



Economic Commission for Europe**Committee on Sustainable Energy****Group of Experts on Coal Mine Methane****Sixteenth session**

Geneva, 3-4 March 2021

Report of the Group of Experts on Coal Mine Methane**I. Introduction**

1. The sixteenth session of the Group of Experts on Coal Mine Methane (CMM) was held on 3-4 March 2021 in Geneva and online.
2. This report summarizes the discussions on the work of the Group of Experts at its sixteenth session. All the documents and presentations of the session are available on the United Nations Economic Commission for Europe (ECE) website.¹

II. Attendance

3. The meeting was attended by experts from the following ECE member States: Bosnia and Herzegovina, Germany, Poland, Republic of Moldova, Romania, Russian Federation, Ukraine, and United States of America.
4. Experts from Australia, China, India and Mongolia participated under Article 11 of the ECE's Terms of Reference.
5. From the United Nations Specialized Agencies, the United Nations Framework Convention on Climate Change (UNFCCC) was represented. Representatives from the European Commission's Directorate-General Energy also participated.
6. The following international associations were represented: Global Methane Initiative, International Energy Agency (IEA) Clean Coal Centre, and World Bank Group.
7. Representatives of the following non-governmental organizations participated: Association of Donbass Mining Towns, Association of Geological Researches (Turkey), ClimateWorks Foundation, EIT Climate-KIC, Energy Efficiency Technology Institute, International Centre of Excellence on Coal Mine Methane (ICE-CMM) China, ICE-CMM Poland, Pacific Northwest National Laboratory, Responsible Mining Foundation, Scientific and Technical Mining Association of the Russian Federation, and Underground Coal Mine Safety Research Collaboration.

¹ Official documents of the session are available at <http://documents.un.org/>. Unofficial room documents and presentations delivered at the meeting are available on the ECE website at: <https://unece.org/sustainable-energy/events/16th-session-group-experts-coal-mine-methane>.

8. The private sector was represented by experts from twenty-two companies. Academia was also represented by experts from nine universities and scientific institutes.

III. Adoption of the agenda (agenda item 1)

Documentation: ECE/ENERGY/GE.4/2021/1

9. The provisional agenda as contained in document ECE/ENERGY/GE.4/2021/1 was adopted without amendment.

IV. Election of officers (agenda item 2)

10. The Group of Experts elected a Bureau for two years to take over from the end of the sixteenth session until the end of the eighteenth session. The elected members are: Mr. Raymond Pilcher (Raven Ridge Resources, Inc.) as Chair, and Ms. Aida Haracic (Bosnia and Herzegovina), Mr. Clemens Backhaus (Germany), Mr. Jacek Skiba (Poland), Mr. Sergey Shumkov (Russian Federation), Mr. Igor Yashchenko (Ukraine), Mr. Özgen Karacan (United States of America), Ms. Volha Roshchanka (United States of America), Mr. Zhixin JIN (International Centre of Excellence on CMM China), Mr. Clark Talkington (Advanced Resources International, Inc), Mr. Yuriy Bobrov (Association of Donbass Mining Towns), Mr. Neil Butler (HEL-EAST Ltd), Mr. David Creedy (Sindicatum Sustainable Resources) and Mr. Lukasz Kroplewski (independent expert) as Vice-Chairs.

11. The Group of Experts agreed, for the sake of ensuring continuity of the Bureau, that not all officers be elected at the same time. This approach is in line with the practice of the Committee on Sustainable Energy and the other groups of experts.

V. Opening remarks (agenda item 3)

12. In his opening remarks, the Chair of the Group of Experts observed that the world is witnessing an unprecedented reordering of the coal industry. He noted that while some countries had made commitments to reduce or even end their reliance on thermal coal, others were increasing their investment in the sector, consolidating their industry, and planning new mine openings. It was recognized that even though a few international mining corporations had taken a step back to reappraise their thermal coal position, many were pursuing larger positions in metallurgical coal. The Chair recalled that the Economic and Social Commission for Asia and the Pacific (ESCAP) had recently launched a policy dialogue on the phase out of coal. He observed that such an initiative was aligned with statements made by the Secretary-General of the United Nations, who on multiple occasions had urged countries to end their dependence on coal. The Chair supported the Secretary-General that the process of transformation of the coal sector will be felt unevenly across regions and highlighted the importance of a just transition. He recalled that, similar to the Secretary-General, the UNECE Executive Secretary had asked all the subsidiary bodies of the ECE to support the goals of carbon emission reductions and to focus on efforts that help the ECE region to meet its climate goals. In that context, the Chair observed that the Group should continue its work to make operating mines safer from methane-related accidents, keep developing standards relevant to its mandate, as well as document good and best practices related to safe capture and use of methane emissions throughout the entire coal mine life cycle, i.e., throughout exploration, operation, closure, and post closure. The Chair concluded by stating that the Group must recognize that it is a part of a global transition, and called for the Group to reassess its mandate in such a way that would allow the Group to maintain its relevance.

