Economic Commission for Europe
Committee on Sustainable Energy
Expert Group on Resource Management
Eleventh session
Geneva, 22 – 25 September 2020


**I. Introduction**

1. The eleventh session of the Expert Group on Resource Management was held over two days during 22 to 25 September 2020.¹

2. This report summarises the discussions on the work of the Expert Group at its eleventh session. All the documents and presentations of the eleventh session are available on the United Nations Economic Commission for Europe (ECE) website.

**II. Attendance**

3. The meetings of the Groups of Experts reporting to the Committee on Sustainable Energy held during the period 22-25 September 2020 were attended by xx experts of which xx represented the following United Nations Economic Commission for Europe (ECE) member States: xxxx.

4. Experts from xxxx participated under Article 11 of the Commission’s Terms of Reference.

5. Representatives of the following organisations participated: xxx.

6. The meeting also was attended by representatives of non-governmental organizations, academia and private sector, as well as by independent experts.

**III. Adoption of the agenda (agenda item 1)**


7. The Expert Group on Resource Management noted that the unprecedented circumstances caused by the COVID-19 pandemic had resulted in the eleventh session

¹ Official documents of the session are available at http://documents.un.org/. Unofficial room documents and presentations delivered at the meeting are available on the ECE website at: https://www.unece.org/index.php?id=52488.
being postponed to 22-25 September and in a different and reduced format in collaboration with the Group of Experts on Renewable Energy. The Expert Group decided to postpone discussions on agenda items 4 and 15 to the twelfth session and adopted its agenda (ECE/ENERGY/GE.3/2020/1).

IV. Election of Officers (agenda item 2)

8. The term of the current Bureau of the Expert Group was due to expire at the close of the eleventh session. However, given the extraordinary situation caused by COVID-19, the Expert Group decided to extend the term of the current Bureau to the close of the twelfth session in 2021 and to elect the new nominations for the position of Vice-Chairs, namely Ms. Branka Knežević (Bosnia and Herzegovina), Mr. Viktor Babashev (Kazakhstan) and Mr. JU Jianhu (the People’s Republic of China), to the Bureau with immediate effect.

9. The outgoing Bureau members, Mr. Kjell Reidar Knudsen (Norway) and Mr. Brad Van Gosen (United States of America), were thanked for their longstanding commitment and support of the work of the Expert Group.

10. The Bureau now comprises: Mr. David MacDonald (United States of America) as Chair, Mr. Igor Shpurov (Russian Federation) as First Vice Chair, and Ms. Nurangiz Farajullayeva (Azerbaijan), Ms. Branka Knežević (Bosnia and Herzegovina), Mr. Viktor Babashev (Kazakhstan), Mr. Rafal Misztal (Poland), Ms. Teresa Ponce de Leão (Portugal), Ms. Erika Ingvall (Sweden), Ms. Mucella Ersoy (Turkey), Mr. JU Jianhu (the People’s Republic of China), Mr. Hussein Allaboun (Jordan), Mr. Tunde Arisekola (Nigeria), Mr. Milan Grohol (EC D.G. GROW), Mr. Paul Msoma (African Union Commission), Mr. Young Joo Lee (CCOP), Mr. Fatih Birol (IEA), Mr. Roger Dixon (CRIRSCO), Professor Gioia Falcone (IGA), Mr. Bernard Seiller (SPE), Mr. Michael Neumann (EFG), Mr. Zoltán Horváth (EGS), Mr. Roberto Sarudiansky (Latin American Mining Organization (OLAMI)) and Mr. Alistair Jones (Technical Advisory Group of the Expert Group on Resource Management) as Vice-Chairs. It was noted that nominations from Norway, Serbia, Australia and IAEA are awaited.

11. The Expert Group noted with appreciation the work and contribution of all members under the difficult circumstances posed by the COVID-19 pandemic.

