

Status of implementation status of the recommendations

Review of the case studies of the application of best practices guidance for coal mine methane management (Dec 2017)

Progress report as at 31 December 2020

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
1	<p>Strategically, the Sustainable Energy Division should continue using the mixed technical-political approach: the technical level brings together state-of-the-art knowledge, while the political dialogue can stimulate the politics in the UNECE member States to intensify the adoption of the best practices in coal mine industry. For the Division, the Group of Experts on Coal Mine Methane (GoE on CMM) brings tangible results and an added value, strengthening the position of the Secretariat. This recommendation will play an even stronger role in the context of SDGs. It is also likely to gain importance as the biggest coal extracting countries become increasingly open and interested in adopting the</p>	<p>GoE on CMM organized its 12th annual session in October 2017, which gathered technical experts, as well as representatives of the Governments, relevant international organizations (ILO, International Energy Agency, European Commission), private sector, civil society (NGOs) and academia. The meeting followed the long-established pattern of being a forum where CMM-related problems are discussed by all stakeholders.</p> <p>CSE approved the extension of the Group's mandate and workplan for 2018-2019, thus providing a basis for continuation of GoE on CMM's activities in accordance to the previously established mode of operation.</p> <p>SED will continue its outreach to all stakeholders, engaging with the Governments, relevant international organizations, private sector, civil society actors, and representatives of academia. Below are listed examples of recent and future engagements with relevant stakeholders indicating GoE on CMM's</p>	<p>GoE and the Energy Industry Section</p>	<p>Implemented in December 2018</p> <p>Following its established and well-proven pattern of activity, which reflects the Group's inclusiveness and all-encompassing approach, in 2018 the GoE on CMM continued to engage with a broad range of stakeholders from both the public and private sector. It organized:</p> <ul style="list-style-type: none"> • A one-day seminar (in cooperation with the Polish International Centre of Excellence (ICE-CMM)) titled <u>Coal Mine Methane as a Valuable Energy Source</u> (28 February 2018, Cracow, Poland). The event was held within the framework of the School of Underground Mining hosted by the Polish Academy of Science and gathered together Polish and international practitioners, private enterprises operating in the sector, regulators, and academicians, allowing them to discuss various aspects of the application of the Best Practices developed and promoted by the GoE on CMM. • A half-day seminar (in cooperation with the Global Methane Initiative (GMI)) on <u>Best Practices in Coal Mine Methane Capture and Utilization</u> (16 April 2018, Toronto, Canada). The event was held within the framework of the Global Methane Forum and gathered together representatives from the private sector, decision-makers, and academicians from around the world, allowing them to discuss various aspects of the application of the Best Practices developed and promoted by the GoE on CMM. • A technical session (in cooperation with ICE-CMM in Poland) titled <u>Pre-mining methane capture from coal deposits in the context of environmental protection and diversification of gas sources for Poland</u> that was delivered within the framework of the Gazterm 	<p>Implemented in December 2018</p>

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
	<p>best standards in safety and environmental protection.</p>	<p>strong attachment to inclusiveness and all-encompassing approach:</p> <ul style="list-style-type: none"> • New grant for continuation of the extra-budgetary project provided by the United States Environmental Protection Energy (US EPA) was received. • The secretariat engaged with the European Commission (EC) exploring opportunities for cooperation. A special attention was given to EC's Coal Regions in Transition Platform, which is built on similar premises as a new SED's cross-cutting project on Modernisation of the Energy Sector. Both initiatives seek to achieve similar goals, but have different geographic focus, which make them complementary rather than competitive. • The Government of Kazakhstan was approached and expressed its interest in participating in two extra-budgetary projects developed by SED. • The European Bank for Reconstruction and Development (EBRD) was approached for the purpose of exploring opportunities for financing of, and cooperation in implementation of the a new SED's cross-cutting project on Modernisation of the Energy Sector. • Imperial College London (ICL) as well as a private sector actors specialized in business modelling were approached. They expressed their interest in participating in a new SEDs cross-cutting 			<p>Conference, held 6-9 May 2018, Międzyzdroje, Poland. The event provided a platform for exchange and dialogue between regulators and private sector from Poland and various other UNECE member States, such as USA, Russia, and Ukraine, allowing them to discuss various aspects of the application of the Best Practices developed and promoted by the GoE on CMM.</p> <ul style="list-style-type: none"> • A one-day technical session on CMM (organized jointly with GMI) titled <u>Turning Coal Mine Methane into an Asset: Implementing Best Practices and Policies</u>. The event was held within the framework of the 25th World Mining Congress on 20 June in Astana, Kazakhstan. It gathered public and private sector stakeholders from Central Asia, ex-Soviet Union States, China, India, Western and Eastern Europe, as well as North America, allowing them to discuss various aspects of the application of the Best Practices developed and promoted by the GoE on CMM. • A two-day <u>capacity building workshop on Best Practices in Coal Mine Methane Capture and Utilization</u> (24-25 July 2018, Bogota, Colombia). The event (organized jointly with GMI) was targeted at Colombian practitioners, mine operators, regulators, • 13th annual session of the GoE on CMM (24-25 September 2018, Geneva, Switzerland), which gathered technical experts, as well as representatives of Governments, relevant international organizations, private sector, civil society (NGOs) and academia. • A half-day seminar (organized in cooperation with GMI) on <u>Best Practices in Coal Mine Methane Capture and Utilization and their application in Ukraine</u>. The event was organized within the framework of the 9th International Forum on Energy for Sustainable Development (12-15 November 2018, Kyiv, Ukraine) and was targeted at Ukrainian practitioners, mine operators, regulators, and decision makers. It provided a platform for exchange of experiences and knowledge between experts from UNECE member States and local stakeholders. • A side event at COP24 (10 December 2018, Katowice Poland) titled <u>Conventional and Unconventional Gas as a Destination Fuel for</u>