13. The Group of Experts noted with appreciation the work of the Bureau and the secretariat and their efforts to manage and direct the Group's work plan between annual sessions in spite of human and financial resource constraints and the unprecedented situation caused by the COVID-19 pandemic.

VI. Activities and priorities of the Committee on Sustainable Energy and matters for consideration by the Group of Experts (agenda item 4)

A. Key messages and policy recommendations for the sixty-ninth session of the Economic Commission for Europe

14. The Group of Experts supported the decision of the Committee on Sustainable Energy at its twenty-ninth session to request ECE at its sixty-ninth session to consider a decision on near-term acceleration of the 2030 Agenda for Sustainable Development through action on gases and buildings (ECE/ENERGY/133, paragraph 7). The Group of Experts noted that its work on methane has a notable near-term benefit for both climate and quality of life and proposed to continue its activities on management of methane emissions from coal-related activities in the transition to a sustainable future.

15. The Group of Experts noted with appreciation the Committee on Sustainable Energy's endorsement of the "Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines" (ECE/ENERGY/128 and ECE Energy Series No. 64) and the invitation to member States to take appropriate measures to ensure broad dissemination and application of the Best Practice Guidance.

16. The Group of Experts noted with appreciation the decision by the Committee to invite the Economic Commission for Europe to propose to the United Nations Economic and Social Council (ECOSOC) that it endorse the Best Practice Guidance and recommend its application worldwide. The Group of Experts requested the secretariat to keep the Group apprised of any developments.

B. Support for declaration of an International Decade for Methane Management

17. The Director of the Sustainable Energy Division provided an update on progress made in the efforts to declare an International Decade for Methane Management. The procedures and process for declaring any UN decade were described. The Director highlighted the need for UN Member States' support to attract attention to the initiative and to secure its success at the UN General Assembly. Potential partners and countries that have already indicated their support were mentioned, including Canada, Global Methane Initiative (GMI), Climate and Clean Air Coalition, and UN Environment. The Director described the main objectives of an International Decade for Methane Management: (i) increased awareness of the impact of methane on the environment and the available remedies to this; (ii) international and regional commitments on methane emissions monitoring, reporting and reduction; (iii) decreased methane concentrations in the atmosphere; and (iv) enduring programmes and structures to assure sustainability of efforts undertaken and results obtained during such a Decade.

18. The Group of Experts repeated its strong support for declaration by the UN General Assembly of an International Decade for Methane Management. The Group of Experts agreed to liaise with GMI to seek the support of UN Member States for such a declaration.

C. Carbon neutrality as a pathway to sustainable energy and the role for the Group of Experts

19. The Group of Experts noted the request of the Committee on Sustainable at its twenty-ninth session for closer cooperation among the expert groups to address cross-cutting issues, notably related to the project on "Enhancing the understanding of the implications and opportunities of moving to carbon neutrality in the ECE region across the power and energy intensive industries by 2050" (Carbon Neutrality project) led by the Group of Experts on Cleaner Electricity Systems. The Group of Experts on CMM agreed to offer its support to the project and invited interested experts to participate.

D. Strategic review of the ECE sustainable energy subprogramme

20. The Group of Experts noted that consultations with member States are being held in 2021 to finalize the draft strategic review of the ECE sustainable energy subprogramme (ECE/ENERGY/2020/12) with a view to having the text approved and adopted at its thirtieth session. The Group of Experts further noted the calls for the work of the Committee on Sustainable Energy to reflect the scale, scope, role, and values of the United Nations in making concrete, measurable progress on energy and to that end the Committee had encouraged closer cooperation among the subsidiary bodies on cross-cutting issues.

E. Rules of procedure of the Committee on Sustainable Energy

21. The Group of Experts noted that Rules of Procedure for the Committee on Sustainable Energy were endorsed by the Committee at its twenty-ninth session (Annex I to ECE/ENERGY/133). These Rules apply to the Committee and its subsidiary bodies. The Group of Experts further noted that the objective of instituting Rules of Procedure for the Committee is to streamline the work of the Committee and its subsidiary bodies, to provide a basis for accelerated delivery of the sustainable energy subprogramme, and to solidify ECE's reputation as a credible, relevant, and responsive partner.

VII. New developments and challenges in the coal sector (agenda item 5)

22. The Group of Experts noted with appreciation the new CMM-related projects and initiatives undertaken in ECE member States presented during the session, namely in Poland, Russian Federation and Ukraine. The Group of Experts noted the importance of CMM degasification and use and agreed to work towards development of rules, regulations, and standards to encourage financing and development of CMM degasification and use projects.

23. The Group of Experts noted the feedback received during the meeting on challenges faced by the coal sector related to coal mine closures or impending cessation of coal mining activities. The Group of Experts further noted that this feedback mirrors feedback received from participants during workshops organized by the Group in recent years. Noting that there is relevant expertise and experience within its membership, the Group of Experts proposed that it could offer support to member States considering closing coal mines on preparation of coal mines and coal mining regions and communities for mine closure and reorientation of local economies.

