

## Progress reporting: The Committee on Sustainable Energy and its six subsidiary bodies

The present document summarizes the activities undertaken and results achieved by the United Nations Economic Commission for Europe (ECE) in the area of sustainable energy in 2016–2017.

### 1. Group of Experts on Energy Efficiency

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
<b>A. Exchange of know-how and best practices in selected economic sectors on how to significantly improve energy efficiency in the United Nations Economic Commission for Europe region</b>			
Report submitted for consideration by the Group of Experts	September 2017	Completed July 2017	<p><a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE_6_2016_6BarriersEE_Final-OD.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE_6_2016_6BarriersEE_Final-OD.pdf</a></p> <p>The publication “Best Policy Practices for Promoting Energy Efficiency” (ECE/ENERGY/100) continued to be disseminated. Additional exemplars of successful high impact policies and measures that policy makers can use in developing energy efficiency policies and programmes in their countries were provided in the Annex “Best practices in energy efficiency: high impact policies and measures” to the document ECE/ENERGY/GE.6/2016/6 “Regulatory and policy dialogue addressing barriers to improve energy efficiency”. Exchange of know-how and best practices was conducted at the Workshop on promoting energy efficiency in Azerbaijan and other countries of the region (Baku, 19 October 2016). A brochure “Experience in the Europe &amp; CIS Region with Clean Energy” was published jointly by UNECE, United Nations Development Programme (UNDP), and the Global Environment Facility (GEF) as one of the outcomes of the Workshop (<a href="https://www.unece.org/index.php?id=44145">https://www.unece.org/index.php?id=44145</a>).</p> <p><a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE_6_2016_4BestPracticesEEIndustryDraft07-22-16.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE_6_2016_4BestPracticesEEIndustryDraft07-22-16.pdf</a></p> <p><a href="https://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee4_Oct2017/ECE_ENERGY_GE_6_2017_3EEIndustryDraft07_Final.pdf">https://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee4_Oct2017/ECE_ENERGY_GE_6_2017_3EEIndustryDraft07_Final.pdf</a></p> <p>The Group of Experts supported organizing a series of workshops that aim to reconsider how to develop industrial energy efficiency policies through a bottom-up approach, which is an important step in identifying and overcoming barriers. Two workshops on improving energy efficiency in the industry sector were held in Geneva, 18 January 2017 (Policy Maker Meets the Engineer) and in Astana, 13 June 2017 (Creating Business Case for the Industrial Energy Efficiency). Main obstacles to implementing energy efficiency measures in industry and potential solutions have been identified.</p>

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
<b>B. Exchange of know-how and best practices in the United Economic Commission for Europe on the role of standards and guidelines to significantly improve energy efficiency in the United Economic Commission for Europe region</b>			
Report submitted for consideration by the Group of Experts	June 2017	Completed July 2017	<p><a href="https://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE.6_2016_5Concept_Building_Standard_07-19-16.pdf">https://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE.6_2016_5Concept_Building_Standard_07-19-16.pdf</a></p> <p><a href="https://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee4_Oct2017/ECE_ENERGY_GE.6_2017_4_EEBuildingGuidelines_final.pdf">https://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee4_Oct2017/ECE_ENERGY_GE.6_2017_4_EEBuildingGuidelines_final.pdf</a></p> <p>Draft Framework Guidelines for Energy Efficiency Standards in Buildings have been developed and presented to the twenty-fifth and (for endorsement) twenty-sixth session of the Committee on Sustainable Energy.</p> <p>Extra-budgetary project “Enhancing national capacities for development and implementation of the energy efficiency standards in buildings in the UNECE region” has been approved by EXCOM on 23 June 2017, and work under the project started in August 2017.</p>
A functional match-making platform for technical assistance in energy efficiency that could be used also for offering train-the-trainer seminars, in the form of e-learning training sessions and/or face-to-face seminars	Ongoing	Ongoing	<p><a href="http://www.unece.org/index.php?id=45627">http://www.unece.org/index.php?id=45627</a></p> <p><a href="http://www.unece.org/index.php?id=45625">http://www.unece.org/index.php?id=45625</a></p> <p>The Group of Experts contributed significantly to the organization of the Seventh and Eighth International Fora on Energy for Sustainable Development in Baku (18-21 October 2016) and Astana (11-14 June 2017, in conjunction with the Energy Ministerial Conference) respectively. A number of workshops on energy efficiency were held in the framework of these fora. Two workshops on energy efficiency in buildings and cities were held in Astana: Energy Efficiency in Buildings: Framework Guidelines (12 June 2017) and Towards Smart Sustainable Cities – Integrated Approaches (14 June 2017).</p>
<b>C. Exchange of approaches and best practices for utilities and energy services companies to improve energy efficiency in the United Nations Economic Commission for Europe region, including quality of service regulation</b>			
A report on barriers, options, and best practices for developing utility or ESCO delivery of energy efficiency improvements in the ECE region under existing regulatory approaches	November 2017	Completed August 2017	<p><a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE.6_2016_7Utilities_Final.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE.6_2016_7Utilities_Final.pdf</a></p> <p><a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee4_Oct2017/ECE_ENERGY_GE.6_2017_6Utilities07-27-17_Final.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee4_Oct2017/ECE_ENERGY_GE.6_2017_6Utilities07-27-17_Final.pdf</a></p>
Survey and analysis of the relationship between cost of service and quality of service			<p>Reports “Role of utilities and energy service companies in improving energy efficiency. Background paper on energy efficiency programmes operated by a Swiss utility” and “Background paper on lessons learned from utility-operated energy efficiency programmes in the United States and Switzerland” have been prepared. The Group of Experts noted that utilities and energy service companies will play a significant role in the transition to clean energy system of the future and that the focus needs to shift to new business models that are customer and service oriented, greenhouse gas emissions controls, affordability and reliability. At the fourth session, delegates will discuss the possible use of geo-spatial and big data in energy transition.</p>
A report on the state of play in quality of service regulation submitted for consideration by the Group of Experts			
Best practice recommendations			

