National Report by the European Union 2017

Enhanced Black Carbon and Methane Emissions Reductions – Arctic Council Framework for Action

EUROPEAN EXTERNAL ACTION SERVICE

EUROPEAN COMMISSION

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Report to the Arctic Council by the European Union on EU policies to reduce emissions of black carbon and methane

General remark
With regard to a general introduction to the EU and our environmental legislation and policy, you are kindly invited to consult this webpage:
http://ec.europa.eu/environment/basics/home_en.htm

Overall, the EU engagement in pollution prevention manifests itself in several forms:

- *binding EU legislation covering the territory of the 28 EU Member States (EU28) and the States members of the European Economic Area (including Iceland and Norway);*
- *multilateral environment agreements to which the EU is party;*
- *incentive schemes;*
- *other instruments.*

1. SUMMARY OF CURRENT BLACK CARBON EMISSIONS

Black carbon emissions (BC) from the European Union are mainly due to solid fuel combustion in the residential sector and emissions from the transport sectors (*44% and 30% of total emissions, respectively*). As an indirect result of European national and union legislation related to emissions of particulate matter, in 2015, BC emissions in the EU28 were about 40% lower than in 1990.

Projections for emissions of Black Carbon from the EU and its Member States have recently been updated in the EU Clean Air Outlook.
(*http://ec.europa.eu/environment/air/clean_air/outlook.htm*).

For the period 2013-2025 (*the timespan used by the Arctic Council in the Fairbanks ministerial declaration*) BC emissions from EU28 are expected to reduced with approximately 40%. By 2030, emissions of black carbon from EU28 are expected to be reduced by 72% compared to 2005.

Summary of current Black Carbon emissions to the LRTAP Convention
The European Environment Agency (EEA) has compiled emission inventory information on black carbon emissions in relation to the Convention on Long-range Transboundary Air Pollution (*CLRTAP*). Twenty-five EU Member States have reported data (*incl. the 3 Arctic Council Member States: Denmark, Finland and Sweden as well as all the EU Member States which are observers to the AC: France, Germany, Italy, Netherlands, Poland, Spain, and the United Kingdom; Austria, Greece and Luxembourg did not report BC emissions*).

A summary of this information, which has been submitted to the LRTAP Convention and which was published in July 2017, can be found in the annual European Union emission inventory report 1990-2015. Data from the report can be explored/down-loaded in the accompanying data viewer.

European Union regulation of fine particulate matter

Black Carbon is not regulated by any separate EU regulation, but being a component of fine particulate matter it is reduced by the rules established in EU air legislation. The European Union Directive on National Emission Ceilings (*NEC; directive 2016/2284/EU*) sets reduction obligations on fine particulate matter for 2020 and 2030, as well as an obligation for EU Member States to prioritise emission reduction measures for BC when taking measures to achieve their national commitments for fine particulate matter.

A number of other pieces of EU legislation on sources of emissions also contain limit values for fine particulate matter incl. the Directive on Industrial Emissions (*directive 2010/75/EU*), the Directive on Medium Combustion Plants (*directive 2015/2193/EU*), the Regulation on Non-Road Mobile Machinery (*regulation EU/2015/1189)* and the Euronorms for Road Vehicles (*EC/715/2007 and EC/582/2011).*

EMEP/EEA Emission Inventory Guidebook 2016

An updated version of the EMEP/EEA Emission Inventory Guidebook was published in September 2016 with updated methodologies and emission factors in order to improve quality of emission inventories. Updated values for some BC emission factors have been included in the update.

2. SUMMARY OF CURRENT AND PROJECTED METHANE EMISSIONS

The European Environment Agency (EEA) has compiled emission inventory information on greenhouse gases (GHG) for 2015 in the EU GHG inventory report (1990-2015) and related data viewer; in 2015 methane emissions in the EU were about 37% lower than in 1990.

According to projections of GHG emissions provided by EU Member States in 2017, methane emissions are expected to decrease by 12% between 2015 and 2030.

Member States projections (*of total GHGs*) are given in summary tables in the Trends and projections report (*from November 2017*) and data viewer. The reports include the 3 EU Member States which are member of the Arctic Council as well as all of the 7 EU Member States which are observers to the Arctic Council.

3. SUMMARY OF NATIONAL ACTIONS, NATIONAL ACTION PLANS, OR MITIGATION STRATEGIES BY SECTOR

The EEA compiles national climate change mitigation policies and measures (*PaM*) that have been reported under the EU Monitoring Mechanism Regulation (*EU No 525/2013*). Reported information is quality checked, annually updated and publicly available at: http://pam.apps.eea.europa.eu. In 2015 the EEA published a report 'Overview of reported national policies and measures on climate change mitigation in Europe in 2015'. The new 2017 edition will be published early 2018.