VIII. Report on implementation of the work plan for 2020-2021 (agenda item 6)

24. The Group of Experts noted that implementation of its work plan for 2020-2021 is on track and thanked members for their support in ensuring on time delivery of quality products and events.

25. The Group thanked the International Centres of Excellence on Coal Mine Methane (ICE-CMM) in Poland and in China for their work to disseminate and deploy the family of methane-related Best Practice Guidance documents, approved their annual reports for 2020 and approved their work plans for 2021. The Group further noted the encouragement from the Committee on Sustainable Energy to establish additional centres and requested the secretariat to seek additional extrabudgetary resources to this end.

26. The Group of Experts recalled its decision at its fifteenth session to explore further the proposal made by the European Commission to develop jointly best practices on: (i) monitoring, reporting, and verification (MRV) of methane emissions from the coal sector at facility level, (ii) monitoring methane emissions from surface mines, and (iii) mine closure. The Group noted with appreciation the establishment of a Task Force to develop a document describing the systems in place in the United States and other countries that provide MRV of

emissions and mitigation of methane. Noting that the document likely will inform legislation that is under consideration by the European Union as a part of its efforts to reduce methane emissions, the Group of Experts requested the document to be finalized as soon as practicable and issued as a parliamentary document for its seventeenth session.

IX. Future work of the Group of Experts (agenda item 7)

27. Noting the request of the Committee on Sustainable Energy at its twenty-ninth session that its expert groups consider in their work the changing social, environmental, and economic contexts for their activities and the principles of a just transition, the Group of Experts agreed to propose revising its mandate and work to orient them with the 2030 Agenda for Sustainable Development and embrace the principles of a just transition. The proposed revised name (Group of Experts on Coal Mine Methane and Just Transition), mandate, and terms of reference of the Group are contained in Annex I.

28. Noting that its mandate expires on 31 December 2021, the Group of Experts agreed to recommend that its mandate be renewed for a further two years to 31 December 2023.

29. The Group of Experts requested the secretariat to submit the proposed revised name, mandate, and terms of reference of the Group, as well as the mandate renewal request, for consideration by the Committee on Sustainable Energy at its thirtieth session.

X. Work plan for 2022-2023 (agenda item 8)

30. The Group of Experts approved its draft work plan for 2022-2023 subject to incorporation of amendments to document ECE/ENERGY/GE.4/2021/3 agreed at the meeting. The revised draft work plan for 2022-2023 is contained in Annex II. The Group of Experts requested the secretariat to submit the draft work plan for 2022-2023 to the Committee on Sustainable Energy at its thirtieth session.

XI. Cooperation and partnerships (agenda item 9)

31. The Group of Experts held a debate on its potential involvement in current and future methane-related activities and initiatives that seek to contribute to attainment of the 2030 Agenda for Sustainable Development. The Chair of the Group's Task Force on Monitoring, Reporting, and Verification (MRV) of Methane Emissions from the Coal Sector reported on the objectives, scope, and progress to develop a document that reviews existing practices in MRV, as well as mitigation of methane emissions from the coal sector worldwide. The methane strategy being prepared by the European Commission was also presented and discussed.

XII. Eleventh joint meeting of the United Nations Economic Commission for Europe Group of Experts on Coal Mine Methane and the Global Methane Initiative Coal Subcommittee (agenda item 10)

32. The Group of Experts thanked the secretariat of the Coal Subcommittee of GMI and its members for their continued support and collaboration.

33. The Group of Experts expressed interest in continuing to develop joint projects with GMI and requested the secretariat to ensure, facilitate, and coordinate continued cooperation between the two entities.

34. The Group of Experts expressed its interest in participating in the next Global Methane Forum. The Group requested the secretariat to ensure that topics related to the work of the Group are featured in the event's agenda to the extent possible.

XIII. Preparations for the seventeenth session of the Group of Experts (agenda item 11)

35. The seventeenth session will be held on 21-22 March 2022 in Geneva.

XIV. Any other business (agenda item 12)

36. The Group of Experts noted the need to secure additional extrabudgetary resources to deliver results-oriented projects.

XV. Adoption of conclusions and recommendations (agenda item 13)

Documentation: CMM-16/2021/INF.1 - Unofficial room document: Draft Conclusions and Recommendations arising from the Sixteenth Session of the Group of Experts on Coal Mine Methane dated 19 February 2021.

37. The conclusions and recommendations were adopted and are included under the relevant agenda items highlighted in this report.

XVI. Adoption of the report and close of the meeting (agenda item 14)

38. The report of the meeting was adopted, including the conclusions and recommendations, subject to any necessary editing and formatting.

Annex I

Revised name, mandate and Terms of Reference of the Group of Experts on Coal Mine Methane²

I. Introduction

1. The Group of Experts on Coal Mine Methane at its sixteenth session recommended to change its name to the Group of Experts on Coal Mine Methane and Just Transition to: (i) respond to the request of the Committee on Sustainable Energy at its twenty-ninth session that its expert groups consider in their work the changing social, environmental, and economic contexts for their activities and the principles of a just transition; and (ii) orient the work of the Group of Experts to deliver better on the 2030 Agenda for Sustainable Development.
2. Noting that its mandate expires on 31 December 2021, the Group of Experts recommended that its mandate be renewed for a further two years to 31 December 2023.