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<b>D. Regulatory and policy dialogue addressing barriers to improve energy efficiency</b>			
Report submitted for consideration by the Group of Experts for wider dissemination	October 2017	Completed July 2017	<p><a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE.6_2016_6BarriersEE_Final-OD.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee3_Oct2016/ECE_ENERGY_GE.6_2016_6BarriersEE_Final-OD.pdf</a></p> <p><a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee4_Oct2017/ECE_ENERGY_GE_6_2017_5OvercomingBarriers07-11-17.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/geee4_Oct2017/ECE_ENERGY_GE_6_2017_5OvercomingBarriers07-11-17.pdf</a></p> <p><a href="https://www.unece.org/fileadmin/DAM/energy/images/GEEE/ReportOvercomingObstaclesPart1.pdf">https://www.unece.org/fileadmin/DAM/energy/images/GEEE/ReportOvercomingObstaclesPart1.pdf</a></p> <p>The Group of Experts supported a policy analysis on overcoming barriers to investing in energy efficiency conducted jointly with the Copenhagen Centre on Energy Efficiency. The report <i>Overcoming Barriers to Investing in Energy Efficiency</i>, which includes the analysis of the results of the survey on overcoming barriers to investing in energy efficiency, has been prepared. A joint publication is under preparation.</p>
<b>E. Facilitate engagement in the Global Energy Efficiency Accelerator Platform</b>			
Promotion of activities and communications materials on updates, menu of options and 'offer documents' to ECE member States	Ongoing	Ongoing	<p>The Group of Experts facilitated engagement of national and local governments, private sector and other stakeholders in the Accelerator Platform. Workshop "Global Energy Efficiency Accelerator Platform and Progress in Accelerating Industrial Energy Efficiency. Business and policy value through Energy Management Systems in industry" was held in Baku, 19 October 2016.</p> <p>The Group of Experts collaborated with the other United Nations Regional Commissions, the World Bank, the International Energy Agency, and the International Renewable Energy Agency on the 2017 edition of the Sustainable Energy for All (SEforALL) Global Tracking Framework, with a particular focus on indicators of progress in energy efficiency. The Global Tracking Framework report launched in April 2017 includes a chapter with the Regional Profile of the UNECE region.</p> <p>The Group of Experts contributed to the World Bank report <i>Regulatory Indicators for Sustainable Energy (RISE 2016)</i> on energy efficiency pillar.</p> <p>The Group of Experts contributed to the UNECE Renewable Energy Status Report 2017 on the Energy Efficiency chapter.</p>

## 2. Group of Experts on Cleaner Electricity Production from Fossil Fuels

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
<b>A. Assess a future role for thermal power plants in sustainable electricity systems</b>			
A draft of best practices in sustainable electricity system development relevant for the ECE region and suggestion of new targeted activities as identified.	December 2017	In progress	<p>A report on the role of thermal power plants in selected electricity markets (Northern European Electricity Market (NORDPOOL), Iberian Electricity Market (MIBEL) and Korean Electricity System) presented at CEP12 in October 2016,  <a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.2.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.2.pdf</a></p> <p>on PJM Interconnection (a regional transmission organization in the United States) is being prepared and will be presented at CEP 13 in October 2017</p>
<b>B. Increasing flexibility in coal power generation</b>			
A report assessing the opportunity for coordinated operation of coal power plants with variable renewables (e.g. wind and/or photovoltaic), seasonal variations and/or other stressors in the system	December 2017	In progress	<p>A report on opportunities for coupling wind and coal based generation in the electricity sector presented at presented at CEP 12 in October 2016  <a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.3v2.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.3v2.pdf</a></p> <p>Another more detailed report, covering also solar and other RE technologies developed and sent to printing as an Energy Series publication. Will be available in November 2017</p>
<b>C. Decreasing emissions and increasing efficiency from new and existing coal power generation using best practices across the ECE region and globally</b>			
A summary of events carried out with an assessment of effectiveness based on agreed indicators	September 2017	Completed	<p>2 events organized in ECE region.</p> <p>The first workshop “Critical Element of the Green Bridge Initiative: Advanced Fossil Fuel Technologies” was held in Astana, Kazakhstan from 9 to 10 March 2016.</p> <p>The second workshop, organized by UNECE, the World Coal Association and IEA Clean Coal Centre, within the 8<sup>th</sup> International Forum on Energy for Sustainable Development, focused on the role of coal in meeting climate commitments. The workshop also presented two case studies on the state-of-the art High Efficiency-Low Emissions (HELE) power plants in Europe and Asia.</p> <p><a href="http://www.unece.org/index.php?id=46132">http://www.unece.org/index.php?id=46132</a></p>
A survey of HELE technology best practices across the ECE region and globally.	September 2017	In progress	Will be presented at the 13 <sup>th</sup> session of the Group of Experts in October 2017.
<b>D. Assess means for development and deployment of carbon capture, use and storage (CCUS) technology and know-how</b>			
A draft survey of CCUS technologies and know-how that will be shared between ECE member States and best practice guidelines for CCUS capacity building. Secondly, a report that outlines	December 2017	Completed	<p>Survey presented at the 12<sup>th</sup> session of the Group of Experts in October 2016  <a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.5_final.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.5_final.pdf</a></p>

