EGBCM Chair's Summary & annex 1

2018-11

Expert Group on Black Carbon and Methane (EGBCM)

ARCTIC COUNCIL

Arctic Council SAO plenary meeting
1-2 November 2018, Rovaniemi, Finland
Meeting code: SAOFI203

Document Title

EGBCM Chair's Summary & annex 1

Agenda item number

7

Submitted by

EGBCM

Document filename

SAOFI203_2018_ROVANIEMI_07A_EGBCM-Chairs-Summary

Number of pages, not including this cover sheet

8

ARCTIC COUNCIL

Chair's Summary: Meeting of the Expert Group on Black Carbon and Methane Helsinki, Finland, 20-21 September 2018

Introduction

The Expert Group on Black Carbon and Methane (EGBCM) held its fifth meeting in Helsinki, Finland on 20-21 September 2018. Mikael Hildén (Finland) chaired the meeting. Participants included six Arctic States (Canada, Finland, Kingdom of Denmark, Norway, Sweden and the United States); one Permanent Participant (Saami Council), two Observer States (Italy, Japan); the European Union; three Arctic Council working groups (AMAP and ACAP/EPPR) and invited guests from IIASA, OECD and the Finnish Transport Safety Agency.

Welcoming remarks from the SAOC

The EGBCM was welcomed to Helsinki by the Chair of the Senior Arctic Officials (SAOC), Aleksi Härkönen. The SAOC stressed that the Finnish President has a keen interest in reducing black carbon emissions and plans to have an Arctic Summit with reduction of black carbon emissions on the agenda. Referring to the unusually warm summer in Northern Europe and the number of forest fires, the SAOC asked the EGBCM to look into the issue of wild forest fires and black carbon emissions. The EGBCM is expected to produce one of the key deliverables of the Finnish Chairmanship. As a sign of appreciation of the EGBCM's work, the Finnish President's Office hosted a reception for the group at the end of the first day of the meeting.

Summary of black carbon and methane emissions by the EGBCM technical group

The technical group provided an update on submission of national reports. Six Arctic States have submitted national reports, the US has submitted emission data and nine Observer States and the EU have submitted reports. The technical group asked the EGBCM to decide whether to use black carbon emissions data from the 2017 reports or use 2018 data based on submissions to the Convention on Long-Range Transboundary Air Pollution (CLRTAP). The US requested that their 2011 emissions data continue to be used as a proxy for 2013 emissions data. The distribution of black carbon emissions among various sectors differ significantly between the Arctic States. Not all countries use the same sector definitions, and not all countries have data on biomass burning such as prescribed burning and forest fires.

The work related to CLRTAP undertaken by AMAP and IIASA can provide quality control of the available data through modelling and the use of independent scientific studies. The group discussed how to handle data gaps, especially related to Russian black carbon emissions and the projections of the emissions until 2025. In making projections, data from Russia's 2015 report could be used and assume that no further emission reductions occur in Russia, or use modelling work and assumptions of, for example, reductions in emissions due to adoption of technological solutions that lead to a convergence of emissions in proportion to economic activities. If data from Russia's 2015 report are used and no further improvements are assumed, the base line collective reduction until 2015 would amount to 18%. This would imply a gap of about 50 kilotons between the base line and the goal of at least 25 % reduction[1]. If, on the other hand, Russian emissions are assumed to be reduced according to the average of other Arctic Member State projections, then the aggregate base line is well within the range

[1] This may need to be updated if the US 2011 #s are used for 2013 as was done in the previous EGBCM analysis.

of the target. If a convergence of Russian emissions in relation to economic activities to the average of other Member States is assumed, the current target may even be overachieved. The group noted that there is an urgent need to obtain better data for the Russian emissions and projections. The technical group does not have the same data challenges related to methane emissions, as all States report data to UNFCCCC and as the methane targets are part of the greenhouse gas emission reduction targets according to the Nationally Determined Contributions (NDC) under the Paris Agreement.