II. Text agreed by the Group of Experts

3. The Group of Experts on Coal Mine Methane and Just Transition is mandated until 31 December 2023 to carry out concrete, results-oriented activities in the work areas and with the objective mentioned below.

A. Objective

4. To promote efficient transition of industries along the coal value chain ensuring the reduction of associated greenhouse gas emissions and social equity of the process through substantive, results-oriented activities that may help the recovery and use of methane in order to reduce the risks of explosions in coal mines; mitigate climate change; and support sustainable development, and that may support communities, local economies and the environment in the just transition process.

B. Areas of Work

5. The areas of work of the Group of Experts are:
 - (a) Recovery and use of methane from active, closed, or/and abandoned coal mines aimed at reducing the risks of explosions, mitigating climate change, and supporting sustainable development;
 - (b) For those countries or regions/states that choose to cease coal mining and related activities, offer support on request on preparation of coal mines and coal mining regions and communities for mine closure and reorientation of the local economies;
 - (c) Repurposing of mines and existing mining infrastructure and facilitating development of new profiles of economic activity and business models that preserve social cohesion and cultural heritage of the affected localities.

C. Concrete activities

6. The concrete activities of the Group of Experts are to:

² For consideration by the Committee on Sustainable Energy at its thirtieth session.

- (a) Disseminate the Best Practice Guidance for Effective Methane Drainage and Recovery in Coal Mines;
- (b) Disseminate the Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines;
- (c) Develop and disseminate best practices as needed for monitoring, reporting, verification, and remediation of methane emissions from operating coal mines, closed and/or abandoned coal mines, prospective coal mines (coal bed methane), and surface mines;
- (d) Support the work of the International Centres of Excellence on Coal Mine Methane (ICE-CMMs) and expand the network of ICE-CMMs;
- (e) Use modern information technologies to facilitate exchange on advanced technologies for degassing and extracting methane from coal mines, including through the network of ICE-CMMs;
- (f) Collect and disseminate case studies on the application of best practice guidance in specific coal mines in different regions of the world;
- (g) Develop guidance on mine closure with special focus on gassy mines;
- (h) Develop principles on managing the social aspects and impact of the transition of industries along the coal value chain and coal-dependent regions;
- (i) Contribute, in cooperation with other groups of experts and under the leadership of the Committee on Sustainable Energy, to the work on integrated methane management in the context of sustainable development;
- (j) Further engage, in cooperation with other groups of experts and under the leadership of the Committee on Sustainable Energy, in the work on transition of the coal industry in the ECE region;
- (k) Contribute to the work of the Expert Group on Resource Management on development of specifications and guidelines for application of the United Nations Framework Classification for Resources (UNFC) and the United Nations Resource Management System for Coal Bed Methane Resources;
- (l) Contribute, in cooperation with other Groups of Experts and under the leadership of the Committee on Sustainable Energy, to the work on the “Pathways to Sustainable Energy” programme; and
- (m) Continue to provide advice on coal mine methane related standards to the United Nations Framework Convention on Climate Change (UNFCCC), the International Organization for Standardization (ISO), and other international, national and regional market-based coal mine methane emission reduction mechanisms. Engage and develop robust professional ties with the recognized expert entities operating in the field of fossil-based energy.

7. If the activities carried out by ECE coal mine methane experts reveal coal mine safety issues unrelated to drainage, recovery and usage of coal mine methane, these will not be addressed in the ECE context, but they may communicate these to other relevant organizations, such as the International Labour Organization (ILO) for consideration in the framework of its coal mine safety guidelines.

8. The Group of Experts will avoid duplication of activities undertaken by other stakeholders on the above topics and will focus on deliverables that complement and build on any activities that exist as relevant.

9. The Group of Experts will ensure broad inclusiveness in its membership to the extent possible and pay due attention to gender equality in its activities.

Annex II

Draft work plan for the Group of Experts on Coal Mine Methane and Just Transition for 2022-2023³

I. Introduction

1. The mandate of the Group of Experts on Coal Mine Methane and Just Transition (the Group of Experts) is to promote efficient transition of industries along the coal value chain ensuring the reduction of associated greenhouse gas emissions and social equity of the process through substantive, results-oriented activities that may help the recovery and use of methane in order to reduce the risks of explosions in coal mines; mitigate climate change; and support sustainable development, and that may support communities, local economies and the environment in the just transition process.

2. The areas of work of the Group of Experts are:

(a) Recovery and use of methane from active, closed, or/and abandoned coal mines aimed at reducing the risks of explosions, mitigating climate change, and supporting sustainable development;

(b) For those countries or regions/states that choose to cease coal mining and related activities, offering support on request on preparation of coal mines and coal mining regions and communities for mine closure and reorientation of the local economies;

(c) Repurposing of mines and existing mining infrastructure and facilitating development of new profiles of economic activity and business models that preserve social cohesion and cultural heritage of the affected localities.