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engagement on storage activities with external CCS organizations and progress on storage mapping in the ECE region.			<p>Report on policy parity of CCS and CCUS presented in October 2016 at the 12<sup>th</sup> session of the Group of Experts on CEP</p> <p><a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.6.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.6.pdf</a></p> <p>Survey of academic curricula on CCS presented at the 12<sup>th</sup> session of the Group of Experts in October 2016</p> <p><a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.7.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/clep/ge12_WS/CEP-12_2016_INF.7.pdf</a></p>

### 3. Group of Experts on Renewable Energy

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
<b>A. Tracking of the progress made in the uptake of renewable energy sources in the UNECE region</b>			
A report submitted for consideration by the Group of Experts at the annual sessions	June 2016/ November 2017	Completed	ECE/ENERGY/GE.7/2016/4 – Reviewing the state of renewable energy development: key findings, barriers and options, available at: <a href="https://www.unece.org/index.php?id=42246">https://www.unece.org/index.php?id=42246</a>  ECE/ENERGY/GE.7/2017/3 - Renewable Energy Status Report 2017 - key findings: from bottlenecks to opportunities, available at: <a href="https://www.unece.org/index.php?id=45697">https://www.unece.org/index.php?id=45697</a>
UNECE Renewable Energy Status Report 2017 with the Renewable Energy Policy Network for the 21 <sup>st</sup> Century (REN21) and the International Energy Agency (IEA)	June 2017	Completed	Key finding: Trend towards decline of renewable energy investments. Available at: <a href="https://www.unece.org/fileadmin/DAM/energy/se/pp/renew/Renewable_energy_report_2017_web.pdf">https://www.unece.org/fileadmin/DAM/energy/se/pp/renew/Renewable_energy_report_2017_web.pdf</a> . The report was launched at the 8 <sup>th</sup> International Forum on Energy for Sustainable Development in June 2017
Identify key barriers, options and possible best practices in regulatory framework and investment conditions for supplying electricity and heat from renewable energy.	October 2016	Completed	ECE/ENERGY/GE.7/2016/4 – Reviewing the state of renewable energy development: key findings, barriers and options, available at: <a href="https://www.unece.org/index.php?id=42246">https://www.unece.org/index.php?id=42246</a>
Foster cooperative activities with member States to promote and use the baseline report on key renewable energy needs and obstacles, strengthening a multistakeholder dialogue	2016-2017	On-going	Hard Talks in Georgia and Ukraine in December 2016, at: <a href="https://www.unece.org/energy/welcome/areas-of-work/renewable-energy/unece-ren21-hard-talks.html">https://www.unece.org/energy/welcome/areas-of-work/renewable-energy/unece-ren21-hard-talks.html</a>
Identify ways to support the implementation of national plans and for strengthening framework conditions and instruments that help significantly increase the uptake of renewable energy	2016- 2017	On-going	Hard Talks in Georgia and Ukraine in December 2016, at: <a href="https://www.unece.org/energy/welcome/areas-of-work/renewable-energy/unece-ren21-hard-talks.html">https://www.unece.org/energy/welcome/areas-of-work/renewable-energy/unece-ren21-hard-talks.html</a>
<b>B. Exchange of know-how and best practices in the UNECE region on how to help significantly increase the uptake of renewable energy</b>			
A report submitted for consideration by the Group of Experts	October 2016	Completed	Good practices and policies for intersectoral synergies to deploy renewable energy: the water-energy-food-ecosystems nexus approach to support the Sustainable Development Goals (SDGs) ECE/ENERGY/GE.7/2016/6, at: <a href="https://www.unece.org/index.php?id=42246">https://www.unece.org/index.php?id=42246</a>