Discussion of the draft EGBCM Summary of Progress and Recommendations Report 2019

The EGBCM discussed the structure of the draft report with the aim to deliver a readable and informative document for the intended audience that includes policy makers and interest groups in the Arctic and observer countries. Progress towards the goal adopted in Fairbanks should be duly reflected but due to the two-year reporting cycle States have had only a short time to implement recommendations and show results. The group discussed how to add new areas of intervention such as the agricultural sector and wild fires. Very few countries include black carbon emissions from forest fires in their emission inventories at present and there is a need for more research in this area. The group had a detailed and rich discussion of individual sections. Participants were requested to send their suggested edits in writing to the Arctic Council Secretariat by 5 October 2018.

Possible recommendations for enhanced actions

The EGBCM discussed the recommendations proposed in the draft report, including proposals for enhanced actions. The outcome of the discussions is reflected in the annex to this report.

Status of black carbon work of the AMAP SLCP group and of ACAP

The AMAP SLCP group is studying emissions, historical developments, future scenarios, and co-emitted emissions species, including cooling species. The group will study snow and lake sediments and look at atmospheric concentrations. The group ’s work will also include an assessment of health impacts.

ACAP has 6 SLCP mitigation projects in their work plan. A total of 20 case studies, involving for instance communities in Alaska and Russia, have been uploaded to the ACAP website to help share best practices and replicate experiences. Countries were encouraged to submit cases of black carbon emission reductions to ACAP. The EGBCM report will contain references to ACAP projects.

Update on the EU Action on Black Carbon

The EU Action is an activity under the EU Partnership instrument. The action aims to support international cooperation and contribute to collective responses to black carbon emissions and focuses on science and policy integration. During the first year there is focus on identifying knowledge gaps and obstacles to reporting emissions. The Action is meant to support the work of the EGBCM as well as other international fora. The Action is promoting the idea of mandatory black carbon reporting under CLRTAP.

IIASA presented its modelling work included in the Action. IIASA works to identify major knowledge gaps in the current inventories, monitoring and impact assessments and possible remedies. IIASA uses numbers from peer reviewed literature in addition to official national reports. When it comes to some types of data there are substantial discrepancies. IIASA aims at improving the spatial allocation of emission sources (residential, road, flaring, shipping) and include up to date assumptions about real-life reduction efficiencies and future mitigation opportunities (including their realistic penetration) into

scenarios. States were encouraged to provide names of experts to IIASA who could discuss bilaterally how to improve their emissions data for the EGBCM report.

Cooperation with the OECD on Economic Impacts of Mitigation Scenarios

Dr. Shardul Agrawala from the OECD presented the modelling work to be undertaken to look at the feedback from environmental pressures on long-term economic growth caused by black carbon emissions. Key assumptions and concepts behind the mitigation scenarios as well as data sources were described. Scenarios would include harmonized methane mitigation and scenario variants could be developed depending on mitigation efforts in various sectors. The scenarios would look at market costs and non-market impacts. The OECD would need more data from the EGBCM and the science community in order to translate mitigation efforts and their effects into economic models.

Updates on preparation for upcoming meetings and events

Finland presented the agenda for the Arctic Environment Ministers' meeting (AEMM). The EGBCM Chair will introduce black carbon issues during the session dedicated to science-policy dialogue. The EGBCM Chair will circulate his slides to the EGBCM and to ACAP and AMAP ahead of the AEMM.

Finland has applied for a time slot for an Arctic Council black carbon side event at UNFCCC COP 24. The availability of a slot has not yet been confirmed. If the side event is accepted, Finland will invite speakers to join a telephone conference once the date for the side event has been determined.

Supporting initiatives in other forums and organizations

The EGBCM was updated on the proceedings of the Saltsjöbaden conference and the meeting of the Climate and Clean Air Coalition. Norway informed the EGBCM that on 14 September 2018 the Norwegian Minister of the Environment launched a statement & joint submission to the Talanoa Dialogue mandated by the 21st Conference of the Parties to the UNFCCC on behalf of the ministers and partners of the Climate and Clean Air Coalition. Norway encouraged all Arctic Council member states to endorse the statement.

