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Working Group on Strategies and Review

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Item of the provisional agenda

Progress in the implementation of the 2016–2017 workplan

Report of the Task Force on Techno-economic Issues

Summary

The enclosed report by the Task Force on Techno-economic Issues contains information on the progress in the implementation of the 2016–2017 workplan for the Convention ([ECE/EB.AIR/2015/1](#)) with respect to activities relevant to the Task Force, in the last year, as well as the outcomes of the plenary meeting of the Task Force (Rome, 20 October 2017). Other reference document (ECE/EB.AIR/2017/4)



I. Introduction

1. The plenary session of the annual meeting 2017 of the Task Force on Techno-economic Issues (TFTEI) was held on 20 October 2017, hosted by the Italian National Agency for New Technologies, Energy and the Sustainable Economic Development, in Rome (Italy) and France. On the day before, at the same venue, the Clearing House Evaluation Committee (CHEC) held its second meeting, among its registered members, according to the permanent tasks assigned to the Task Force, by its mandate (decision 2014/2). The present document contains information on the outcomes of those meetings and the progress made in the implementation of the 2016–2017 workplan for the Convention with respect to the activities relevant to the Task Force, during the last year, including the latest relevant discussion occurred at the 37th session of the Executive Body, in December 2017.

A. Attendance

2. Thirty-seven experts participated in the plenary session of the Task Force, including representatives from 12 Parties to the Convention: Austria, Canada, Croatia, France, Germany, Italy, Sweden, The Netherlands, Switzerland, also including 2 representatives from EECCA countries, Ukraine and Belarus, and 3 from Russian Federation. A representative of the UN-ECE Secretariat also attended the meeting. Mr. Tiziano Pignatelli (Italy) and Mr. Jean-Guy Bartaire (France) chaired the plenary session while Mr. Fiani (ADEME, France) chaired the Clearing House Evaluation Committee meeting. Notably, the Chair of the Executive Body and the Chair of the Working Group on Strategies and Review attended the plenary meeting of the Task Force.

3. The representatives of the Inter-professional Technical Centre for Studies on Air Pollution (CITEPA), the French-German Institute for Environmental Research at the Karlsruhe Institute of Technology (KIT-DFIU), the French Agency of Environment and Energy Management (ADEME) and the Federal Agency for the Environment of Germany, in their capacity of members of the technical secretariat of the Task Force, attended the meetings, as well as the representative of the UN Secretariat to the Framework Convention on Climate Change (UNFCCC), and the representative of UN Environment (former UNEP). Also MSC-East, CEIP, TFIAM, ICP Materials Task Force and the Coordinating Group for EECCA Countries, as bodies of the LRTAP Convention, were represented at the meeting. The following organizations had their representatives at the meetings: the Energy research Centre of the Netherlands (ECN); the European Cement Association (CEMBUREAU); the European Solvents Industry Group (ESIG); the NGO International Cryosphere Climate Initiative (ICCI). The meetings were also attended by two experts from the private sector.

4. Simultaneous English-Russian interpretation was provided by Germany to facilitate the participation of the Russian-speaking experts. The participation of 2 experts from the countries of Eastern Europe, the Caucasus and Central Asia (EECCA) and the representative from the UN-ECE Secretariat was also financially supported by ADEME (France). The participation of the representative of MSC-East was financially supported by Germany. The lunch at the plenary and the coffee-breaks (also at the CHEC meeting) were kindly offered respectively by France and Germany. All presentations delivered at the meetings, along with the detailed agenda of the plenary meeting, are available, on the Task Force website.¹

¹ See <http://tftei.citepa.org/>.

B. Organization of work

5. The plenary session was opened by the two Co-Chairs, after a welcome address to the participants delivered by the Head of the Strategic Technical Support Unit of the ENEA, Department for Sustainability, hosting the meeting. The meeting was mainly focused on the work carried out by the experts of the technical secretariat of the Task Force, in cooperation with the expert members of the Task Force, to implement the tasks of the workplan 2016-17, of which a detailed description is given below, according to the item number in the workplan. In particular, the discussion was developed on the following main issues, accordingly with the Task Force Mandate:

- Further development of the Clearing House of Control Technologies.
- Collaboration with the EECCA Countries and the Russian Federation.
- Collaboration with other bodies of the Convention, namely TFRN, TFIAM, MSC-E.
- Cooperation with the European Industrial Associations.
- Cooperation with other International Organizations, UN agencies and NGO, also outside the UN-ECE Region.
- Discussion on the recommendations of the Policy Review Group (PRG) in relation with the 2018-2019 workplan.