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
Identify key operational policy priorities, expanding already developed policies for member States and provide a platform for collective action	October 2016	Completed	Overview Report: Status and Perspectives for Renewable Energy Development in the UNECE Region (10/2015 – 07/2016) Capacity Development for Climate Policy in Western Balkan, Central and Eastern Europe and Central Asia by Deutsche Energie-Agentur (dena) – German Energy Agency, at: <a href="https://www.unece.org/energy/welcome/areas-of-work/renewable-energy/best-practices-and-lessons-learned-to-increase-the-uptake-of-renewables.html">https://www.unece.org/energy/welcome/areas-of-work/renewable-energy/best-practices-and-lessons-learned-to-increase-the-uptake-of-renewables.html</a>
Identify barriers to and options for technological development, gaps in policies, legislation, standards and regulations and cooperate with other relevant organizations	December 2017	On-going	Policy dialogue addressing barriers to increase renewable energy uptake ECE/ENERGY/GE.7/2017/4, at: <a href="https://www.unece.org/fileadmin/DAM/energy/se/pdfs/gere/GERE_November_2017/ECE_ENERGY_GE7_2017_4.pdf">https://www.unece.org/fileadmin/DAM/energy/se/pdfs/gere/GERE_November_2017/ECE_ENERGY_GE7_2017_4.pdf</a>
Organize information sharing activities (workshops, seminars, roundtables, etc.) for exchange of experience on renewable energy best practices and policies	2016-2017	On-going	Organization and/ or participation in renewable energy events. Outreach for the UNECE Renewable Energy Status Report 2015 in Belgrade (January 2016); Vienna /Energy Community (March 2016); Podgorica (April 2016); Organization of renewable energy related sessions: 10 in Baku (October 2016, at: <a href="https://www.unece.org/index.php?id=42643">https://www.unece.org/index.php?id=42643</a> ) and 13 in Astana (June 2017, at: <a href="https://www.unece.org/astana2017.html">https://www.unece.org/astana2017.html</a> ), within the International Fora on Energy for Sustainable Development: and the International Conference on Renewable Energy (Baku, June 2016). Documentary/ debate event in Geneva, at <a href="https://www.unece.org/index.php?id=46663">https://www.unece.org/index.php?id=46663</a>
<b>C. Integration of renewable energy in future sustainable energy systems in the region</b>			
Identify best practices about existing policies and policy reform to meet a higher renewable energy share within present and futures energy systems	October 2016	Completed	Key drivers for renewable energy within future energy systems- case studies ECE/ENERGY/GE.7/2016/5, at: <a href="https://www.unece.org/fileadmin/DAM/energy/se/pdfs/gere/GERE_October_2016/5._ECE_ENERGY_GE7_2016_5_Dena_Final.pdf">https://www.unece.org/fileadmin/DAM/energy/se/pdfs/gere/GERE_October_2016/5._ECE_ENERGY_GE7_2016_5_Dena_Final.pdf</a>  Benefit of transboundary cooperation in water-energy nexus for renewable energy development ECE/ENERGY//GE.7/2017/5, at: <a href="https://www.unece.org/fileadmin/DAM/energy/se/pdfs/gere/GERE_November_2017/ECE_ENERGY_GE7_2017_5.pdf">https://www.unece.org/fileadmin/DAM/energy/se/pdfs/gere/GERE_November_2017/ECE_ENERGY_GE7_2017_5.pdf</a>
Analyze renewable energy investment opportunities within future energy systems and energy market optimization	June 2017- December 2017	On-going	Matchmaking event in Astana, June 2017, within the 8th International Forum on Energy for Sustainable Development, jointly organized with the EU-TAF. Follow-up activities under consideration through an Hard Talk in Kazakhstan
Identify key needs for capacity building to develop renewable energy framework conditions to facilitate market conditions	December 2016- December 2017	On-going	Hard Talks in Georgia and Ukraine. Hard Talk planned in Azerbaijan on 19-20 October 2017, at: <a href="https://www.unece.org/energy/welcome/areas-of-work/renewable-energy/unece-ren21-hard-talks.html">https://www.unece.org/energy/welcome/areas-of-work/renewable-energy/unece-ren21-hard-talks.html</a>
Organize capacity building and information sharing activities on	June 2016	Completed	Organization of a regional Seminar on policy reforms for renewable energy investments, i.e. training to national officials and experts in renewable energy project development, finance and business

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
renewable energy investment promotion			planning, within the 7th Forum on Energy for Sustainable Development, Baku, Azerbaijan, October 2016