II. Substantive activities in 2022-2023

3. Taking account of the outcomes and lessons learned from implementation of its previous work plans, extensive consultations with as wide a range of stakeholders as possible, and the outcomes of the fifteenth and sixteenth sessions of the Group of Experts, the Group of Experts proposes to undertake the following activities in 2022 and 2023.

A. Disseminate and facilitate application of best practices for effective methane recovery and use from active, closed and/or abandoned coal mines through, among other means, activation of existing and creation of new national and international centres of excellence on coal mine methane

Description:

4. Since 2005, the Group of Experts has collaborated with the Global Methane Initiative (GMI), a voluntary, multilateral partnership that aims to reduce global methane emissions and to advance the abatement, recovery and use of methane. In partnership with GMI, in 2010 the Group of Experts published and has since disseminated the "Best Practice Guidance for Effective Methane Drainage and Use in Coal Mines". In 2016, the Best Practice Guidance was revised, updated and supplemented by a number of new case studies. In 2019, the Group of Experts together with GMI, prepared and published the "Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines". Both documents are to

³ The name of the Group of Experts indicated is the revised name recommended by the Group of Experts at its sixteenth session. Paragraphs 1 and 2 refer to the revised mandate and Terms of Reference recommended by the Group of Experts at its sixteenth session. All recommendations are subject to the approval of the Committee on Sustainable Energy and endorsement of the Executive Committee of ECE.

be promoted by the Group through dissemination activities in countries facing challenges with effective methane management in the active mines, as well as in those encountering difficulties resulting from gradual phaseout of coal and the ensuing mines closure. The work of the Group of Experts to deliver the above-mentioned activities is supported by an extension of the grant that the United Nations Economic Commission for Europe (ECE) received from the United States Environmental Protection Agency (U.S. EPA) to deliver the extrabudgetary project “Dissemination of best practices in the abatement, recovery, and use of methane; Phase II”.

Work to be undertaken:

(a) Plan, organize, and execute two capacity-building workshops, in a physical location or online, on best practices for effective methane recovery and use from active, closed and/or abandoned coal mines, subject to availability of extrabudgetary resources;

(b) Continue collaboration with GMI, including through the extension of phase II of the extrabudgetary project on “Dissemination of best practices in the abatement, recovery, and use of methane”, the Group of Experts’ engagement in the Global Methane Challenge activities, and joint support to an International Decade for Methane Management should one be declared.

Deliverables:

(a) Two capacity-building workshops, in a physical location or online, on best practices for effective methane recovery and use from active, closed and/or abandoned coal mines, subject to availability of extrabudgetary resources;

(b) A set of events focussing on CMM organized jointly by the Group and GMI within the framework of the Global Methane Challenge and any International Decade for Methane Management that might be declared, subject to availability of extrabudgetary resources.

Timeline:

(a) Workshops on best practices for effective methane recovery and use from active, closed and/or abandoned coal mines, by December 2023, subject to targeted recipients’ interest and availability of extrabudgetary resources;

(b) A set of events organized jointly by the Group and GMI within the framework of the Global Methane Challenge and any International Decade for Methane Management that might be declared, throughout the biennium, subject to availability of extrabudgetary resources.

B. Launch and support the work of the International Centres of Excellence on Coal Mine Methane

Description:

5. An International Centre of Excellence on Coal Mine Methane (ICE-CMM) is a non-profit entity established in a United Nations Member State under the national laws of that Member State that, under the auspices of and in close collaboration with the Group of Experts, supports capacity-building activities through dissemination of best practices in economically-viable methane abatement and utilization, socially-acceptable underground coal mine practices, and environmentally-responsible methane management. The Group of Experts seeks to establish a network of independent ICE-CMMs operating in different locations and collaborating with one another under the guidance and oversight of the Group. The first and second ICE-CMMs, located in Poland and China respectively, became operational in 2017.

6. The principal aims of each ICE CMM are: (i) to disseminate and implement best practices in gas capture and use in coal mines based on the principles published in the Best Practice Guidance documents; (ii) serve as a repository of knowledge on gas control, gas drainage and gas use; (iii) raise awareness of benefits and challenges in the CMM sector; (iv) establish links with other ICE-CMMs and collaborate on key activities and in research; and

(v) report to and support the work of the Group of Experts. The Centres are to deliver on those goals through the following activities: (i) collecting and summarizing information on modern technologies for the extraction, degassing and utilization of coalbed methane (CBM) (including mining-related forms of CBM, e.g. CMM, Ventilation Air Methane (VAM), Abandoned Mine Methane (AMM)); (ii) integration and dissemination of information through various means of communications, including onsite events and online platforms; (iii) research and development in coordination with other ICE-CMMs; (iv) testing and experimentation of new technologies, methods, and equipment; (v) development of curriculum and delivery of trainings (online and in-person); (vi) analysis of the current legislation, standards, instructions, directives and other relevant regulations, and developing proposals for their improvement; and (vii) assessment and monitoring of methane resources according to the United Nations Classification Framework for Resources (UNFC).