V. Opening remarks (agenda item 3)

12. In his opening remarks, the Chair noted that the rescheduled eleventh session was held in cooperation with the Group of Experts on Renewable Energy. The Chair observed that it would be valuable for such close cooperation to continue not only with the Group of Experts on Renewable Energy but with all of the groups of experts reporting to the Committee on Sustainable Energy.

13. The Chair provided a brief update on the work of the Expert Group to further develop, implement and promote the United Nations Framework Classification for Resources (UNFC) and the United Nations Resource Management System (UNRMS).

VI. Activities and priorities of the Committee on Sustainable Energy and any matters for consideration by the Expert Group on Resource Management (agenda item 5)

14. The Expert Group noted that the theme of the sixty-ninth session of the Economic Commission for Europe in 2021 is the circular economy and sustainable management of natural resources. The Expert Group observed that this theme is fully aligned with its work and focus and agreed to support this meeting in particular with respect to the elaboration of relevant UN instruments required for efficient socio-economic reforms.
The Expert Group also supported developing and deploying UNFC and UNRMS as a tool-kit for supporting the resource management required to attain the Sustainable Development Goals (SDGs). It noted the importance of cooperating thereon with the other subsidiary bodies of the Committee on Sustainable Energy.

VII. United Nations Economic and Social Council Decision 2004/233 (agenda item 6)


15. The Expert Group approved the draft text of the updated United Nations Economic and Social Council Decision 2004/233 on the global application of UNFC (EGRM-11/2020/INF.2) and agreed to invite the Committee on Sustainable Energy and the Executive Committee to consider submitting the draft revised Decision on UNFC to ECOSOC for consideration and possible endorsement.

VIII. UNFC and UNRMS guidelines and best practices for the delivery of the Sustainable Development Goals and support to the Food-Water-Energy Nexus (agenda item 7)


16. The work of the SDGs Delivery Working Group was highlighted by Mr. Julian Hilton (Chair, Sustainable Development Goals Delivery Group) in the informal session (webinar) on “Sustainable and integrated natural resource management: Values, principles and requirements” held on 10 September 2020. Professor Robert K. Perrons (Queensland University of Technology) also presented on Artificial Intelligence and resource management. The session was moderated by Mr. Scott Foster (ECE).

17. The Expert Group noted with appreciation the work of the SDGs Delivery Working Group and requested it further develop detailed specifications, guidelines and best practices on the effective use of UNFC and UNRMS for sustainable development, taking into consideration global values, regional circumstances, priorities and needs for resource management in the age of big data and artificial intelligence (ECE/ENERGY/GE.3/2020/7).

IX. Pathways to Sustainable Energy (agenda item 8)


18. The Expert Group noted with appreciation the document “Pathways to Sustainable Energy – Policy recommendations from the Expert Group on Resource Management” (ECE/ENERGY/2020/10) that was prepared by the Bureau of the Expert Group and submitted to the twenty-ninth session of the Committee on Sustainable Energy.

2 https://www.unece.org/index.php?id=55046
X. Development, maintenance and application of the United Nations Framework Classification for Resources and the United Nations Resource Management System (agenda item 9)


19. Mr. Alistair Jones (Chair, Technical Advisory Group) provided an update on the activities of the Technical Advisory Group since the tenth session.

20. The Expert Group noted with appreciation the work of the Technical Advisory Group to coordinate the activities of all the sectoral Working Groups of the Expert Group and recommended that it continue to provide technical support for the development of UNFC and UNRMS and their application especially to support the green recovery in the post-COVID situation.

(a) Revision of the United Nations Framework Classification for Resources

21. The Expert Group noted that the updated UNFC published at the end of 2019 (ECE Energy Series Number 61 and ECE/ENERGY/125) had optimised the language to be suitable to all resources, while the classification system itself remained fundamentally unchanged. The Expert Group requested the Technical Advisory Group to facilitate the necessary minor updates in the specifications and guidance notes to be fully aligned with the UNFC 2019 Update. Based on the user experiences and feedback, the Technical Advisory Group is requested to suggest further substantial improvements required to UNFC at the twelfth session.