#### **D. Coordination with Other International Organizations and with Stakeholders**

Participation and support to the renewable energy assessment of the potential in South-East Europe and in Central Asia by International Renewable Energy Agency (IRENA)	October 2016 / June 2017	Completed	Consultation meeting on renewable energy potential in Central Asia (Baku, October 2016) and Issuing of the Communiqué and related work plan (Astana, June 2017). Follow-up cooperation is foreseen in the next-phase.
Cooperation with the International Energy Agency (IEA) and the Renewable Energy Policy Network for the 21 <sup>st</sup> Century on the UNECE Renewable Energy Status Report	June 2017	Completed	<a href="https://www.unece.org/fileadmin/DAM/energy/se/pp/renew/Renewable_energy_report_2017_web.pdf">https://www.unece.org/fileadmin/DAM/energy/se/pp/renew/Renewable_energy_report_2017_web.pdf</a>
Cooperation with the EU-DEVCO/TAF to facilitate a process that leads to the identification, financing and implementation of viable renewable energy investment projects	2017	On-going	Matchmaking facility and event at the 8th Forum on Energy for Sustainable Development, Astana, June 2017, at: <a href="https://www.unece.org/energywelcome/areas-of-work/renewable-energy/matchmaking-on-renewable-energy-investments.html">https://www.unece.org/energywelcome/areas-of-work/renewable-energy/matchmaking-on-renewable-energy-investments.html</a>
Cooperation with other UN Regional Commissions, other UN bodies and International Organizations	2016-2017	On-going	Cooperation on renewable energy with in-kind contributions provided by several partner organizations and donors to organize international fora, international conference, workshops, events, reports and analyses

#### **E. Cross-Cutting Issues and Coordination of Work with Other Expert Groups and other UNECE Subsidiary Bodies**

Cooperation with the Group of Experts on Energy Efficiency (GEEE), the Group of Experts on Gas (GEG), the Expert Group on Resource Classification (EGRC) for the implementation of the UNFC-2009 classification to renewable energy, and the Group of Experts on Cleaner Electricity Production from Fossil Fuels.	2016-2017	On-going	<a href="https://www.unece.org/energy/re.html">https://www.unece.org/energy/re.html</a> cooperation within the context of the respective work plans
Cooperation with the Task Force on the Water-Food-Energy-Ecosystems Nexus on the implementation of the Drina River Project	2016-2017	On-going	<a href="https://www.unece.org/energywelcome/areas-of-work/renewable-energy/deployment-of-renewable-energy-the-water-energy-food-ecosystem-nexus-approach.html">https://www.unece.org/energywelcome/areas-of-work/renewable-energy/deployment-of-renewable-energy-the-water-energy-food-ecosystem-nexus-approach.html</a>



#### 4. Group of Experts on Coal Mine Methane

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
<b>A. Revise and update the Best Practice Guidance for Effective Methane Drainage and Recovery in Coal Mines</b>			
A case study on outburst prevention	January 2016	Completed	<a href="http://www.unece.org/energy/welcome/areas-of-work/energysedocscmmx-long/activities/case-studies.html">http://www.unece.org/energy/welcome/areas-of-work/energysedocscmmx-long/activities/case-studies.html</a>
An electronic version of the revised and updated BPG was released and published on the CMM website	June 2016	Completed	<a href="http://www.unece.org/index.php?id=44133&amp;L=0">http://www.unece.org/index.php?id=44133&amp;L=0</a>
A hard copy version of the revised and updated BPG was printed and officially released	June 2016	Completed	<a href="http://www.unece.org/index.php?id=44133&amp;L=0">http://www.unece.org/index.php?id=44133&amp;L=0</a>
Translation of the revised and updated BPG into French	Not Applicable	In Progress	Provided by the UN
Translation of the revised and updated BPG into Russian	Not Applicable	In Progress	Provided by the UN
Translation of the revised and updated BPG into Polish	Not Applicable	In Progress	In-kind contribution from ICE-CMM in Poland
Translation of the revised and updated BPG into Indonesian	Not Applicable	In Progress	In-kind contribution from the private sector in Indonesia
Translation of the revised and updated BPG into Chinese	Not Applicable	In Progress	In-kind contribution from ICE-CMM in China
<b>B. Dissemination of Best Practice Guidance for Effective Methane Drainage and Recovery in Coal Mines</b>			
Capacity-building workshops in Karaganda, Kazakhstan	December 2017	Completed	37 participants <a href="http://www.unece.org/index.php?id=45174">http://www.unece.org/index.php?id=45174</a>
Capacity-building workshops in Ranchi, India	December 2017	Completed	273 participants <a href="http://www.unece.org/index.php?id=45172">http://www.unece.org/index.php?id=45172</a>
Capacity-building workshops in Katowice, Poland	December 2017	Completed	211 participants <a href="http://www.unece.org/index.php?id=46176">http://www.unece.org/index.php?id=46176</a>
Capacity-building workshops in Tianjin, China	December 2017	Completed	<a href="http://www.unece.org/index.php?id=46342">http://www.unece.org/index.php?id=46342</a>