7. The Bureau of the Group of Experts will engage in planning, delivering, and overseeing the activities of the existing ICE-CMMs. The Group of Experts will assist ICE-CMMs with organizing and delivery of activities specified in their respective Work Plans, as well as provide oversight of their work. In terms of the latter each Centre is required to submit an annual status report and work plan for the upcoming year to the Group of Experts for review and approval. The Bureau of the Group of Experts, together with the secretariat, will also encourage the Group of Experts' partners – Ukraine, and the United States of America – to continue their work to establish additional Centres of Excellence in these countries, as well as seek other opportunities to expand the network of ICE-CMMs worldwide. The Group of Experts will engage in a dialogue with the Russian Federation to strengthen the cooperation between the Group and the newly established Russian Centre for Problems of Methane and Gas-dynamic Phenomena in Coal and Ore Deposits.

Work to be undertaken:

- (a) Assist ICE-CMM in Poland in carrying out its work, as requested or needed in accordance with the ICE-CMM's Terms of Reference;
- (b) Assist ICE-CMM in China in carrying out its work, as requested or needed in accordance with the ICE-CMM's Terms of Reference;
- (c) Support the Group's partners Ukraine, and United States of America to continue their work to establish ICE-CMMs in these countries;
- (d) Engage in a dialogue with the Russian Federation to strengthen cooperation between the Group and the Russian Centre for Problems of Methane and Gas-dynamic Phenomena in Coal and Ore Deposits;
- (e) Should additional ICE-CMM(s) be established, assist the host institution(s) in carrying out work of the Centre(s), as requested or needed in accordance with the ICE-CMM(s)' Terms of Reference;
- (f) Organize quarterly coordination calls between the ICE-CMMs and the secretariat.

Deliverables:

- (a) Plan, organize, and execute in cooperation with ICE-CMMs one or two workshops or seminars, in a physical location or online, on best practices for effective methane recovery and use from active, closed and/or abandoned coal mines;
- (b) Yearly status report on the activities of ICE-CMM Poland, to be delivered by ICE-CMM Poland for review and approval of the Group of Experts;
- (c) Yearly status report on the activities of ICE-CMM China, to be delivered by ICE-CMM China for review and approval of the Group of Experts;
- (d) Should new ICE-CMM(s) be established, initial work plans for each new Centre with a list of deliverables which are to be delivered in coordination with the Group of Experts;
- (e) Quarterly coordination calls between the Centres and the secretariat.

Timeline:

(a) Seminars or workshops on best practices for effective methane recovery and use from active, closed and/or abandoned coal mines by December 2023, subject to availability of extrabudgetary resources;

(b) Annual status reports on the activities of ICE-CMM Poland to be delivered by ICE-CMM Poland for the Group of Experts' review and approval, at the annual sessions of the Group in 2022 and 2023;

(c) Annual status reports on the activities of ICE-CMM China to be delivered by ICE-CMM China for the Group of Experts' review and approval at the annual sessions of the Group in 2022 and 2023;

(d) Work plans for any new ICE-CMM(s), when necessary, as requested by the host entities;

(e) Quarterly coordination calls between ICE-CMMs and the secretariat, starting in Q1 2022.

C. Collect and disseminate case studies on the application of best practice guidance in specific coal mines in different regions of the world**Description:**

8. Case studies are needed to demonstrate how the principles outlined in the Best Practice Guidance for Effective Methane Drainage and Recovery in Coal Mines and in the Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines can be implemented at, respectively, active, closed and/or abandoned coal mines around the world. At its tenth session in 2015, the Group of Experts recommended that a case study library be developed to complement the Best Practice Guidance for Effective Methane Drainage and Recovery in Coal Mines. A library has been assembled in electronic form on the ECE coal mine methane website. In 2020, an additional library of case studies dedicated to methane recovery and use from abandoned mines was established online as a supplement to the Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines. Subject to extrabudgetary resources both case study libraries could be extended by elaborating concrete, in-depth case studies and analyses that demonstrate the benefits of applying the best practices developed by the Group.

Work to be undertaken:

9. Develop, compile and publish on the ECE CMM website case studies on effective methane management in active and/or closed coal mines, subject to availability of extrabudgetary resources.

Deliverables:

10. Case studies on implementation of best practices in effective methane management in active and/or closed coal mines, subject to availability of extrabudgetary resources.

Timeline:

11. Case studies reviewed and approved as they are received. This process is an ongoing activity of the Group of Experts.

D. Contribute, in cooperation with other Groups of Experts and under the leadership of the Committee on Sustainable Energy, to the work on integrated methane management in the context of sustainable development

Description:

12. In January 2015, the Group of Experts offered to participate in the Task Force on Methane Management in Extractive Industries that reports to the Bureau of the Committee on Sustainable Energy. The Group of Experts will continue to contribute, within the scope of its expertise, to the work on methane management in key energy-related extractive industries undertaken jointly by various Groups of Experts operating under the umbrella and leadership of the Committee. The Group of Experts will review existing practices in measuring, monitoring, reporting and verifying methane emissions from the coal sector in selected countries of the ECE region and beyond, and will attempt to identify unified best practices in those areas.