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
		<p>project on Modernisation of the Energy Sector.</p> <ul style="list-style-type: none"> The Governments of Russian Federation and Ukraine were approached regarding establishment of the new International Centres of Excellence on CMM in these countries. Negotiations with Governments of Turkey, Georgia and Colombia were undertaken following their requests to organize demand-driven capacity building workshops GoE on CMM provided its comments to the drafts of new international standards that were to be proposed at the 5th plenary meeting of the International Organization for Standardization's (ISO) Technical Committee 263. GoE on CMM intervention led to abandonment of a standard, which could indirectly undermine the established security standards of methane management in underground coalmines. The dialogue and cooperation with ISO is to be continued. The secretariat and GoE on CMM participated in the Global Methane Forum (GMF) – a conference hosted by the Global Methane Initiative (GMI) and gathering practitioners, decision-makers, and academicians from all around the world – in Toronto in April 2018. <p>GoE on CMM will maintain its mode of</p>			<p><u>the Green Economy</u>. The event organized jointly with ICE-CMM Poland and the Polish Oil and Gas Company (PGNiG) featured a panel discussion on the future of natural gas, as seen from the perspectives of various stakeholders (public and private sector) from around the world (UNECE member States, Australia, and China).</p> <ul style="list-style-type: none"> Three technical sessions (August, June and September) designed to train future trainers in Best Practices in CMM Capture and Use organized by ICE-CMM in China. The sessions were targeted at Chinese miners, mine operators, and local regulators. They provided a platform for exchange of experiences and knowledge-sharing between experts from UNECE member States and local stakeholders. <p><u>Additional updates in June 2019:</u></p> <ul style="list-style-type: none"> A one-day seminar (organized in cooperation with the Polish International Centre of Excellence (ICE-CMM)) titled Coal Mine Methane as a Valuable Energy Source (27 February 2019, Cracow, Poland). The event took the form of a match-making event between the Colombian stakeholders, from both, public and private sectors, and the international experts and equipment producing companies, highlighting the technical and regulatory methane-related challenges faced in the country. International experts and equipment producers responded to the specific needs identified and highlighted approaches taken in other countries. A one-day technical Workshop on Best Practices in Coal Mine Methane Capture and Utilization (organized jointly with GMI) was held in Ankara, Turkey (10 June 2019). It was organized in cooperation with the Turkish Ministry of Energy and Natural Resources and the Turkish Coal Enterprises (TKI). It gathered local public and private sector stakeholders and familiarized them with the Best Practices developed and promoted by the GoE on CMM, as well as explained the intricacies of their effective application. A two-day technical Workshop on Best Practices in Coal Mine Methane Capture and Utilization (organized jointly with GMI) was held