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
Capacity-building workshops in Geneva, Switzerland	December 2017	On track	<a href="http://www.unece.org/index.php?id=46315">http://www.unece.org/index.php?id=46315</a>
Continue the collaboration with the Global Methane Initiative (GMI), including through participating in the GMI Global Methane Forum planned for March 2016	March 2016	Completed	<a href="http://www.unece.org/index.php?id=42520">http://www.unece.org/index.php?id=42520</a>
<b>C. Launch and support the work of the International Centre of Excellence on Coal Mine Methane</b>			
Inaugural conference/workshop at the host organisation (in Poland), combined with appropriate public relation activities	September 2016	Completed	<a href="http://www.unece.org/index.php?id=46176">http://www.unece.org/index.php?id=46176</a>
Initial draft the work plan of the ICE-CMM (in Poland), with potential deliverables	February 2016	Completed	Work Plan is developed. To be presented for review and approval by the Group at its 12 <sup>th</sup> session in October 2017  <a href="http://www.unece.org/fileadmin/DAM/energy/images/CMM/CMM_CE/2017-2019_Work_Plan_of_ICE-CMM_-_Rev.2.pdf">http://www.unece.org/fileadmin/DAM/energy/images/CMM/CMM_CE/2017-2019_Work_Plan_of_ICE-CMM_-_Rev.2.pdf</a>
Status reports on the activities of the ICE-CMM (in Poland)	November 2017	On track	To be presented for the review and approval by the Group at its 12 <sup>th</sup> session in October 2017
MoU providing basis for the opening of the second ICE-CMM (in China)	18 May 2017	Completed	<a href="http://www.unece.org/fileadmin/DAM/energy/images/CMM/Library/ICE_China/MoU_between_UNECE_and_ICE_Shanxi_China_2017-05-18.pdf">http://www.unece.org/fileadmin/DAM/energy/images/CMM/Library/ICE_China/MoU_between_UNECE_and_ICE_Shanxi_China_2017-05-18.pdf</a>
Inaugural conference/workshop at the host organisation (in China), combined with appropriate public relation activities	Not Applicable	Completed	<a href="http://www.unece.org/index.php?id=46342">http://www.unece.org/index.php?id=46342</a>
Initial draft the work plan of the ICE-CMM (in China), with potential deliverables	Not Applicable	In Progress	A draft Work Plan was discussed at the opening ceremony in September 2017 and will be submitted for the Group's review at its 12 <sup>th</sup> session in October 2017
Status reports on the activities of the ICE-CMM (in China)	Not Applicable	In Progress	To be presented for the review and approval by the Group at its 12 <sup>th</sup> session in October 2017
<b>D. Collect and disseminate case studies on the application of best practice guidance in specific coal mines in different regions of the world</b>			
Case studies on the implementation of best practices in methane management	Ongoing activity	On track	Nineteen (19) case studies from Kazakhstan (6), China (5), Australia (4), United Kingdom (1), Germany (1), South Africa (1) and New Zealand (1) were developed and posted on the UNECE CMM website

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
			<a href="http://www.unece.org/energy/welcome/areas-of-work/energysedocscmmx-long/activities/case-studies.html">http://www.unece.org/energy/welcome/areas-of-work/energysedocscmmx-long/activities/case-studies.html</a>
<b>E. Expand the Group of Experts' scope of work to cover integrated methane management in the context of sustainable development</b>			
Survey on methane management in extractive industries was developed and sent out to the stakeholders. The results were received, compiled and analysed.	14 July 2017	Completed	ECE/ENERGY/2017/8 <a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/comm26/ECE_ENERGY_2017_8e.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/comm26/ECE_ENERGY_2017_8e.pdf</a>
The UNECE/Columbia University report "The Challenges of the US Coal Industry and Lessons for Europe" was finalized and posted on the CMM website	October 2017	Completed	<a href="http://www.unece.org/index.php?id=44916&amp;L=0">http://www.unece.org/index.php?id=44916&amp;L=0</a>
<b>F. 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</b>			
A secretary of ISO/TC-263 attended the GoE 11 <sup>th</sup> session	October 2016	Completed	
The Group of Experts reviewed and provided its comments to the new standards proposed at the 5th plenary meeting of ISO/TC 263	September 2017	Completed	