4. HIGHLIGHTS OF BEST PRACTICES OR LESSONS LEARNED FOR KEY SECTORS

N/A

5. PROJECTS RELEVANT FOR THE ARCTIC

EU funding for AMAP aiming to reduce black carbon in the Arctic

The EU expects to sign a contract with the Secretariat of the Arctic Council Working Group "Arctic Monitoring and Assessment Programme" (*AMAP*) before the end of 2017, covering a 1.5 million € grant to contribute to a) the development of collective responses to reduce black carbon in the Arctic and b) to reinforcing international cooperation to protect the Arctic environment. The funding will run for 3 years. Actions to be funded by this project will focus on:

1. Setting up a solid model for black carbon emissions from the Arctic countries (based on the GAINS model used by Convention on Long Range Transboundary Air Pollution (CLRTAP).

2. Developing mitigation scenarios based on interaction with the AMAP assessment of climate impact from black carbon depositions to the Arctic.

3. Communication to the public, the science community and politicians on the topics.

4. Feed into the Arctic Council process of considering concrete reduction obligations to the Arctic countries. Further, the work could possibly be used by the CLRTAP and the EU in possible future developments on BC reductions.

AMAP's work will be coordinated with other Arctic Council expert groups in order to secure that the work is being used as basis for the political deliberations under the Arctic Council on future efforts to reduce black carbon emissions.

A) Integrated Arctic project (ARCTIC)

The ARCTIC project focuses on the three priority areas of the EU Arctic policy: Climate Change and Safeguarding the Arctic Environment; Sustainable Development in and around the arctic; and international Cooperation on Arctic Issues.

Under the first priority the project has the aim to make tangible contributions to the Arctic Council Expert Group on Black Carbon and Methane and to actively contribute to the AMAP Working Groups, particularly to the Expert Group on Short Lived Climate Pollutants. EU has submitted to AMAP its proposal as contribution to the its Short Lived Climate Pollutants assessment providing:

> i) Anthropogenic Emission data from the Emission Database for Global Atmospheric Research (EDGAR) database that includes short lived climate pollutants (SLCP) as well as the other air pollutants, and greenhouse gases including methane;
> ii) Contribution to the revision of existing studies and findings of inverse modelling of methane;
> iii) Climate model simulations with the different short lived climate pollutants emission scenarios; analyses of the climate model results through statistical analyses that help to better understand the atmospheric transport processes of SLCP from mid-latitudes to the Arctic; evaluation of models and aerosol observations in the Arctic;
> iv) Evaluation of co-benefit analysis of emission reduction to human health, crop yields and ecosystems.

B) Impact Assessment on a long-term investment on Arctic Observations (IMOBAR) project

By evaluating benefits and co-benefits of Arctic observations and comparing them to investment and maintenance costs the IMOBAR project will contribute to SAON objectives. In particular, it will support the SAON strategy by assessing existing and future observational systems in support of continuing investments into Arctic observations. In this way IMOBAR will also complement to the AOV project that will develop a particularly detailed study for atmospheric and oceanographic forecasting applications. It will further contribute to EU-PolarNet objectives by estimating the impact of existing and future observational systems on Arctic stakeholders.

Interreg Northern Periphery and Arctic Programme 2014-2020
Investment opportunities for the 2014-2020 programming period are provided for the Arctic through the Interreg Northern Periphery and Arctic Programme (NPA), a regional development programme having the widest Arctic coverage (participating states: Finland, Ireland, Sweden, United Kingdom and Faroe Islands, Greenland, Iceland and Norway). NPA 2014-2020 is a transnational programme funded under the European Territorial Cooperation Objective, supported by the European Regional Development Fund (ERDF – EUR 56 million) and contribution from participating non EU states.

NPA 2014-2020 aims to generate vibrant, competitive and sustainable communities through transnational cooperation. Four priority axes have been developed to achieve the programme vision: (1) Using Innovation to Maintain And Develop Robust And Competitive Communities; (2) Promoting Entrepreneurship to Realise the Potential of the Programme Area's Competitive Advantage; (3) Fostering Energy-Secure Communities through Promotion of Renewable Energy and Energy Efficiency and (4) Protecting, Promoting and Developing Cultural and Natural Heritage.

The Programme will allocate approximately EUR 100 million to projects with a maximum total budget of €2 million. A precondition for funding is that projects provide at least 35-50% of the total project costs as match funding through own or national or regional sources. However, SMEs always have to provide a minimum of 50% of their costs in match funding.

In the area of adaptation to climate change, a project called "Clim-ATIC" was funded by the previous NPA 2007-2013 to establish a sustainable advice and training service for community on climate change adaptation across the whole of the Northern Periphery (http://www.clim-atic.org/). In the current programming period two new projects have been financed: CLIMATE - Collaborative learning initiative managing and adapting to the environment. Project period 01.06.2017 – 31.05.2020. Budget 1.366.060 EUR and Northern Heritage - Adapting northern cultural heritage to environmental impacts of climate change. Project period 01.06 2017 – 31.05.2020. Budget 963.212 Euro. Further information can be found at www.interreg-npa.eu.

6. OTHER INFORMATION IF AVAILABLE (E.G., CLIMATE, HEALTH, ENVIRONMENTAL, ECONOMIC EFFECTS OF EMISSIONS AND MITIGATION)

N/A