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
		<p>operation, and its inclusive and multidimensional character through engagement with stakeholders and organization of and/or participation in events gathering various audiences and approaching CMM-related matters from different angles and perspectives.</p>			<p>within the framework of the Third International Coal Conference titled Ukrainian Coal Mining Industry in the Times of Decarbonisation, 12-14 June 2019, Dnipro, Ukraine. The event was hosted by the Technical University of Dnipro and organized by the Ukrainian Ministry of Energy and Coal Industry, National Academy of Sciences of Ukraine as well as the Ukrainian companies such as DTEK, Pokrovskoye Mine Management, Pokrovskoye Holding Company, and Donetskstal. The objectives of the workshop were to disseminate and implementation of best practices in CMM drainage and utilization, and to promote policies that facilitate development of CMM projects.</p> <p>GoE on CMM and SED continued its outreach to all stakeholders, engaging with Governments, relevant international organizations, private sector, civil society actors, and representatives of academia. Below are listed examples of recent engagements:</p> <ul style="list-style-type: none"> • A new grant for development of the Project on Modernization of the Energy Sector led by GoE on CMM to be provided by Kazakhstan was announced in December 2018. • An exchange of information and cooperation with the European Commission (EC) in general, and its Coal Regions in Transition Platform, in particular, continues. • The Governments of the Russian Federation, Ukraine and Colombia were approached and they all expressed their interest in setting up a local ICE-CMM. MoUs with the Russian Federation and Ukraine are being discussed. • Local authorities as well as the 'local mining university in Colorado (USA) were approached and they expressed their interest in setting up a local ICE-CMM. • IEA Clean Coal Centre, Boston University, Climate-Kic, Kopernikus ENavi Project, and Geschäftsführer Innovationsregion Lausitz GmbH, as well as various industrial sites' operators were approached. They expressed their interest in participating in the project on Modernisation of the Energy Sector.

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
					<ul style="list-style-type: none"> • Invitations to deliver seminars and workshops on <u>Best Practices in Coal Mine Methane Capture and Utilization</u> were received from the Governments of Turkey, Ukraine and Georgia. Appropriate steps have been taken by GoE on CMM and the secretariat to respond and to ensure that the requested future events will contribute to the greatest possible extent to promotion of the Best Practices developed by the Group.
2	<p>GoE on CMM should generate more knowledge applicable to broader extraction industry, in order to sustain the results, given the excellent relevancy and sustainability. This recommendation applies provided that a draft Work Plan of the GoE for 2018-2019, and the GoE on CMM's request for extension of its mandate is approved during the CSE 26th session. The mandate extension should encompass work on the transition of traditional mining companies to become integrated service companies. It should also explore the impact this transition might have on the contributions of the energy sector on sustainable development and possible formal adoption and implementation of the</p>	<p>CSE approved extension of the GoE on CMM's mandate and workplan for 2018-2019, thus providing a basis for continuation of Group's activities in accordance to the previously established mode of operation. GoE on CMM together with SED already is and will continue to be active in preparation - and on later stage in implementation - of the cross-cutting project on Modernisation of the Energy Sector, which is to include all Groups of Experts operating the umbrella of CSE.</p> <ul style="list-style-type: none"> • The secretariat engaged with EC exploring opportunities for cooperation, giving special attention to EC's Coal Regions in Transition Platform which is built on similar premises and seeks to achieve similar goals as a new SED's cross-cutting project on Modernisation of the Energy Sector. • The Government of Kazakhstan was approached and expressed its interest in participating in two extrabudgetary projects developed by SED. • EBRD was approached to explore opportunities for financing of, and cooperation in any new SED cross-cutting project on Modernisation of the Energy Sector. 	GoE		<p>Implemented in December 2018:</p> <ul style="list-style-type: none"> • A new grant for development of the Project on Modernization of the Energy Sector led by GoE on CMM to be provided by Kazakhstan was announced. • An exchange of information and cooperation with the European Commission (EC) in general, and its Coal Regions in Transition Platform, in particular, continues. • IEA Clean Coal Centre, Climate-Kic, Kopernikus ENavi Project, and Geschäftsführer Innovationsregion Lausitz GmbH, as well as various industrial sites' operators (In Russia, Kazakhstan, and Italy) were approached. They expressed interest in participating in the project on Modernisation of the Energy Sector. The details of their potential engagement are being discussed. • Boston University (BU) was invited to cooperate with SED on refining and implementation of the cross-cutting project on Modernisation of the Energy Sector. The invitation was accepted and a common approach to the matter in question is being developed. It is to be presented to CSE at its 28th session in September 2019. <p>GoE on CMM together with the GoE on CEP prepared a joint session on the role of fossil fuels in electricity production that was delivered at the Global Methane Forum, Toronto, April 2018.</p> <p>GoE on CMM remains engaged in cooperation with the Expert Group on Resource Management (EGRM) for the purpose of developing UNFC guidelines for the assessment and management of CMM,</p>