Anita Mäkinen from the Finnish Transport Safety Agency gave an overview of black carbon emissions from shipping and related work under IMO. Annual black carbon emissions in the area covered by the IMO Polar Code currently amount to 200 tons. The IMO has now decided on a definition of black carbon and a measurement protocol. IMO's next steps will involve agreeing on countermeasures to decrease emissions. A Finnish study has looked into factors such as fuel technology, engine technology and the interplay between emissions of black carbon, nitrogen, sulphur and methane leakage from using alternative fuel such as LNG. Future steps will involve changing the environmental chapter of the Polar Code to take account of black carbon.

Next steps

The Chair of the EGBCM asked all States to forward any editorial changes to the report (version dated 21 August 2018 published on SharePoint) to the Arctic Council Secretariat by 5 October 2018. States were also requested in particular to forward information for the tables in appendix 1 of the report by 5 October 2018 to the Arctic Council Secretariat. Having received editorial changes and data for the tables, the Chair of the EGBCM and the Chairs of the thematic sub-groups will jointly produce the next version. The next version will be submitted for comments to the group early November 2018.

The Chair of the EGBCM will draft a two-pager with a summary of the EGBCM's achievements during the 2017-19 period and a first draft list of expected deliverables for the Rovaniemi Ministerial, including

recommendations. The Chair of the EGBCM will also draft a four-pager with a summary of work plans for 2019-2021 with tentative deliverables. The 2-pager and the four-pager will be circulated to the group for comments and Iceland will be invited to discuss how to take the work of the EGBCM forward. Finland will host a final meeting of the EGBCM during the Finnish Chairmanship in January 2019 in Helsinki. The Chair stressed that the final version of the EGBCM report has to be delivered 30 days ahead of the SAO meeting planned for 12-13 March 2019.

Recommendations for enhanced action – suggested updates at the EGBCM meeting in Helsinki, 20-21 September 2018

(The amended recommendations are based on the Chair's interpretation and synthesis of the discussions in Helsinki)

Mobile and stationary diesel-powered sources:

Recommendations:

Recommendation 1a: Reduce emissions from new diesel vehicles and engines, by adopting and implementing world-class particulate matter exhaust emission standards and ensuring wide-spread availability of ultra-low sulphur fuels

Recommendation 1b: Reduce emissions from legacy diesel vehicles and engines by adopting targeted policies and programs

Recommendation 1c (ENHANCED): Reduce black carbon by stimulating the shift to alternative vehicle technologies and modes of transportation, and through efficiency measures

Recommendation 1d: Work to accelerate efforts under the International Maritime Organization to mitigate black carbon from international shipping

Recommendation 1e (NEW): Reduce emissions from stationary diesel engines by adopting targeted policies and programs, including shift to new technologies and improved efficiency.

Justifications for change:

In 1c not only transport efficiency, but overall efficiency. New recommendation 1e recognises the importance of stationary diesels in the Arctic region and therefore calls for specific action that can reduce emissions. Such measures include a shift to other renewable energy sources and general improvement of efficiency.

Oil and gas:

Recommendation 2a: Adopt and implement oil and gas methane emission reduction strategies

Recommendation 2b (ENHANCED): Develop implementation plans for the Zero Routine Flaring by 2030 Initiative and report on progress and best practices to the Arctic Council and proceed towards strategies for the minimization of non-routine flaring, *including targeted and cost-efficient measures at large methane emission sources*.[2]

Recommendation 2c: Urge firms to engage in multilateral fora and domestic programs aimed at promoting voluntary methane and black carbon emission reductions, including the development and implementation of methane management strategies

[2] Request to delete end of sentence indicated in italics.

Justifications for change:

In recommendation 2b the logical next step is to reduce all flaring and venting.

In 2c the need to develop explicit methane reduction strategies at the firm level is underlined.

Residential combustion:

Recommendation 3a: Reduce emissions from new solid fuel combustion appliances by accelerating deployment of cleaner and more efficient new heating sources when installing or reinstalling appliances and promoting proper operation and maintenance.

Recommendation 3b: Reduce emissions from legacy solid fuel combustion appliances by accelerating replacement with cleaner and more efficient new heating sources and promoting proper stove operation and maintenance.[3]

Recommendation 3c: Reduce emissions by promoting enhanced energy efficiency in residential dwellings reducing the need for heating, especially in buildings heated with oil or solid fuels.