6. The representative of the UN-ECE Secretariat opened the presentation session delivering an overview of the latest activities under the Convention. In particular, she highlighted the policy response to the 2016 Scientific Assessment, the outcome of the Working Group on Strategies and Review, at its 55th session (held in Geneva, in May-June 2017), with the focus on the recommendations expressed by the policy review group (PRG) in the short term, the special session on agriculture, the development of the workplan for 2018-2019 and the Batumi action for cleaner air. She also reported on the recent activities related with the Capacity Building in a number of EECCA countries.

II. Progress in the implementation of the 2016–2017 workplan

7. This part of the report summarizes the status of progress in the implementation of activities under the responsibility of the Task Force, in the 2016–2017 workplan for the implementation of the Convention. The summaries are listed by workplan item numbers.

1. Workplan item 2.2.1 — Workshops in 2016-2017 to promote awareness and understanding of the Best Available Techniques, in particular in countries of Eastern Europe, the Caucasus and Central Asia

8. The task was concluded with the Workshop held in Berlin on 20-22 April, 2016. The final report was presented to the WGSR, at its fifty-fourth session, on 13 - 14 December 2016 (ECE/EB.AIR/WG.5/2016/3).

2. Workplan item 2.2.2 — further development of a techno-economic tool as an evolution of the methodologies for evaluating costs in the Large Combustion Plants Sector and its promotion

9. The methodology was developed by the technical secretariat of the Task Force for estimating costs in the Large Combustion Plant (LCP) sector, and its related tool, called ERICCa_LCP, where ERICCa stands for Emission Reduction Investment and Cost Calculation, applied to the LCP larger than 50 MW, for NO_x, SO₂ and PM. The tool,

upgraded in its features, is available for download from the Task Force web site, along with the User Manual, examples and other technical documentation. The methodology and the tool were presented and discussed at the Berlin Workshop and at the Joint EECCA_CG / TFTEI Meeting, in Saint Petersburg, in 2016. Moreover, the methodology is used by some industries in France and it is referenced in the BAT Reference Document (BREF) on Large Combustion Plants, developed by the European Commission. It is also promoted in relevant conferences and technical meetings, when the opportunity comes.

3. Workplan item 2.2.3 — Promote the methodology and the related tool for the analysis of available GAINS scenarios

11. The methodology for analysis of the GAINS scenarios in relation with Gothenburg Protocol provisions was presented during the Joint EECCA_CG / TFTEI Meeting, held in Saint Petersburg, in October 2016. The related analysis tool, properly developed, is now under revision and update to take into account the latest changes in the output format of the GAINS Model. The related documentation is available on the web site of the Convention. Unfortunately, the dissemination of this methodology is limited to electronic communications, due to lack of funds to organize technical meetings with the experts of the EECCA countries.

4. Workplan item 2.2.4 — Collect and provide up-to-date data for cost modelling for BAT

12. The Task Force, on regular basis, collects data concerning costs for the implementation of BAT. In agreement with the experts of IIASA ad hoc technical meetings take place, as appropriate, to share the achievements, with the purpose of their use in the modelling process.

5. Workplan item 2.2.7 — Continue to develop and promote the regional clearinghouse of control technology information

13. The Chair of the Clearing House Evaluation Committee (CHEC) presented the progress in the development of the Clearing House of Technologies (CH) and the outcome of the 2nd meeting of the Clearing House Evaluation Committee (CHEC). He reminded the ultimate objective of making the Clearing House a common place for collection and dissemination of information on BAT, including operating experience and feedback from plant operators. He illustrated the function of the exchange platform through which 5 new technical documents were provided and submitted, to the Evaluation Committee, (in the first semester 2017) for their publication on the Clearing House of Technologies. Information from other International Conventions and Coalitions (i.e. Minamata Convention on mercury and Stockholm Convention on POP and others are in progress) is also linked. Communication with the equipment suppliers and industrial users is crucial for the success of the CH, which is carried out by e-mail, phone and meetings with the European industrial associations. Finally, the translation in Russian language of the website (including its updates) is recognized as a key factor to allow the EECCA expert to benefit of the collected information on BAT.