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
	<p>standards. Rec 8 lists several stakeholders to be consulted in this process.</p>	<ul style="list-style-type: none"> ICL as well as a private sector actor specialized in business modelling were approached and expressed their interest in participating in a new SED cross-cutting project on Modernisation of the Energy Sector. <p>When necessary, as stipulated in the 2018-2019 Work Plan of the Group, GoE on CMM stands ready to participate, within the scope of its expertise, in the SED project on Methane Management in Extractive Industry, as requested by CSE. GoE on CMM reviewed, provided comments to, and endorsed a draft document on Principles for Financing Clean Fossil Fuel Projects in the Context of the 2030 Agenda for Sustainable Development prepared by the Group of Experts on Cleaner Electricity Production (GoE on CEP) and the secretariat. GoE on CMM will actively engage in further development of this matter.</p> <p>GoE on CMM together with the GoE on CEP will prepare a joint session on the role of fossil fuels in electricity production that is to be delivered at the Global Methane Forum in Toronto, April 2018.</p> <p>GoE on CMM engaged with the Expert Group on Resource Classification (EGRC) to contribute to development of the United Nations Framework Classification for Resources (UNFC) guidelines for the assessment and management of CMM, abandoned mine methane (AMM) and ventilation air methane (VAM) projects. GoE on CMM will remain active in this field.</p>		<p>abandoned mine methane (AMM) and ventilation air methane (VAM) projects.</p>	

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
3	<p>It is recommended to employ a network of “champions” to lead the work on implementing the recommendations created by GoE, a practice frequently observed in policy making. The “champions” would be key political figures in governments of UNECE member States, advocating for legislative changes, eventually involving the mining companies in setting national industry standards.</p>	<p>The Bureau of GoE on CMM together with the secretariat will continue its efforts to identify and engage with relevant actors in both the coal sector and governments, for the purpose of assuring effective dissemination of the best practices, as well as their incorporation into industry standards and national legislation in UNECE member States.</p> <p>At the Bureau call on 11 December 2017 the Chair of the Group distributed the duties among the members of the newly elected Bureau and encouraged them to take steps, within the scope of their professional capacity and influence, to increase the visibility of the best practices developed by GoE on CMM in their respective capitals and/or in professional communities in which they operate.</p> <p>The Bureau of GoE on CMM together with the secretariat continue its outreach to relevant international professional (e.g. ISO, ILO, GMI, IEA Clean Coal Centre), political (e.g. European Commission) and financial (e.g. EBRD) institutions seeking cooperation and assistance with dissemination and implementation of the best practices worldwide (as recommended by ECOSOC in the decision 2011/222).</p> <p>GoE on CMM has established two International Centres of Excellence on CMM (ICE-CMM) in Poland and in China. Negotiations regarding other Centres in Russia and Ukraine are in progress. GoE on CMM and the secretariat will continue</p>	GoE and the Energy Industry Section	<p>Implemented in December 2018</p> <ul style="list-style-type: none"> GoE on CMM continues to oversee and support activities of the existing ICE-CMMs in their dissemination activities, using them as vehicles to influence regulatory authorities to adopt industrial standards consistent with best practices developed by GoE on CMM. A one-day seminar (in cooperation with the Polish International Centre of Excellence (ICE-CMM)) titled <u>Coal Mine Methane as a Valuable Energy Source</u> (28 February 2018, Cracow, Poland). The event was held within the framework of the School of Underground Mining hosted by the Polish Academy of Science and gathered together Polish and international practitioners, private enterprises operating in the sector, regulators, and academicians, allowing the Group to promote the Best Practices, to encourage the local regulators to align the applicable measures, standards, and procedures with the Best Practices, and to urge mine operators to apply the Best Practices in their mines. A technical session (in cooperation with ICE-CMM in Poland) titled <u>Pre-mining methane capture from coal deposits in the context of environmental protection and diversification of gas sources for Poland</u> that was delivered within the framework of the Gazterm Conference, 6-9 May 2018, Międzyzdroje, Poland. The event provided a platform for an exchange and dialogue between the regulators and the private sector from Poland and various other UNECE member States, such as USA, Russia, and Ukraine, allowing the Group to promote the Best Practices, to encourage the local regulators to align the applicable measures, standards, and procedures with the Best Practices, and to urge mine operators and/or project developers to apply the Best Practices in their existing and/or future mines as well as at the drilling sites. A side event at COP24 (10 December, in Katowice Poland) titled <u>Conventional and Unconventional Gas as a Destination Fuel for the Green Economy</u>. The event organized jointly with ICE-CMM 	<p>Implemented in December 2018</p>