Work to be undertaken:

13. Review existing practices in measuring, monitoring, reporting and verifying methane emissions from the coal sector in selected countries of the ECE region and beyond, and identify unified best practices in those areas.

Deliverables:

(a) Report reviewing existing practices in measuring, monitoring, reporting and verifying methane emissions from the coal sector in selected countries of the ECE region and beyond;

(b) Set of physical or online consultation meetings with stakeholders in key coal mining countries in the ECE Region;

(c) Publication, in print and/or electronic, identifying best practices in measuring, monitoring, reporting and verifying methane emissions from the coal sector.

Timeline:

(a) Report reviewing the existing practices in measuring, monitoring, reporting and verifying methane emissions from the coal sector in the selected countries across the world by Q2 2022;

(b) Set of physical or online consultation meetings with stakeholders in key coal mining countries in the ECE region by December 2022;

(c) Publication, in print and/or electronic, identifying best practices in measuring, monitoring, reporting and verifying methane emissions from the coal sector by December 2022.

E. Further engage, in cooperation with other groups of experts and under the leadership of the Committee on Sustainable Energy, in the work on transition of the fossil fuels-based industries in the ECE region

Description:

14. In November 2015, the Committee on Sustainable Energy at its twenty-fourth session mandated the Group of Experts on Coal Mine Methane, to make a proposal on how to expand the current mandate of the Group of Experts to encompass work on the transition of traditional mining companies to become integrated energy providers and service companies and to explore the impact this transition might have on energy for sustainable development. In September 2017, at the twenty-sixth session of the Committee, the Group of Experts presented its proposal and recommendations. In accordance with the recommendations made to the Committee, the Group of Experts stands ready to further engage in the work on transition of the fossil fuels-based energy sector in the ECE Region.

Work to be undertaken:

15. Engage, in cooperation with other groups of experts and under the leadership of the Committee on Sustainable Energy, in work facilitating ECE member States' transition of industries along the coal value chain and coal-dependent regions, subject to availability of extrabudgetary resources.

Deliverables:

- (a) A set of coal sector transition consultation meetings, whether in a physical location or online, with stakeholders in various countries across the ECE region, subject to member States' interest;
- (b) Guidelines on mine closure with special focus on gassy mines, subject to availability of extrabudgetary resources;
- (c) A document outlining principles on managing the social aspects and impact of the transition of industries along the coal value chain and coal-dependent regions;
- (d) Case studies on techno-economic opportunities for emission reductions from coal-utilizing industrial plants in interested ECE member States, subject to identification of suitable candidate countries and availability of extrabudgetary resources.

Timeline:

- (a) A set of coal sector transition consultation meetings, physical or online, with stakeholders in various countries across the ECE region throughout the biennium, subject to member States' interest;
- (b) A guiding document on mine closure with special focus on gassy mines, subject to availability of extrabudgetary resources by December 2023;
- (c) A document outlining principles on managing the social aspects and impact of the transition of industries along the coal value chain and coal-dependent regions by December 2023;
- (d) Case studies on techno-economic opportunities for emission reductions from coal-utilizing industrial plants in the interested ECE member States, subject to identification of suitable candidates and availability of extrabudgetary resources, by December 2023.

F. Contribute to the work of the Expert Group on Resource Management on United Nations Framework Classification for Resources and United Nations Resource Management System specifications and guidelines for coal-associated gas resources**Description:**

16. Continue contributing, within the scope of the Group's expertise, to the work of the Expert Group on Resource Management on development of documentation allowing the United Nations Framework Classification for Resources (UNFC) and the United Nations Resource Management System (UNRMS), under development, to be effectively applied to and manage coal-associated gas resources.

Work to be undertaken:

17. Provide advice, as requested by the Expert Group on Resource Management and within the scope of the Group of Experts' expertise, on developing specifications and guidelines for application of UNFC and UNRMS to manage coal-associated gas resources.

Deliverables:

18. Input to specifications and guidelines for application of UNFC and UNRMS to manage coal-associated gas resources developed by the Expert Group on Resource Management.

Timeline:

19. Input to specifications and guidelines for application of UNFC and UNRMS to manage coal-associated gas resources (subject to progress on the topic and upon request by the Expert Group on Resource Management).

G. Contribute, in cooperation with other Groups of Experts and under the leadership of the Committee on Sustainable Energy, to the project “Enhancing the understanding of the implications and opportunities of moving to carbon neutrality in the ECE region across the power and energy intensive industries by 2050” (Carbon Neutrality Project)

Description:

20. “Carbon neutrality” refers to achieving net zero CO₂ emissions by balancing carbon emissions with carbon removal or simply by eliminating carbon emissions altogether (the transition to a “post-carbon economy”). Many countries have started to shift efforts towards carbon neutrality. As fossil fuels are likely to continue to play an important role for ECE member States in the short and medium term, achieving carbon neutrality will require deployment of carbon capture and storage technologies (CCS) and other compensating technologies and measures, such as increasing the absorptive capacity of forests and peatlands.