6. Workplan item 2.2.8 — Promote the Guidance document for estimation and measurement of VOCs emissions from activities covered by annex VI to the Gothenburg Protocol

14. The Guidelines on VOC measurement and estimation were finally adopted by the EB at its 36th session in December 2016.

8. Workplan item 2.2.9 — Continue the work on the analysis of costs of VOCs emission reduction techniques in large industrial users of solvents.

16. The technical secretariat of the Task Force presented the work on the cost estimation of abatement technologies for VOC. The work, initially focused on car manufacturing (painting) and packaging printing, was finalised. The developed methodology was illustrated for both the sectors. The ERICCa-VOC tool implementation is completed and its main calculation functions presented. The ERICCa-VOC tool provides costs for primary and secondary measures, in particular total emissions abated and specific abatement costs (per kg VOC abated). The tool is MS-Excel based so to ensure compatibility and facilitate future adaptations. The tool is available on the Task Force web site and the related documentation is available.

III. Other relevant discussion points at the annual meetings

In the following paragraphs, the issues presented and discussed at the annual meeting of the Task Force, are reported.

17. The Chair of the Executive Body (Sweden) presented the long term perspective on the Convention. She recognized that although a lot has been achieved, there is still more to be done. Air pollution still remains, to a large extent, an international problem, and CLRTAP provides an established and well-functioning science – policy network. She informed that the status of ratification and implementation of the three latest revised protocols is such as their entry into force might be possible in 2018, highlighting the need for a focus on EECCA countries. She then called the attention on the way forward, on the basis of the PRG recommendations, recalling i.e. the update of the Long term Strategy for the Convention, the possible consideration of new substances (methane, ceiling on BC, Hg) and envisaging a focus on specific sources (i.e. shipping, agriculture, solid fuel burning in small scale installations), increased international cooperation, synergies with other policy areas like energy, transport, agriculture and climate. She also envisaged an integrated approach between Air pollution and the Sustainable Development Goals (SDGs).

18. The Chair of the Working Group on Policy and Reviews (Canada) presented the main outcomes of the analysis made by the PRG in response to the 2016 Scientific Assessment Report (SAR), relevant for the work of the Task Force. The recommendations in the PRG Report covered 4 main areas (Enabling Sound Policy Decisions, Maximizing the Impact of Protocols, Improving the Technical and Scientific Basis, Improving Communication, Outreach & Cooperation) and indicated short (ST) and long term (LT) actions for some identified groups (including TFTEI) for a more efficient implementation of the Convention. In particular she envisaged ST and LT policy-related actions for TFTEI (and TFRN) in 2018-19 workplan for integrated environmental policy and cost-effective control measures. The ST PRG recommendations for TFTEI included in draft 2018-2019 workplan, are discussed in the related section of this report. She concluded highlighting the main Policy Goal: “To improve air quality, including by reducing transboundary air pollution impacting the ECE region, and addressing, in an integrated manner, related environmental and health objectives and other policies that will continue long-term progress”.

19. The representative of Germany in the Task Force presented the status of the Minamata Convention on mercury, the provisions of the Convention and the results of the 1st Conference of the Parties (COP1), held in September 2017 in Geneva, where also 2 heads of state and government, as well as 80 ministers, attended. Then she analysed the potential synergies existing between the Air Convention and the Minamata Convention, as well as the new challenges for the future, posed by the entry into force of the Minamata Convention.

