, that will be maintained throughout the Action implementation period. Regular consultations will further ensure that the work under the Action both meets the needs of these target groups and can adapt as necessary to possible changes in policy direction at both the national and international levels. The indicative roadmap for enhanced international cooperation will be developed on the basis of sound scientific knowledge, a sound analysis of options and a realistic perception of the policy landscape. The timeline for the Action is well aligned with the ongoing work under the EGBCM, AMAP SLCPs EG, the Arctic Contaminants Action Programme (ACAP) SLCPs EG and CLRTAP WGSR and timely with respect to initiatives under the CCAC and IPCC.

Further details of the proposed implementation concept, including the rationale for selection of co-applicants and key partners in the implementation work and proposed arrangements for disbursement of funding is contained in the Methodology description (section 1.1.2), and in the work-package descriptions below.

#### ***1.1.1.4 Expected benefits of implementing the Action***

By supporting efforts to mitigate drivers of climate change, the Action will help protect Arctic populations, EU citizens, and the global community as a whole from the potentially catastrophic impacts of climate change, as well as protecting Arctic biodiversity and the livelihoods of Arctic inhabitants. Ultimately, the benefit of the Action will be determined by the implementation of mitigation actions that reduce emission of black carbon, both within the Arctic but also globally.

***Value-added/Benefits to EU and internationally:***

- Add considerable value to on-going knowledge mobilisation efforts on black carbon emissions and mitigation actions such as those under the Arctic Council and the CLRTAP;
- Consolidate international expertise to inform EU and Arctic Council policy and strategies for the Arctic;
- Contribute to an integrated analysis of policy options for enhanced international cooperation on action on black carbon;
- Strengthen ties and develop partnerships between Arctic states and Arctic Council Observers at both the scientific and political levels;
- Recognize important contributions from and consult with Arctic Indigenous communities and Permanent Participants of the Arctic Council;
- Affirm EU's stature in the stewardship and sustainable development of the Arctic;
- Consolidate EU's and Arctic Council's position in the growing international effort to support policies and take actions related to black carbon emissions;
- Advance the overall science needs, inventories and models to allow for informed, evidence-based decisions, policies and strategies related to black carbon mitigation actions at the national, regional and international levels;
- Engage relevant stakeholders such as industry in the actions to ensure agreement / compliance;
- Contribute to the clean air policies and health benefits of Arctic and non-Arctic nations (including EU countries) through measures to reduce black carbon emissions;
- Help guide Arctic government and community strategies for the preservation of Arctic biodiversity and ecosystems;
- Provide governments, organizations, communities and businesses with the scientific information and policy options on mitigation actions to control black carbon emissions (e.g., BAT and MFR) in sectors such as residential heating, oil and gas and shipping (as appropriate) leading to climate, health and economic benefits in the Arctic and elsewhere.

Societal benefits to EU member States will also be achieved by activities under the Action that strengthen ties between the EU and (non-EU) Arctic States – on both scientific and political levels. The Action directly addresses two of the cornerstones of the EU's Arctic Policy adopted in April 2016 ([https://eeas.europa.eu/arctic-policy/eu-arctic-policy\\_en](https://eeas.europa.eu/arctic-policy/eu-arctic-policy_en)), namely 'Climate Change and the Arctic Environment' and 'International Cooperation on Arctic Matters'.

Through enhanced collaboration and integration of activities within the science and policy-making communities to address SLCPs (in particular through related work under the AC, UN ECE CLRTAP, CCAC as well as the EU), the Action will result in savings through increased efficiency in work as well as effectiveness of outcomes for member states that are engaged in these international fora. In mutually supporting work under different international organisations, it should also help promote a common direction in policy under these various bodies.

Although focussed on Arctic climate issues, adoption of measures to reduce black carbon emissions have potential to improve the lives of citizens through co-benefits associated with action on ‘clean air’ and human health impacts in general. In its 2012 assessment of the health effects of black carbon, the World Health Organization (WHO) indicated that black carbon exposures as a component of airborne particulate matter have increased the human health impacts associated with cardiovascular and respiratory effects.

Through its EGBCM, the Arctic Council is committed to “continually improve [its] black carbon emissions inventories and projections, as well as to promote enhanced action over time”. The Action directly supports these commitments, as well as work under the AC AMAP Working Group to assess climate impacts of SLCs, and under ACAP to institute demonstration projects to address black carbon sources in the Arctic.

#### ***Arctic Council Declaration, 2017***

At their meeting in Fairbanks in May 2017, Ministers of the Arctic Council member states (Canada, Kingdom of Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the United States) “Adopt[ed] the first Pan-Arctic report on collective progress to reduce black carbon and methane emissions by the Arctic States and numerous Observer States and its recommendations, including an aspirational collective goal, acknowledge the importance of implementing those recommendations as nationally appropriate, recognizing that Arctic communities are entitled to develop in accordance with their needs and interests, note the importance of the continued work of the Expert Group on Black Carbon and Methane” [Arctic Council Ministerial Declaration, Fairbanks, May 2017] \*

The Arctic Council Ministerial meeting in May 2017 also marked the point at which Chairmanship of the Arctic Council (for the period 2017-2019) passed to Finland. In addressing their Chairmanship, Finland stated that:

“Putting into practice the commitments of the Paris Climate Agreement will be the most important contribution from the Member (Arctic) States in addressing climate change. At the same time, the implementation of the Arctic Council’s “Framework for Action on Enhanced Black Carbon and Methane Emissions Reductions” (2015) will provide a much needed additional measure. Finland encourages projects and actions aimed at reducing emissions, facilitating adaptation, and raising awareness of climate change.” [Finnish Chairmanship of the Arctic Council (June 2017)]

*\* the aspirational collective goal referred to in the Declaration is that “black carbon emissions be further collectively reduced by at least 25-33 percent below 2013 levels by 2025”*

The Action will contribute to work ongoing under the CLRTAP to implement and further develop the Gothenburg Protocol; work to improve emission inventories is an identified priority for CLRTAP and its national reporting and inventory systems form the basis for black carbon emissions inventories reported to the Arctic Council. The EU and CLRTAP are closely cooperating on evaluation of emission work since the Gothenburg Protocol obligations also are incorporated in the EU National Emission Ceilings (NEC) directive. To avoid overlapping efforts, the EU is in general evaluating for the EU Member States, whereas CLRTAP is evaluating for non-EU Member States. In practice the cooperation will be with CLRTAP, as EU is participating there also.

#### ***1.1.1.5 Proposed Implementation Plan: Work-packages***

Work packages described in this implementation plan are developed to reflect the desired ‘results’ identified in the Action Fiche.

In broad terms, the Action implementation proposal comprises two main components:

- *Technical tasks* (primarily under work-packages 1 and 3) – concerned with emissions inventories, scenario modelling and development of updated datasets on projected emissions; scientific assessment activities; development of Best Available Techniques/Best Environmental Practices (BAT/BEP) guidance documents, etc. These technical products underpin the second component.
- *Communication and Policy-focussed tasks* (primarily under work-packages 2 and 4) – concerned with effective communication and outreach of results of the Action, and (direct and indirect) engagement with key stakeholders to promote the policy objectives of the Action.