(b) Development of the United Nations Resource Management System

Documentation: ECE/ENERGY/GE.3/2020/5 – UNRMS Concept note: Objectives, requirements, outline and way forward dated 30 March 2020

22. The need and requirements for UNRMS were discussed in the informal session (webinar) on “Sustainable and integrated natural resource management: Values, principles and requirements” held on 10 September 2020. Mr. Scott Foster (ECE) provided the opening remarks and Mr. Milan Grohol (European Commission) provided inputs on the European Union New Green Deal and Raw Material Vision and how UNFC and UNRMS can support the activities.

23. Recognising the key role of sustainable resource management in the realisation of the SDGs and responding to the UN Decade of Action 2020–2030, the Expert Group recommended the accelerated development of UNRMS, based on the objectives, requirements, users, outline and way forward as discussed in the Concept Note (ECE/ENERGY/GE.3/2020/5).

(c) Minerals


1 https://www.unece.org/index.php?id=55046
24. The work of the Mineral Working Groups was highlighted in the informal session (webinar) on “Application of UNFC to Minerals and Anthropogenic Resources: Sustainable management of raw material resources” held on 26 August 2020. Mr. Aaron Johnson (American Institute of Professional Geologists (AIPG)) provided an overview, and Mr. Michael Neumann (European Federation of Geologists) presented the status on the development of UNFC specifications for mineral resources. Mr. Zoltan Horvath (Hungary) provided an update on the activities of EuroGeoSurveys on mineral resource data harmonisation.

25. The Expert Group noted with appreciation the work of the Minerals Working Group and the progress made to develop the specifications and guidelines for the application of UNFC to minerals and requested that the draft document be finalised and submitted for public consultations. The Expert Group noted with appreciation the Case Studies on Bridging from the National Standard of the People’s Republic of China Classification for Resources/Reserves of Solid Fuels and Mineral Commodities (GB/T 17766-1999) and UNFC (ECE/ENERGY/GE.3/2020/9). The work to develop case studies in the Nordic region was noted with appreciation (ECE/ENERGY/GE.3/2020/10).

(d) Petroleum


26. Professor Satinder Purewal (Imperial College London) presented the activities of the Petroleum Working Group in the informal session (webinar) on “Application of UNFC to Petroleum Total Resource Management: Status and Outlook” held on 29 July 2020. Ms. Barbara Pribyl (Santos Limited) presented on the UNFC Petroleum Specifications and Guidelines. Mr. Eduardo Simón Burgos and Mr. Eduardo Meneses-Scherrer (Mexico) highlighted the development of a digital tool for petroleum project evaluation using UNFC. Ms. Yang Hua (China) presented a case study on bridging from the National Standard of the People’s Republic of China Classification for Petroleum Resources/Reserves to UNFC. Mr. Mohammad Al-Ghanemi (Kuwait) presented a case study on the application of UNFC in Kuwait.

27. The Expert Group noted with appreciation the work of the Petroleum Working Group and the progress made in the development of specifications and guidelines for the application of UNFC to petroleum projects and requested that the draft document be finalised and shared with the SPE Oil and Gas Reserves Committee (OGRC) for comment, prior to issuing for public consultation. The Expert Group noted with appreciation the Case Study on Bridging from the National Standard of the People’s Republic of China Classification for Petroleum Resources/Reserves (GB/T 19492-2004) to UNFC (ECE/ENERGY/GE.3/2020/8).

(e) Renewable energy resources

28. In the special session on “Overcoming barriers to scaling up Renewable Energy” organised with the Group of Experts on Renewable Energy opening remarks were provided by Mr. Carlos De Morais Pires (Member of Cabinet of Commissioner Mariya Gabriel, European Commission), Ms. Margalita Arabidze (Vice-Chair, Group of Experts on Renewable Energy), and Mr. David MacDonald (Chair, Expert Group on Resource Management).