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
		<p>efforts to expand the network of ICE-CMMs. GoE on CMM will continue to oversee and support activities of the existing ICE-CMMs in their dissemination activities, using them as vehicles to influence regulatory authorities to adopt industrial standards consistent with best practices developed by GoE on CMM.</p> <p>The secretariat undertakes steps to translate the Best Practice Guidance developed by the Group into additional languages, thus increasing its accessibility to practitioners and decision-makers in the UNECE member States. Translation into Russian, French, Chinese, Polish, and Indonesian are underway. Apart from the translation into UNECE official languages, all other translations are being done as in-kind contributions from the private sector actors cooperating with the Group. The secretariat has also secured extrabudgetary resources for providing translation into other languages that may include Turkish, Spanish, Serbian, Georgian, and Mongolian.</p>			<p>Poland and the Polish Oil and Gas Company (PGNiG) featured a panel discussion on the future of natural gas, as seen from the perspectives of various stakeholders (public and private sector) from around the world (UNECE member States, Australia, and China). The event allowed the Group to raise its visibility and to reach out with its messages to the high-level political figures present at or observing COP24.</p> <ul style="list-style-type: none"> • Three technical sessions (August, June and September) designed to train future trainers in Best Practices in CMM Capture and Use organized by ICE-CMM in China. The sessions were targeted at Chinese miners, mine operators, and local regulators. They provided a platform for exchange of experiences and knowledge-sharing between experts from UNECE member States and local stakeholders, and allowed the Group to promote the Best Practices, to encourage the local regulators to align the applicable measures, standards, and procedures with the Best Practices, and to urge mine operators to apply the Best Practices in their mines. • The Governments of Russian Federation, Ukraine and Colombia were approached and they all expressed their interest in setting up a local ICE-CMM. MoUs with Russian Federation and Ukraine are being discussed. • Local authorities as well as the 'local mining university in Colorado (USA) were approached and they expressed their interest in setting up a local ICE-CMM.
4	<p>Given the rising importance of the private sector for sustainable development (also enshrined in the SDGs), the Division and GoE should frame ways to involve the private sector in enhancing the results of their activities. The partnerships with the</p>	<p>GoE on CMM has established two International Centres of Excellence on CMM (ICE-CMM) in Poland and in China. Negotiations regarding other Centres in Russia and Ukraine are in progress. The Centres, being autonomous, self-financing entities operating under auspices of GoE on CMM, involve both public and private sector actors, and thus constitute a convenient platform for engaging with all</p>	<p>GoE and the Energy Industry Section</p>		<p>Implemented in December 2018</p> <ul style="list-style-type: none"> • A new grant from Kazakhstan for development of the Project on Modernization of the Energy Sector engaging both, public and private actors was announced in December. • An exchange of information and cooperation with the European Commission (EC) in general, and its Coal Regions in Transition Platform, in particular, continues. • Various public and private actors, such as: IEA Clean Coal

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
	<p>private sector could pave the way to adopt (voluntary) industry standards, could further facilitate the knowledge transfer, and could augment extra-budgetary resources.</p>	<p>entities operating in the sector. GoE on CMM and the secretariat will continue efforts to expand the network of ICE-CMMs. GoE on CMM will continue to oversee and support activities of the existing ICE-CMMs in their dissemination activities, using them as vehicles to influence regulatory authorities to adopt industrial standards consistent with best practices developed by GoE on CMM.</p> <p>The Bureau of the Group and the secretariat will undertake efforts to reengage with the World Coal Association (WCA), the World Mining Congress (WMC) and IEA Coal Industry Advisory Board to reinvigorate cooperation, which over the last years has diminished. The Bureau of the Group and the secretariat will discuss other available opportunities of better engagement with mining companies.</p> <p>Successful development of the sector-wide project on Modernisation of the Energy Sector would provide GoE on CMM with an extraordinary opportunity to engage with all actors operating in the extractive and energy industries. The broad scope and a comprehensive, cross-cutting approach of this project would allow the Group to integrate its objectives into a broader strategy for restructuring of these industries. As a result, the Group would improve efficiency of its actions and sustainability of their effects. To see more about the Group's engagement in the project please see response to Recommendation 2.</p>			<p>Centre, Boston University, Climate-Kic, Kopernikus ENavi Project, and Geschäftsführer Innovationsregion Lausitz GmbH, as well as various industrial sites' operators (In Russia, Kazakhstan, and Italy) were approached. They expressed their interest in participating in the project on Modernisation of the Energy Sector. The details of their potential engagement are being discussed.</p> <ul style="list-style-type: none"> • GoE on CMM continues to oversee and support activities of the existing ICE-CMMs in their dissemination activities, using them as vehicles to reach out to, engage with, and encourage the private sector to adopt industrial standards consistent with best practices developed by GoE on CMM. • A one-day seminar (in cooperation with the Polish International Centre of Excellence (ICE-CMM)) titled Coal Mine Methane as a Valuable Energy Source (28 February 2018, Cracow, Poland). The event was held within the framework of the School of Underground Mining hosted by the Polish Academy of Science and gathered together Polish and international practitioners, private enterprises operating in the sector, regulators, and academicians, allowing the Group to promote the Best Practices, to encourage the local private sector to align the applicable measures, standards, and procedures with the Best Practices, and to urge mine operators to apply the Best Practices in their mines. • A technical session (in cooperation with ICE-CMM in Poland) titled Pre-mining methane capture from coal deposits in the context of environmental protection and diversification of gas sources for Poland that was delivered within the framework of the Gazterm Conference, held from 6 to 9 May in Międzyzdroje, Poland. The event provided a platform for an exchange and dialogue between the regulators and the private sector from Poland and various other UNECE member States, such as USA, Russia, and Ukraine, allowing the Group to promote the Best Practices, to encourage the local private sector to align the applicable measures, standards, and