20. In the frame of the cooperation between the Task Force and the experts from the Russian Federation, the vice-director of the research institute “Centre for Environmental Industrial Policy” presented a project, to be carried out in the Russian Federation, aiming at including environmental requirements, consistent with the LTAP Protocols requirements, in the development of federal and regional industrial development programs, through the introduction of best available techniques (BAT) and the assessment of the effects of air pollution. Under the expected auspices of the Ministry of Natural Resources and Ecology of Russian Federation and the Ministry of Industry and Commerce of Russian Federation, in the envisaged cooperation with the Task Force and experts in the Air Convention, along with some research institutes in Europe (i.e. CITEPA in France and ENEA in Italy), UBA Germany and several Technical Services in the Russian Federation, the project is mainly based upon the development of an integrated modelling system, considering the effects of the air pollution on human health, vegetation, water basins, cultural heritage and ecosystems, taking into account the costs of the BAT implementation in the Russian Federation. An inter-comparison analysis among models used in Europe and the Russian model, is also planned. The comparison analysis between the reference base scenario and the BAT implementation scenario will ultimately deliver the conditions (and costs) needed to join the Convention latest protocols, with special attention to the Gothenburg Protocol. The kick-off meeting is tentatively planned in March 2018.

21. The Chair of the Coordinating Group for EECCA Countries (Russian Federation) presented the workplan of the Group for 2018-19. He summarized the planned activities in: a) covering the EECCA issue in the frame of the work of the PRG for updating the Long Term Strategy (LTS) of the Convention, b) preparation of the EECCA session within the Saltjobaden VI Workshop (Sweden, March 2018) with a focus on political issues, namely barriers toward the ratification of the latest LRTAP Protocols, c) bridging the LRTAP and Minamata Conventions. He also introduced the planned activities of cooperation with the Task Force, as the Joint EECCA CG/TFTEI meeting in 2018 (October-November), update and exchange information on the TFTEI Clearing house of technologies, sharing the Russian experience on the BAT implementation, integrated environmental permit introduction etc.

22. The representative of the EMEP/Meteorological Synthesizing Centre – EAST (MSC-E) presented an analysis of the emissions trends of benzo(a)pyrene (BaP) in the EMEP region (1990-2015), with a focus on the combustion in domestic appliances. He noted as, in 2015, the annual concentrations of the BaP, were found higher than the EU target level of 1 ng/m³, in the 35% of the monitoring stations (9 countries) and the exceedance of WHO reference level 0.12 ng/m³, in 16 countries. Among the different sources the combustion in domestic appliances is responsible for about the 70% of the Poliaromatic-halos (PAH), in practice BaP, with ranges between 80% and 97 % in some EU Countries. The trend shows a stable behaviour, over the last decade (2005-2015). It was also highlighted that the transboundary PAH emissions are predominant in about 70 % of the countries. He finally reported that, in the draft 2018–2019 workplan of EMEP, MSC-E is expected to work in support of TFTEI on the analysis of the effectiveness of implementation of the POPs Protocol.

23. A representative from the private sector presented an overview of the available technologies for some de-NO_x processes in large combustion systems. He explained that BAT technologies are nowadays commonly available, to significantly reduce all the main air pollutants, in several processes, like waste combustion, energy recovery, flue gas cleaning and power production. He reminded the performances of the several available abatement technologies for the main air pollutants, including heavy metals and POPs, then focusing on the de-NO_x technologies, both for catalytic and non-catalytic reduction, also taking into account of the BREF developed by the EU Commission. He also mentioned a

number of projects in progress in France and in the rest of the world, including de-SOx marine scrubbers installed on some commercial ships.

24. A representative of the EU association of the cement industries (CEMBUREAU) presented an overview of the experience on NOx emission reduction in the EU cement plants. After a short introduction of the properties of cement, he described the cement production process, focusing of the generation of nitrogen oxides (NOx) during the process and then on the primary measures to reduce the NOx emissions, among them i.e. flame cooling, low-NOx burners, process optimisation, mineralized clinker, mid-kiln firing, which, however, are not sufficient to deliver alone the requested abatement. Then he described the more efficient secondary measures and their characteristics and performances, namely the selective non-catalytic reduction (SNCR) and the selective catalytic reduction (SCR). An overview of the costs of those technologies was also provided. Finally, he noted that the trend in the cement sector is to introduce the best available technology, everywhere in the world, including the EECCA countries.