29. The panel on “Renewable energy information barriers” moderated by Mr. Scott Foster (ECE) included the participation of Mr. Kostiantyn Gura (Chair, Group of Experts...
on Renewable Energy), Ms. Vibhushree Hamirwasia (REN 21), and Mr. Arjun Guha (IRENA).

30. In the second panel moderated by Mr. Paolo Frankl (IEA) on “UNFC milestones and Sustainable Development Goals 7” inputs were provided by Mr. Fred Morse, (Abengoa Solar), Ms. Sulamith Kastl (Germany), Professor Gioia Falcone (University of Glasgow) and Mr. Mike McCurdy (ICF). Mr. Jeremy Webb (Chair, Renewable Energy Working Group) provided the concluding remarks.

31. The on-line discussion generated a rich dialogue in the chat room, in particular related to the benefits and applicability of UNFC to renewable energy. The Group of Experts requested that the chat and a summary be posted on the website.

32. Following the joint session organised with the Group of Experts on Renewable Energy, the Expert Group:

i. Noted the benefits of standardised renewable energy resource classification and management, including: the tracking of common milestones by project developers; harmonised monitoring of project pipelines by portfolio managers in utilities and integrated energy companies; having improved information on project maturities and risks for investors, banks and regulators; and, directly comparable information on resource potentials for policy makers.

ii. Noted that the use of standardised resource classifications including common project milestones and harmonised reporting, promises to reduce transaction costs while improving the quality of information being shared between businesses and governments and further noted the importance of this in the post-COVID-19 green recovery.

iii. Noted the importance of further testing the classification of renewable energy projects using UNFC and agreed to facilitate case studies or pilot projects by ECE member States in cooperation with the Group of Experts on Renewable Energy for presentation at its twelfth session.


v. Agreed to work with the Group of Experts on Renewable Energy to prepare and issue a joint study on the benefits and challenges for governments applying UNFC to renewable energy projects and resources. Such a study would serve to highlight the alignment of UNFC with the SDGs.

vi. Requested the secretariat to facilitate coordination with the Group of Experts on Renewable Energy.

vii. Noted with appreciation the work of its Renewable Energy Working Group and in particular the approval of the specifications for the application of UNFC to solar energy (ECE/ENERGY/2019/15) and wind energy (ECE/ENERGY/2019/16) by the Committee on Sustainable Energy at its twenty-eighth session.

viii. Requested the Working Group to continue its work to develop draft specifications for hydropower and marine energy.

(f) Nuclear fuel resources

Documentation: ECE/ENERGY/GE.3/2020/7 – Concept Note Integrated lifecycle management of nuclear fuel resources for sustainable energy dated 15 April 2020

EGRM-11/2020/INF.5 – Application of UNFC and UNRMS: The Role of Nuclear Energy in Sustainable Development - Entry Pathways
33. In the session on “The role of nuclear energy resources in sustainable development” opening remarks were provided by Mr. Scott Foster (ECE) and Ms. Agneta Rising (WNA).

34. In the panel on “Policy and regulatory imperatives in nuclear energy utilisation,” moderated by Mr. Scott Foster (ECE), presentations were made by Mr. King Lee (WNA and Chair, Nuclear Fuel Resources Working Group), Mr. Michel Berthélemy (OECD Nuclear Energy Agency) and Mr. Said Abousahl (European Commission).

35. In the second panel on “National approaches to nuclear power deployment,” moderated by Ms. Agneta Rising (WNA) presentations were made by Mr. Anton Dedusenko (Rosatom), Ms. Zuzana Krejcirikova, (CEZ), Professor Georgii Rudko (Ukraine), and Ms. Alice Wong ( Cameco). Mr. King Lee (WNA and Chair, Nuclear Fuel Resources Working Group) provided the concluding remarks.