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
					<p>procedures with the Best Practices, and to urge mine operators and/or project developers to apply the Best Practices in their existing and/or future mines as well as at the drilling sites.</p> <ul style="list-style-type: none"> • A one-day technical session on CMM (organized jointly with GMI) titled Turning Coal Mine Methane into an Asset: Implementing Best Practices and Policies. The event was held within the framework of the 25th World Mining Congress, 20 June 2018, Astana, Kazakhstan. It gathered public and private sector stakeholders from Central Asia, ex-Soviet Union States, China, India, Western and Eastern Europe, as well as North America, allowing them to discuss various aspects of the application of the Best Practices developed and promoted by the GoE on CMM. • A side event at COP24 (10 December, in Katowice Poland) titled Conventional and Unconventional Gas as a Destination Fuel for the Green Economy. The event organized jointly with ICE-CMM Poland and the Polish Oil and Gas Company (PGNiG) featured a panel discussion on the future of natural gas, as seen from the perspectives of various stakeholders (public and private sector) from around the world (UNECE member States, Australia, and China). The event allowed the Group to raise its visibility and to reach out with its messages to the private sector representatives present at or observing COP24. • Three technical sessions (August, June and September) designed to train future trainers in Best Practices in CMM Capture and Use organized by ICE-CMM in China. The sessions were targeted at Chinese miners, mine operators, and local regulators. They provided a platform for exchange of experiences and knowledge-sharing between experts from the UNECE member States and local stakeholders, and allowed the Group to promote the Best Practices, to encourage the local private sector to align the applicable measures, standards, and procedures with the Best Practices, and to urge mine operators to apply the Best Practices in their mines. • The Governments of the Russian Federation, Ukraine and

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
					<p>Colombia were approached and they all expressed their interest in setting up a local ICE-CMM. MoUs with Russian Federation and Ukraine are being discussed.</p> <ul style="list-style-type: none"> Local authorities as well as the 'local mining university in Colorado (USA) were approached and they expressed their interest in setting up a local ICE-CMM. <p><u>Additional updates in June 2019:</u></p> <ul style="list-style-type: none"> A one-day seminar (organized in cooperation with the Polish International Centre of Excellence (ICE-CMM)) titled Coal Mine Methane as a Valuable Energy Source (27 February 2019, Cracow, Poland). The event took the form of a match-making event between the Colombian stakeholders, from both, public and private sectors, and the international experts and equipment producing companies, highlighting the technical and regulatory methane-related challenges faced in the country. International experts and equipment producers responded to the specific needs identified and highlighted approaches taken in other countries. A one-day technical Workshop on Best Practices in Coal Mine Methane Capture and Utilization (organized jointly with GMI) was held in Ankara, Turkey (10 June 2019). It was organized in cooperation with the Turkish Ministry of Energy and Natural Resources and the Turkish Coal Enterprises (TKI). It gathered local public and private sector stakeholders and familiarized them with the Best Practices developed and promoted by the GoE on CMM, as well as explained the intricacies of their effective application. A two-day technical Workshop on Best Practices in Coal Mine Methane Capture and Utilization (organized jointly with GMI) was held within the framework of the Third International Coal Conference titled Ukrainian Coal Mining Industry in the Times of Decarbonisation, 12-14 June 2019, Dnipro, Ukraine. The event was hosted by the Technical University of Dnipro and organized by the Ukrainian Ministry of Energy and Coal Industry, National Academy of Sciences of Ukraine as well