Justifications for change:

In recommendation 3a and 3b solid fuel is stressed instead of biomass only, as coal is used in some countries also in domestic heating.

In recommendation 3 c the focus on the energy efficiency of buildings is made explicit, instead of heating efficiency which can mistakenly be interpreted to apply only to the efficiency of the appliances.

Solid waste

Recommendation 4a: (ENHANCED) Avoid methane emissions by preventing food waste and the landfilling of organic waste. Improve resource efficiencies as appropriate for arctic conditions, including new ways of reusing organic material based on more efficient sorting of waste, composting and biogas production.

Recommendation 4b: Adopt regulations or incentives for landfill gas capture and control.

Recommendation 4c (NEW): Promote best practices for waste management in northern and remote communities.

Justifications for change:

In 4a the role of food waste is made explicit, as well as the need for solutions based on a circular economy. In 4b the need to develop and adopt approaches that work in arctic conditions is stressed.

[3] Note: Accompanying text to make clear that good practices include encouraging not only proper stove operation and maintenance, but also the proper drying and storage of fuel. This would be especially relevant for pellets and briquettes that are subject to regulated fuel standards.

Methane emissions from agriculture and animal husbandry:

Recommendation 5a (NEW): Promote food consumption patterns that utilize Arctic food chains sustainably[4], support the preservation of carbon sinks, and minimize life-cycle emissions of methane.[5]

Recommendation 5b (NEW):[6] Further research on possibilities to reduce emissions of enteric methane also under arctic condition should be maintained in co-operation with, inter alia, Food and Agricultural Organization[i], the Global Research Alliance (GRA), and the agriculture initiative under the CCAC. This purpose would be to identify ways of overcoming mitigation challenges, such as the difficulty of measurement, varying livestock management practices, and cost, and identify strategies that can reduce enteric methane emissions.

Justification:

Based on lively discussions at the EGBCM meeting it is proposed to focus the recommendation on the possibilities to develop food consumption patterns that adapt to local conditions and provide an overall life cycle-based minimization of methane emissions. This recommendation recognises the diversity in conditions within the Arctic region and that 'low carbon' food may mean different things depending on the size of the community, the number of consumers and other contextual factors.

A recommendation to continue research into enteric fermentation topics in arctic conditions is suggested as a special topic.

Management of wildfires and burning of agricultural waste:

Recommendation 6a (NEW): Exchange experiences and good practice in forest fire risk assessment, wildfire prevention, awareness raising, and firefighting, including the use of prescribed burning.[7]

Recommendation 6b (NEW): Develop agricultural policies and practices to reduce open burning of agricultural waste. Encourage studies and piloting of innovative solutions that reduce the need for open burning.

Justification:

Exchange of good practice in the prevention and management of forest fires may potentially bring substantial benefits. Complete avoidance of forest fires is not realistic, but improved management may save resources and assets. Recommendation 6b calls for policies and practices that reduce the use of open burning, calling for solutions such as the controlled use of agricultural waste in energy production or in enhancing soil carbon contents. Technologies and practices will have to be fit for purpose, taking into account local practices and conditions.

[4] Alternative word proposed: 'efficiently'
[5] Scrutiny reservation on the whole recommendation.
[6] This recommendation is an aggregate of two recommendations from the subgroup report feeding into the 2017 summary report, but in which the recommendations did not appear.
[7] Suggestion to develop into a more specific recommendation

Technical recommendations for improving the technical basis of the EGBCM:

Recommendation A1: Follow Convention on Long-Range Transboundary Air Pollution guidelines, or comparable methodology, when developing black carbon inventories and projections.

Recommendation A2: Maintain a continuous dialogue with the work under the Convention on Long-Range Transboundary Air Pollution to propagate best practices for black carbon inventories

Recommendation A3: Approach the Convention on Long-Range Transboundary Air Pollution to consider further specifying source categories, including the possibility to promote mandatory reporting of black carbon as a part of the Gothenburg protocol in the future

[i] FAO, Tackling Climate Change Through Livestock. http://www.fao.org/3/i3437e.pdf