36. The on-line discussion generated a rich dialogue in the chat room, including on the availability of nuclear fuel resources, the environmental impact of uranium production from in-situ recovery projects versus conventional mining projects, resource efficiency and the importance of increasing the safety and waste management performance of the sector. The Group of Experts requested that the chat and a summary be posted on the website.

37. The Expert Group noted with appreciation the preparation of the draft report on “Application of UNFC and UNRMS: The Role of Nuclear Energy in Sustainable Development - Entry Pathways” (EGRM-11/2020/INF.5) by the Nuclear Fuel Resources Working Group. The Expert Group requested the Nuclear Fuel Resources Working Group to submit the draft report for public consultation and finalise the report based on the comments received, and further disseminate the report for broader use. Following the review of the Concept Note on “Integrated lifecycle management of nuclear fuel resources for sustainable energy” (ECE/ENERGY/GE.3/2020/7), the Expert Group requested the Nuclear Fuel Resources Working Group to prepare the full report in consultation with all relevant stakeholders.

(g) Injection projects

38. The Expert Group noted with the appreciation the review of the SPE’s draft Storage Resources Management System Guidelines undertaken in September 2020 by a number of members of the Injection Projects Working Group.

39. The Expert Group requested the Working Group to update further and/or develop specifications, guidelines and case studies for the application of UNFC and UNRMS to injection projects.

(h) Anthropogenic resources

40. The activities of the Anthropogenic Resource Working Group were discussed by Mr. Ulrich Kral (Technische Universität Wien and Chair, Anthropogenic Resources Working Group) in the informal session (webinar) on “Application of UNFC to Minerals and Anthropogenic Resources: Sustainable management of raw material resources” held on 26 August 2020. In this session, Professor Soraya Heuss-Aßbichler (Ludwig-Maximilians-Universität München) provided case studies to highlight the application of UNFC to Anthropogenic resources.

41. The Expert Group noted with appreciation the work of the Anthropogenic Resources Working Group and requested the Working Group to continue to support the development of case studies for the application of UNFC and UNRMS to anthropogenic resources.

* https://www.unece.org/index.php?id=54798
(i) **Groundwater resources**

42. The Expert Group noted with appreciation the work of the Groundwater Resources Working Group and requested the Working Group to support the development of specifications for the application of UNFC and UNRMS to groundwater resources.

(j) **Commercial aspects and financial reporting**


43. The activities of the Commercial Applications working Group was discussed by Mr. Sigurd Heiberg (Chair, Commercial Applications Working Group) in the informal session (webinar) on “Sustainable and integrated natural resource management: Values, principles and requirements” held on 10 September 2020.

44. The Expert Group noted with appreciation the draft document “UNFC applied to Commercial Assessments – Update” (ECE/ENERGY/GE.3/2020/5) and requested the Commercial Working Group to finalise the document.

(k) **Competent Person and evaluator qualifications**

45. The Expert Group noted with appreciation the work of the Competent Person Task Force and the progress made on updating the Guidance Notes on Competent Person Requirements and Evaluator Qualifications and requested that the revised documentation aligned to UNFC and UNRMS principles be developed.

(l) **Other potential applications**

46. The Expert Group recommended that subject to volunteers and extrabudgetary funds being identified, sub-groups be established to explore the applicability of UNFC and UNRMS to other resources such as coal mine methane and energy from wastes.

XI. **Social and environmental considerations in the United Nations Framework Classification for Resources and the United Nations Resource Management System (agenda item 10)**


47. The activities of the Social and Environmental Working Group were discussed by Mr. David Elliott (Outgoing Chair, Social and Environmental Considerations Working Group) in the informal session (webinar) on “Sustainable and integrated natural resource management: Values, principles and requirements” held on 10 September 2020.