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
					as the Ukrainian companies such as DTEK, Pokrovskoye Mine Management, Pokrovskoye Holding Company, and Donetskstal. The objectives of the workshop were to disseminate and encourage implementation of best practices in CMM drainage and utilization, and to promote policies that facilitate development of CMM projects. The event resulted in a joint communique by the organizers encouraging the private sector in Ukraine to observe the measures and practices promoted by the Group and to develop CMM/CBM projects.
5	<p>Strengthen internally the Secretariat to enable constant and predictable support services to the GoE. This would require a multi-level approach:</p> <ul style="list-style-type: none"> • Staffing: Ensure the senior staff is able to focus on substantial/political work, and the junior staff is sufficient and constantly employed. Ideally, one regular staff should be allocated entirely for the GoE support, to enable work continuity; • Resourcing: secure sufficient regular budget for the normal functioning of the GoE (e.g. some experts are not able participate in meetings as their organizations do not have enough resources to finance travel), and for the most 	<p>The Bureau of the Group and the secretariat will explore available opportunities to increase regular budget resources. Upon agreeing on a strategy, the matter will be brought to the attention of CSE.</p> <p>SED will discuss organizational (including staff matters) and budget-related issues internally, awaiting the announcement of the Secretary General's (SG) strategy for Economic Commissions. The first of such debates took place at the SED's retreat on 4-5 December 2017. Others are to follow. Upon being informed about the SG's strategy and the ensuing decisions taken by the UNECE Executive Secretary (ES), SED will decide on steps that it is to undertake in order to improve efficiency and financial condition of the Division and its Groups of Experts (including on CMM).</p> <p>The Bureau of the Group and the secretariat will continue its efforts to build robust relationships with potential donors. The already commenced attempts will be pursued. In December 2017 representatives of the Group and the secretariat will attend an inauguration of</p>	The Energy Industry Section, particularly the Secretary of GoE, and the Bureau of GoE		<p>Implemented in January 2020</p> <ul style="list-style-type: none"> • The size of the regular budget remains a major challenge. The demand for the Group's services continues to grow, but the available RB resources either remain the same, or even decline. • In the absence of new resources being associated with new mandates, new demands are dependent on extra-budgetary resources. • Partnerships with potential donors are being developed. ICE-CMM in Poland agreed to sponsor a project on coordination of activities of the Centres and provided UNECE with a USD 75,000 donation. The funds which were received by UNECE in January 2020 will allow the Group to efficiently manage and oversee activities of both ICE-CMMs (in Poland and in China) until the end of October 2020. Work continues to identify and receive funds from other donors.

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
	<p>significant activities agreed in the bi-annual Work Plans;</p> <ul style="list-style-type: none"> Build strategic partnerships with potential donors (governmental / public agencies, mining companies, other private sector representatives) and agree multi-annual budget for the planned activities, in order to increase predictability and planning. 	<p>the EC's Coal Platform. As the scope of the Platform overlaps to a large extent with the project on Modernization of the Energy Sector, EC is hoped to join the rank of the Group's important partners. Similarly, a follow up discussion of the potential engagement of EBRD in the above-mentioned project is scheduled to take place in December 2017.</p> <p>The secretariat is planning a mission to Brussels, tentatively scheduled for the beginning of 2018, to discuss a potential for cooperation between SED and EC' Directorate-General for Energy (DG Energy). The discussion will feature a project on Modernization of the Energy Sector and the broad agenda on methane management (including on CMM).</p> <p>A secondment from the Government of Kazakhstan is currently being explored to provide support on non-regular budget activities.</p>			
6	<p>The GoE should initiate a process to establish agreed measuring standards related to its work: incidents / explosions statistics and reporting, measure capture and commercial use of methane, measure the GHG emission reductions; and common evaluation methodologies for all fossil sources of energy. This task</p>	<p>The Bureau of GoE on CMM and the secretariat will develop indicators allowing for measuring in quantifiable way the results and effects of its work. The issue was discussed at the GoE on CMM's Bureau call on 14 December 2017. For each of the activities stipulated in the 2018-2019 Work Plan, the Bureau of the Group and the secretariat will establish a set of specific (where possible quantifiable) indicators, allowing for measuring effectiveness of the Group's actions.</p> <p>The Bureau of GoE on CMM and the</p>	GoE	<p>Implemented in December 2018</p> <ul style="list-style-type: none"> General direct and indirect objectives and indicators of success have been proposed by GoE on CMM and the secretariat. Greater awareness of good practices identified and advocated by the Group is expected to be evidenced by the adoption of regulations and standards, either at the national level, or on a mine-by-mine basis, reflecting the principles contained in the Best Practices Guidance for Effective Methane Drainage and Use in Coal Mines (BPG) developed by the Group and recommended for worldwide application by ECOSOC (Decision 2011/222). Adoption of the relevant regulations will lead to a reduced number of methane-related 	