## 5. Expert Group on Resource Classification

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
<b>A. Specifications for UNFC-2009</b>			
Outline of possible modifications to UNFC-2009	April 2016	Ongoing	Technical Advisory Group compiling list of issues, including based on feedback from public consultations on UNFC documents  UNFC was renamed United Nations Framework Classification for Resources at the eighth session of the Expert Group as part of the revision process.
Series of case studies subject to resource availability	April 2016 to ongoing	Completed / ongoing	A database of case studies and application examples is available on the UNECE website: <a href="http://www.unece.org/energywelcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/case-studies-and-application-examples.html">http://www.unece.org/energywelcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/case-studies-and-application-examples.html</a>
Mapping of UNFC-2009 to petroleum classification system of the Russian Federation of 2013 and a draft bridging document	April 2017	Completed	Bridging Document approved by Committee on Sustainable Energy at its 25 <sup>th</sup> Session, September 2016: <a href="http://www.unece.org/sed/unfc/rf2013bd.html">http://www.unece.org/sed/unfc/rf2013bd.html</a>  Draft Bridging Documents for minerals and petroleum presented to EGRC 8 <sup>th</sup> Session, April 2017 as EGRC-8/2017/INF.5 and EGRC-8/2017/INF.6: <a href="http://www.unece.org/index.php?id=44614">http://www.unece.org/index.php?id=44614</a>
Update of status of relevant mapping and bridging documents, including to the Chinese petroleum and mineral classification systems	April 2017	In progress	
<b>B. Governance of UNFC-2009</b>			
Annual report of the Technical Advisory Group to the Expert Group seventh and eighth sessions: April 2016	April 2016 and April 2017	Completed	Room document and presentation on annual activities provided to Expert Group in 2016 and 2017 <a href="http://www.unece.org/index.php?id=36110">http://www.unece.org/index.php?id=36110</a> <a href="http://www.unece.org/index.php?id=44614">http://www.unece.org/index.php?id=44614</a>
White papers and guidance related to the application and use of the G axis, Competent Person, and the definition of project, all in the context of UNFC-2009	March 2016	Completed	G axis: <a href="http://www.unece.org/fileadmin/DAM/energy/se/pp/unfc_egrc/egrc8_apr_2017/ECE.ENERGY.GE3.2017.10__G_axis_Report.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pp/unfc_egrc/egrc8_apr_2017/ECE.ENERGY.GE3.2017.10__G_axis_Report.pdf</a>  Competent Person: <a href="http://www.unece.org/energywelcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/applications/unfc-and-competent-persons.html">http://www.unece.org/energywelcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/applications/unfc-and-competent-persons.html</a> Project Definition: <a href="http://www.unece.org/energy/unfc-2009/guidance_notes.html">http://www.unece.org/energy/unfc-2009/guidance_notes.html</a>
<b>C. Application of UNFC-2009 to renewable energy resources</b>			
Presentation of revised generic specifications for application of UNFC-2009 to renewables to Expert Group	April 2016 April 2017	Completed	Revised generic specifications were approved by 25 <sup>th</sup> session of Committee on Sustainable Energy, September 2016 <a href="https://www.unece.org/energy/se/unfc_re.html">https://www.unece.org/energy/se/unfc_re.html</a>  Geothermal specifications were approved by the 25 <sup>th</sup> session of the Committee on Sustainable

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
Presentation of draft specifications for application of UNFC-2009 to geothermal to Expert Group	April 2016 April 2017	Completed	Energy, September 2016 <a href="https://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/applications/energyseunfc-re/unfc-and-geothermal-energy.html">https://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/applications/energyseunfc-re/unfc-and-geothermal-energy.html</a>
Presentation of draft specifications for application of UNFC-2009 to bioenergy	April 2017 April 2018	Completed	<a href="https://www.unece.org/energy/welcome/areas-of-work/unfc-and-resource-classification/energyseunfc-re/unfc-and-bioenergy.html">https://www.unece.org/energy/welcome/areas-of-work/unfc-and-resource-classification/energyseunfc-re/unfc-and-bioenergy.html</a> Preparation of specifications is challenging due to lack of resources
Presentation of draft specifications for application of UNFC-2009 to hydro, solar and wind: subject to resource availability	April 2016 to ongoing	In progress	14 case studies for geothermal and 5 bioenergy have been prepared
Guidelines and case studies for application of UNFC-2009 to renewables		In progress	
<b>D. Accommodating environmental and social considerations in UNFC-2009</b>			
Presentation of draft guidance on accommodating environmental and social considerations in UNFC-2009 and the Specifications for its Application to the Expert Group	April 2016 April 2017	Completed	<a href="https://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/applications/unfc-and-environmental-and-social-considerations.html">https://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/applications/unfc-and-environmental-and-social-considerations.html</a>
Presentation of a recommendation on the need, if any, for more detailed guidance	April 2017 to ongoing	Completed	Recommendations were provided to EGRC in April 2017, see ECE/ENERGY/GE.3/2017/6 <a href="http://www.unece.org/fileadmin/DAM/energy/se/pp/unfc_egrc/egrc8_apr_2017/ECE.ENERGY.GE.3.2017-6_e.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pp/unfc_egrc/egrc8_apr_2017/ECE.ENERGY.GE.3.2017-6_e.pdf</a>
<b>E. Education and outreach</b>			
Annual reports of the Communications Sub-Committee presented to the Expert Group	April 2016 April 2017	Completed	Reports delivered annually to EGRC in 2016 and 2017 <a href="https://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/governance/communications-working-group.html">https://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/governance/communications-working-group.html</a>
Standard presentations on UNFC posted to ECE website		Ongoing	Presentations continue to be updated
National and regional workshops	March 2016 to ongoing Ongoing	Completed	<a href="https://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/meetings-and-events.html#/">https://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/meetings-and-events.html#/</a>