48. The Expert Group noted the draft document “Principles of resource classification” (ECE/ENERGY/GE.3/2020/3) and recommended that the guidance provided be used in the application of UNFC. The Expert Group noted the updated draft document “Guidance for social and environmental considerations for UNFC” (EGRM-11/2020/INF.4) and recommended that the guidance be finalized, and further recommended that the guidance should be used in the application of UNFC.
XII. **Application of the United Nations Framework Classification for Resources in different geographical contexts (agenda item 11)**


49. Ms. Erika Ingvald (Sweden) presented case studies on the application of UNFC to mineral resources of Finland/Estonia, Sweden and Norway in the informal session (webinar) on “Sustainable and integrated natural resource management: Values, principles and requirements” held on 10 September 2020.

50. The Expert Group noted the progress made by the “UNFC Europe” initiative to harmonise classification and management of raw materials at EU level under the European Commission’s Raw Materials Initiative.

51. The Expert Group noted the progress made by the “UNFC Africa” initiative to develop the UNFC African Mineral and Energy Resource Classification and Management System (UNFC-AMREC) aligned to the African Mining Vision under the leadership of the African Union Commission’s AMREC Working Group.

XIII. **International Centres of Excellence on Sustainable Resource Management and extrabudgetary projects for implementation of the United Nations Framework Classification for Resources and development of the United Nations Resource Management System (agenda item 12)**


52. The Expert Group noted the interest in establishing national and/or regional centres of excellence on sustainable resource management worldwide based on UNFC and UNRMS, with the technical support of ECE.


54. The Expert Group noted with appreciation the ongoing extrabudgetary projects that support the application of UNFC, in particular: (a) Improving national capacities of Central Asian countries to harmonise and implement an internationally applicable system of classification and sustainable management of energy and mineral resources (funded by the Russian Federation); (b) Integrated energy and water resource management in support of sustainable development in South-East Europe and Central Asia (funded by the United Nations Development Account).

55. The Expert Group noted with appreciation the extrabudgetary project funded by the European Commission “Supporting UNECE member States in the development and implementation of UNFC and UNRMS” (2020-2024).

XIV. **Women and diversity in resource management (agenda item 13)**

56. The Expert Group noted with appreciation the establishment of the Working Group on Women in Resource Management to promote the positive benefits of diversity and inclusion in resource management.
57. The Expert Group noted that women have an important role in the effective application of the relevant UN instruments related to regulation at a global level of energy production and use, global greenhouse gas (GHG) emissions, international energy, CO₂ transport and sectoral interlinkages and also in coordinating with other groups of experts on alternative and smarter approaches to sustainable resource management.

XV. Education and outreach (agenda item 14)

58. The Expert Group recommended that an educational and training session on UNFC and UNRMS be organised on the first day of the twelfth session.

59. The Expert Group noted with appreciation the previously mentioned webinars that were organized in July-September to keep the Expert Group and a wider community informed on progress on UNFC and UNRMS activities. The Expert Group further noted the good attendance at these webinars.

60. The initiative to create a UNRMS Young professionals and college community is progressing with a plan to create student chapters in several universities including MIT, Toronto, University of Mining and Geology St Ivan Rilsky, University of Geneva, and will be expanded to some other universities.

XVI. Work plan for 2018–2019 and draft work plan for 2020–2021 (agenda item 16)

61. The Expert Group noted that it has successfully implemented its work plan for 2018-2019. The Expert Group noted that the implementation of the work plan for 2020-2021 is progressing in spite of the challenging situation caused by COVID-19.

XVII. Other business (agenda item 17)

62. Following discussion and careful review and in the light of the expanded scope of application of UNFC and the development of UNRMS, the Expert Group agreed that its twelfth session needs to be held over five days, including an educational and training session on UNFC and UNRMS, but with an option to reduce the total number of days commensurate with the required agenda items.

63. The dates for the twelfth session of the Expert Group are 26-30 April 2021.

64. No other issues were raised.

XVIII. Adoption of conclusions and recommendations (agenda item 18)


65. The conclusions and recommendations were adopted and are included under the relevant agenda items.

XIX. Adoption of the report and close of the meeting (agenda item 19)

66. The report of the meeting was adopted subject to any necessary editing and formatting.