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
	<p>has two constraints: a) this type of information is under direct control of safety and environmental bureaus and agencies resident in the member States, and their reliability and comparability would be a challenge; and b) it would be difficult to establish a direct attribution of the GoE's activities to the final results – number of accidents or quantity of emissions; rather it would be a contribution to achieving set targets. The shift from output oriented measuring to outcomes indicators will support the Division and the Group of Experts in presenting more convincingly the results of their work, especially given the international rhetoric related to results based management and the raising importance of the private sector in sustainable development.</p>	<p>secretariat will undertake efforts, within the scope of their capacities and mindful of time constraints, to obtain from intended beneficiaries (i.e. member States and/or other entities) data indicating direct and indirect impact of the Group's activities.</p>		<p>accidents in coal mines, as well as to more efficient capture and use of CMM.</p> <ul style="list-style-type: none"> • Since the Group's main objective, as mandated by the Committee on Sustainable Energy, is to disseminate the above-mentioned best practices, the work of the Group is focused primarily on delivering on this task. Consequently, the direct effect of the Group's work can be measured by the number of people benefitting from the dissemination activities that it organizes. • At the same time, proxy indicators can also be established, however, they should not be directly utilized to evaluate the success of the Group's work since they are dependent on multiple factors, many of which are of a political nature, and thus beyond the measurable influence of the Group. 	
7	<p>As an emerging practice¹, consider creating a "Training of Trainers" program</p>	<p>A standard training module on best practices in the abatement, recovery, and use of methane from coal mines will be</p>	<p>GoE (as per Work Plan 2018-</p>	<p>By the end of 2021</p>	<p>In Progress</p> <ul style="list-style-type: none"> • A standard training module on best practices

¹ Centres of Excellence as a Tool for Capacity Building, OECD, 2014

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
	<p>implemented through the ICEs, to expand the knowledge base and specialist community (ideally also involving an academic program, or even creating specialized studies at higher education level). This approach should also consider elements of integrating capacity building measurement and reasonable ways of integrating results measurement into future projects;.</p>	<p>developed in the 2018-2019 biennium.</p> <p>Once the training module is created, GoE on CMM and the secretariat will undertake necessary steps (including on securing funding) to develop a proper application strategy, aligned with the scope and the level of complication of the module. Where possible and appropriate GoE on CMM will work on this issue in cooperation with ICE-CMMs. Where appropriate GoE on CMM will also reach out to relevant academic and scientific institutions in order to explore usefulness and possibility of their involvement in this task.</p>	<p>2019), with the help of its Secretary</p>		<p>in the abatement, recovery, and use of methane from coal mines is being developed in cooperation with the Global Methane Initiative, as per the Group's 2018-2019 work plan. This deliverable is being developed under the extrabudgetary project funded by US EPA, the duration of which was extended until 31 December 2021. Following approval from both the donor and the Group of Experts (at its 14 session in November 2019) this work item has been carried over to the 2020-2021 biennium.</p> <ul style="list-style-type: none"> As of December 2020, the first three modules have been posted to the UNECE website and the remaining five are to be made available shortly. The work is aimed to be completed in Q1 2021. However, due to disruption caused by the COVID-19 pandemic worldwide, the work on the module has been slowed down, since availability of experts working on that task has been limited. Consequently, at the moment it is difficult to predict the exact timing of the delivery.
8	<p>To maximise sustainability, consider a more focused engagement with technical community, policy makers in UNECE member States, other UN System organizations, financial markets, private sector, NGOs. It is important to bring all stakeholders to dialogue, to establish common action plan and to create the legal frameworks within the UNECE member</p>	<p>The Bureau and the secretariat touched upon issue at the GoE on CMM's Bureau call on 14 December 2017 and decided to discuss it further at the upcoming Bureau call in January 2018. By then Members of the Bureau will undertake efforts to evaluate the position of their respective Governments on this issue.</p> <p>Should the Bureau of the Group so request, the secretariat will engage with member States to gauge their interest in developing a legal instrument (e.g. a convention) regulating matters encompassed by the mandate of GoE on CMM. In case there is interest from</p>	<p>GoE and the Energy Industry Section</p>	<p>Closed in December 2018</p> <ul style="list-style-type: none"> Neither the Bureau, nor a member States requested any hard-law regulation in the field of CMM. So far, the principle-based approach has been found appropriate and satisfactory. At this time there is no political will in member States to commit to any binding legal framework regulating the issues related to CMM management. 	

#	Recommendation	Management response	Responsibility	Target date/deadline	Date of implementation/comments
	States. For the European Union Member States, it would make sense to create a strategic partnership / technical involvement of the EU bodies responsible with energy resources, to include best practices in the national legislation.	member States to proceed with development of a legal instrument in the field of CMM, GoE and the secretariat will engage with the EU in order to explore a possibility of issuing a unified joint regulation.			
9	It is advisable for the Division to include a stronger Results Based Management approach when creating project documentation and reports. This would make the results easily understandable to stakeholders, thus increasing credibility and evaluability. In turn, the future evaluations will have a stronger internal and external validity.	While developing project documentations and reports, the secretariat, where possible, will give more focus to detailed description, in a measurable and quantifiable manner, of the expected or achieved results. In this context, please also see Follow up actions and responsibilities in response to Recommendation 6.	Energy Industry Section	Implemented in December 2018	<ul style="list-style-type: none"> All project documentation and reports produced by the Group comply with general UNECE standards. For measurable and quantifiable indicators of success please see comments to point 6 above.