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
Draft UNFC-2009 application tool	April 2017	In progress	In view of current revision of UNFC the tool will be issued when new UNFC issued.
<b>E. Use of UNFC-2009 in classifying injection projects</b>			
Draft specifications for the application of UNFC-2009 to injection projects for the purpose of geological storage	April 2017	Completed	Specifications were endorsed by 25 <sup>th</sup> Session of Committee on Sustainable, September 2016: Energy <a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/UNFC/UNFC_specs/UNFC.IP_e.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/UNFC/UNFC_specs/UNFC.IP_e.pdf</a> Also available in French and Russian: <a href="http://www.unece.org/energy/se/unfc2009_injection_projects0.html">http://www.unece.org/energy/se/unfc2009_injection_projects0.html</a>
Guidelines and case studies	April 2017 to ongoing	In progress	<a href="http://www.unece.org/fileadmin/DAM/energy/se/pp/unfc_egrc/egrc8_apr_2017/27_April/06-Karin-Ask.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pp/unfc_egrc/egrc8_apr_2017/27_April/06-Karin-Ask.pdf</a>
<b>G. Application of UNFC-2009 to nuclear fuel resources</b>			
Case studies on the application of UNFC-2009 for the classification of identified and predicted resources of uranium and thorium	April 2016 to ongoing	Completed / ongoing	13 case studies have been prepared to date. <a href="http://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/case-studies-and-application-examples/nuclear-fuel-resources-case-studies.html">http://www.unece.org/energy/welcome/areas-of-work/httpswwwuneceorgenergysereserveshtml/case-studies-and-application-examples/nuclear-fuel-resources-case-studies.html</a>
Proposed modifications to the UNFC-2009 and “Red Book” Bridging Document	April 2017 to ongoing	Ongoing	The Nuclear Fuels Working Group continues to monitor any needed updates.
Handbook of good practices for application of UNFC-2009 for uranium and thorium resource management	April 2018	On track	Handbook is progressing but will now be issued as “Application of UNFC for Commissioning and Implementing Uranium Projects”
<b>H. Financial reporting</b>			
Status report on financial reporting issues of relevance to reserves and resources submitted to the Expert Group annually	April 2016 April 2017	Completed	Financial reporting is included as an agenda item at annual meetings of the Expert Group and a presentation(s) delivered by experts. The Bureau of the Expert Group also keeps a watching brief and circulates any relevant information to the Expert Group electronically.
<b>I. Resourcing Strategy</b>			
Update provided to the Expert Group on the development of a resourcing strategy for promotion and further development of UNFC-2009	April 2016	Completed	Resourcing strategy developed and approved by Expert Group.

## 6. Group of Experts on Gas

<i>Deliverables</i>	<i>Scheduled</i>	<i>Status</i>	<i>Comments/Links</i>
<b>A. Best practice guidance in reducing gas leaks along the gas value chain</b>			
Systematic assessment of gas leakage rates in UNECE member States and review of reduction techniques deployed	March 2017	Completed	Survey on Methane Management in Extractive Industries, <a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/comm25/ECE_ENERGY_2016_2_Methane_management-_update.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/comm25/ECE_ENERGY_2016_2_Methane_management-_update.pdf</a>
Best Practice Guidance on Reducing Gas Leakage Rates	December 2017	In Progress	Developed a Model Framework for Reducing Methane Emissions along the Gas Value Chain, ECE/ENERGY/2017/9  Presented Model Framework at the 4 <sup>th</sup> session of the Group of Experts on Gas in March 2017 and at an industry workshop on methane emissions in Madrid in July 2017.  A number of case studies on methane leakages and methane prevention collected and presented at workshops in Geneva in March 2017 and in Madrid in July 2017. Presentations available at <a href="http://www.unece.org/index.php?id=43277">http://www.unece.org/index.php?id=43277</a>
<b>B. Best Policy Practices on the Role of Natural Gas in Significantly Increasing the Uptake of Renewable Energy in the ECE Region and Helping Achieve the Objective of Access to Energy for All in the ECE Region</b>			
Assessment of the systemic consequences of renewables uptake and economic analysis of natural gas in a context of green policies	January 2017	Reformulated and carried over to 2018-2019 work plan	Topic has been discussed at the 4 <sup>th</sup> session of the Group of Experts on Gas, in collaboration with the Group of Experts on Renewable Energy, presentation available at <a href="http://www.unece.org/fileadmin/DAM/energy/se/pdfs/nat_gas/geg/geg4_March2017/Item_7_-_Ramazanov_Presentation_-_UNECE_GEG_27_March_2017_xxx.pdf">http://www.unece.org/fileadmin/DAM/energy/se/pdfs/nat_gas/geg/geg4_March2017/Item_7_-_Ramazanov_Presentation_-_UNECE_GEG_27_March_2017_xxx.pdf</a>  Also discussed at the 25 <sup>th</sup> session of the Committee on Sustainable Energy and 8 <sup>th</sup> International Forum on Energy for Sustainable Development, Astana
Publish Best Policy Practices on the Role of Natural Gas to Support Renewables Uptake	December 2017	In Progress	.
<b>C. Best practice guidance for liquefied natural gas</b>			
Comprehensive Assessment of Trends in LNG	July 2017	Completed	Printed publication available
Best Practice Policy Guidance for LNG	October 2017	In Progress	Publication sent to printing, will be available in November 2017
<b>D. Removing barriers to the use of natural gas as a transportation fuel</b>			
Recommendations on Removing Barriers to the Use of Natural Gas as a Transportation Fuel	November 2017	In Progress	Publication sent to printing, will be available in November 2017