25. The Co-Chair of the Task Force on Reactive Nitrogen (TFRN), from Portugal, delivered her speech via Skype, concerning the need for cooperation between the two Task Forces, as recommended by the WGSR and PRG, to further reduce the ammonia emissions. She proposed to identify areas of potential common action (i.e. NOx capture and agriculture machinery) and the elaboration of an operative joint proposal to be submitted to the attention of WGSR, at its 56th session, in May 2018, was agreed with the Co-Chairs of TFTEI.

26. The representative of the International Cryosphere Climate Initiative (ICCI) introduced the theme of wood burning in domestic heating. He reminded as the PRG recommended to consider the implementation of BAT in the domestic heating sector and installations for solid fuel burning and asked TFTEI to develop a related code for good practice. The PRG focused on the Black Carbon and the PM_{2,5} emissions and the domestic heating sector, which accounts for more than 50% of the total soot emissions. He also mentioned the open agriculture burning as other major source of PM_{2,5} and BC and envisaged a common TFTEI/TFRN action to address the issue. For consideration in the future revision of the Gothenburg Protocol, he suggested the testing protocol developed by the Nordic Council as a reference for potential Emission Limit Values for BC and finally he provided a number of recommendations to the Task Force, for its future work on this subject.

IV. Outreach activities

27. In the frame of the outreach activities, under the patronage of the UN-ECE Secretariat, the Co-Chairs of the Task Force invited a representative of UN Environment (former UNEP) and a representative of the UNCCC Secretariat to the Climate Change Convention, to attend the annual meeting of the Task Force.

28. The Head of the Technology Unit of UN Environment delivered a presentation on the “Importance of Technology for Environmental Protection”. He presented the organization and the activities of the Technology Unit and highlighted as technology serves the achievement of the Sustainable Development Goals (SDGs). The Unit is regularly involved in the Science and Technology Forum (STI), and the Forum 2018 focused on 6 of the 17 SDGs. The on line platform for technologies, under development, is aimed at : a) mapping of existing science, technology and innovation initiatives, b) facilitate access to information, knowledge, experience, and c) disseminate relevant open access scientific publications. He mentioned a number of relevant applications of technology in the sectors

of Transport, Agriculture, environmental monitoring, energy saving, waste management, so emphasising the cross-sectoral role of technology.

29. The representative of the UNCCC Secretariat delivered a presentation on the work of the Executive Technology Committee of UNFCCC. He introduced the Committee as “Policy” component of the Technology Mechanism of the UNFCCC, established 2010, he explained the main functions as, undertaking analysis and providing policy recommendations to enhance climate technology development and transfer. Such functions are implemented through the TEC Briefs documents, forwarding key messages & recommendations to COP, drafting guidance documents and working with key partners (Climate Technology Centre and Network (CTCN), Green Climate Fund, etc.).

V. Workplan 2018-2019

30. The Co-Chairs and the members of the Task Force discussed the new items included in the draft workplan 2018-2019 (ECE/EB.AIR/2017/1), as a consequence of the input received by the recommendations of the PRG. The new task on the development of a code of good practice for solid fuel burning in the domestic combustion installations and the challenging new tasks to be carried out in cooperation with the Task Force on Integrated Assessment Modelling (TFIAM) were discussed, in particular. While on the first item no particular problem arose from the discussion, in fact it was later on decided that Italy and France will carry out the work with the expected contribution from the experts of other members of the Task Force, on the second issue, the Co-Chair of the TFIAM expressed the need of verifying the feasibility of creating a sub-group of experts dedicated to this issue and the availability of financial resources for further modelling analysis which are deemed essential to deliver the analyses and reports requested. Pending the financial coverage, the above item were later on adopted in the workplan 2018-2019, by the EB at its 37th session, in December 2017.

VI. Annual meetings of the Task Force

31. The 2018 annual meeting of the Task Force will take place in a venue and time to be decided, yet, after consultations with the TFTEI members. Later on the annual meeting, the Co-Chairs received an invitation from the Moroccan authorities to host the 2018 annual meeting in their country. This proposal was submitted to the attention of the EB Members, at its 37th session, in December 2017, being the annual meeting of a Task Force hosted outside the geographical area of the Convention, unusual and unprecedented. The EB welcomed the proposal and contacts with the Moroccan authorities are in progress to check the organization of the event.