21. The Project is being implemented under the auspices of the Group of Experts on Cleaner Electricity Systems. It explores not only environmental implications but also the economic, social, and resource dimensions of various technologies. For its purposes carbon neutrality refers to the whole energy system including transport, industry, and buildings.

22. At its twenty-ninth meeting (25-27 November 2020, Geneva), the Committee on Sustainable Energy requested the secretariat, with the support of the groups of experts, to draft a position paper for ECE on carbon neutrality to be considered at the thirtieth session of the Committee.

23. The Group of Experts stands ready to contribute, within the scope of its expertise, to the above-mentioned position paper.

Work to be undertaken:

24. Contribute, as requested by the Committee on Sustainable Energy and within the scope of the Group of Experts’ expertise, to the position paper for the ECE on carbon neutrality.

Deliverables:

25. Input to the position paper for ECE on carbon neutrality.

Timeline:

26. Input to the position paper for ECE on carbon neutrality (to be determined by the progress of work on that matter, upon request by the secretariat or the Group of Experts on Cleaner Electricity Systems that leads the work on the Project).

H. Promote broader inclusiveness of the Group of Experts, giving due attention to gender equality

Description:

27. In line with the objectives of Sustainable Development Goal 5 “Achieve gender equality and empower all women and girls”, the Group of Experts undertakes necessary steps to assure full inclusiveness in its membership and work and to promote the value of diversity. The Group of Experts gives due attention to gender matters in all of its activities, striving to identify barriers that prevent greater involvement of women in the mining industry, and highlighting the benefits that diversity of staff and the resulting multiplicity of experiences and worldviews can bring to entities operating in the sector.

Work to be undertaken:

28. Continue to promote the value of diversity, identify barriers that prevent greater involvement of women in the mining industry, and highlight the benefits that diversity of the

staff and the resulting multiplicity of experiences and worldviews can bring to entities operating in the sector.

Deliverables:

29. A session promoting the value of diversity, identifying barriers that prevent greater involvement of women in the mining industry, and highlighting the benefits that diversity of the staff and the resulting multiplicity of experiences and worldviews can bring to entities operating in the sector at one or more of the events organized by the Group of Experts.

Timeline:

30. A session promoting the value of diversity, identifying barriers that prevent greater involvement of women in the mining industry, and highlighting the benefits that diversity of the staff and the resulting multiplicity of experiences and worldviews can bring to entities operating in the sector at one or more of the events organized by the Group of Experts by December 2023.

I. Continue to provide advice on coal mine methane related standards to the United Nations Framework Convention on Climate Change (UNFCCC), the International Organization for Standardization (ISO), and other international, national and regional market-based coal mine methane emission reduction mechanisms. Engage and develop robust professional ties with the recognized expert entities operating in the field of fossil-based energy

Description:

31. In the past, the Group of Experts advised UNFCCC on matters related to methane standards and methodologies, namely ACM0008 (Consolidated methodology for coalbed methane, coal mine methane and ventilation air methane capture and use for power (electrical or motive) and heat and/or destruction through flaring or flameless oxidation). The Group of Experts also provides comments on other international, national and regional market-based coal mine methane emission reduction mechanisms, such as the California Air Resources Board Mine Methane Capture Protocol or the ISO Technical Committee 263 Coalbed methane (CBM). To increase the efficiency and visibility of its work, the Group of Experts seeks to establish professional ties with recognized expert entities operating in the field of fossil-based energy. In order to change the negative and generalized image of the coal industry predominant among multilateral and bilateral financial institutions, which has become a barrier to financing and implementing coal mine methane capture and use projects, the Group of Experts seeks to engage with such institutions in order to educate them on the benefits deriving from efficient CMM management.

Work to be undertaken:

32. Continue to liaise with the above-mentioned and similar organizations and actively solicit the Group of Experts' advice and services. To establish professional ties with the recognized expert entities operating in the field of fossil-based energy. To change the negative and generalized image of the coal industry predominant among multilateral and bilateral financial institutions and educate such institutions on the benefits deriving from efficient coal mine methane management.

Deliverables:

- (a) Advice and comments, upon request, on coal mine methane related standards;
- (b) Establish professional ties with the recognized expert entities operating in the field of fossil-based energy;
- (c) Continue exploring opportunities for engagement with multilateral and bilateral financial institutions, with the goal to change the negative and generalized image of the coal industry, and to raise extrabudgetary funds to support the current and future activities of the Group of Experts.

Timeline:

- (a) To provide advice as requested;
 - (b) Explore opportunities for establishing professional ties with recognized expert entities operating in the field of fossil-based energy, throughout the biennium, subject to the interest of the targeted partners;
 - (c) Continue engaging with multilateral and bilateral financial institutions, throughout the biennium, subject to the interest of targeted partners.
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