



Economic Commission for Europe**Committee on Sustainable Energy****Expert Group on Resource Management****Twelfth session**

Geneva, 26-30 April 2021

Report of the Expert Group on Resource Management**I. Introduction**

1. The twelfth session of the Expert Group on Resource Management was held on 26-30 April 2021.
2. This report summarizes the discussions of the Expert Group on Resource Management at its twelfth session. All the documents and presentations of the session are available on the United Nations Economic Commission for Europe (ECE) website.¹

II. Attendance

3. The session was attended by more than 400 experts from the following United Nations Economic Commission for Europe (ECE) member States: Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, France, Georgia, Germany, Greece, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Switzerland, Tajikistan, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, and Uzbekistan.
4. Experts from Algeria, Australia, Benin, Botswana, Brazil, Burkina Faso, Burundi, Cameroon, the People's Republic of China, Colombia, Comoros, Côte D'Ivoire, Democratic Republic of the Congo, Egypt, Ghana, India, Indonesia, Jordan, Madagascar, Malaysia, Mexico, Mongolia, Morocco, Mozambique, Namibia, Nepal, New Zealand, Niger, Nigeria, Peru, the Philippines, Qatar, Republic of Korea, Senegal, Saudi Arabia, South Africa, Suriname, Thailand, Timor-Leste, Uganda, Venezuela (Bolivarian Republic of) and Yemen participated under Article 11 of the Commission's Terms of Reference.
5. From the United Nations system and Specialized Agencies, representatives of the United Nations Department of Economic and Social Affairs (UN DESA), United Nations Conference on Trade and Development (UNCTAD), United Nations Economic Commission for Africa (ECA), United Nations Environment Programme (UNEP), UNEP Global Resource Information Database (GRID) Geneva, Food and Agriculture Organization of the United Nations (FAO), United Nations University Institute for Water, Environment and Health

¹ <https://unece.org/sustainable-energy/events/unece-resource-management-week-2021-12th-session-expert-group-resource>

(UNU-INWEH) and the International Atomic Energy Agency (IAEA) attended. Representatives from the European Commission (EC), represented by the EC Directorate-General (D.G.) for Internal Market, Industry, Entrepreneurship and SMEs (D.G. GROW), D.G. for the Environment (D.G. ENV), D.G. Joint Research Centre (JRC), European Environment Agency and the European Institute of Innovation and Technology (EIT) RawMaterials participated. Representatives from the African Union Commission (AUC) and the African Minerals Development Centre (AMDC) also participated.

6. Representatives of the following organizations participated: African Development Bank (AfDB), African Minerals and Geosciences Centre (AMGC), Coordinating Committee for Geoscience Programmes in East and Southeast Asia (CCOP), EuroGeoSurveys (EGS), Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, International Financial Reporting Standards (IFRS) Foundation, International Renewable Energy Agency (IRENA), International Union of Geological Sciences (IUGS), Organisation for Economic Co-operation and Development, OECD-Nuclear Energy Agency (NEA), Organization of African Geological Surveys (OAGS) and Union of the Mediterranean.

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

III. Adoption of the agenda (agenda item 1)

Documentation: Annotated provisional agenda for the twelfth session (ECE/ENERGY/GE.3/2021/1).

8. The Expert Group on Resource Management noted that the continuing unprecedented circumstances caused by the COVID-19 pandemic had resulted in the twelfth session being held in a hybrid and reduced format (ECE/ENERGY/GE.3/2021/1).

IV. Elections of officers (agenda item 2)

9. The Expert Group elected the following members to the Bureau with effect from the close of the twelfth session for a period of two years until the close of the fourteenth session:

10. Mr. David MacDonald (United States of America) as Chair, Mr. Igor Shpurov (Russian Federation) as First Vice Chair, and Ms. Nurangiz Farajullayeva (Azerbaijan), Mr. Stig-Morten Knutsen (Norway), Mr. Rafal Misztal (Poland), Ms. Teresa Ponce de Leão (Portugal), Ms. Erika Ingvald (Sweden), Ms. Mücella Ersoy (Turkey), Ms. Karen Hanghoj (United Kingdom of Great Britain and Northern Ireland), Ms. Sarah Forbes (United States of America), Mr. Andrew Cross (Australia), Mr. Hussein Allaboun (Jordan), Mr. Ulises Neri (Mexico), Mr. Tunde Arisekola (Nigeria), Mr. Milan Grohol (EC D.G. GROW), Mr. Frank Mugyeyni (African Union Commission (AUC)), Mr. Young Joo Lee (Coordinating Committee for Geoscience Programmes in East and Southeast Asia (CCOP)), Mr. Roger Dixon (Committee for Minerals Reporting International Standards (CRIRSCO)), Ms. Jennifer McCoy (Ernst & Young LLP), Mr. Michael Neumann (European Federation of Geologists (EFG)), Mr. Zoltán Horváth (EuroGeoSurveys (EGS)), Mr. Henri Paillere (IAEA), Ms. Gioia Falcone (International Geothermal Association (IGA)), Mr. Luis Lopez (Latin American Mining Organization (OLAMI)), Mr. Bernard Seiller (Society of Petroleum Engineers (SPE)), and Mr. Alistair Jones (Technical Advisory Group of the Expert Group on Resource Management) as Vice-Chairs.

11. Ms. Branka Knežević (Bosnia and Herzegovina), Mr. Viktor Babashev (Kazakhstan), and Mr. JU Jianhua (the People's Republic of China), who were elected to the Bureau at the eleventh session in 2020, will continue until the end of the thirteenth session.

12. The Expert Group agreed to Serbia joining the Bureau in the capacity of Vice-Chair when the official nomination is received.

13. The outgoing Bureau members, Mr. Fatih Birol (International Energy Agency) and Mr. Roberto Sarudiansky (OLAMI), were thanked for their longstanding commitment and support of the work of the Expert Group. It was noted with sadness that Mr. Paul Msoma,

Vice-Chair representing AUC, had passed away due to COVID-19 in January 2021. He was remembered for his contribution and commitment to the work of the Bureau, the Expert Group and the application of the United Nations Framework Classification for Resources (UNFC) in Africa.

14. The Chair of the Expert Group is a Vice-Chair of the Committee on Sustainable Energy *ex officio*.

V. Opening remarks (agenda item 3)

15. The Deputy Executive Secretary of ECE welcomed the participants to the meeting and emphasized the need to have well-conceived public policies to support a circular economy. Technology and finance are secondary and are merely the tools for implementing agreed policies. In his remarks, he emphasized the need to overcome the blind spots created by a linear way of thinking and embrace a holistic vision of circularity. UNFC and the United Nations Resource Management System (UNRMS) under development are expected to support an integrated and sustainable model of resource development. The Deputy Executive Secretary observed that volume-wise, more wastes are produced than valuable materials. One enormous waste product is carbon, a key element in the periodic table. It is the very basis of life, produces some of the most robust materials, and perhaps the future will be dominated by carbon-based materials. He underlined the urgency for governments to see natural resources as a public good. In closing, he commended the Expert Group on its work and conveyed his conviction that the Expert Group has the vision to adapt resource management to the needs of tomorrow. Society's hope for an equitable, just and prosperous world depends on generating a collective will to act responsibly. He urged the Expert Group to act with speed but cautioned on the need to deliver the vision through effective, achievable steps.

16. The Chair also welcomed the participants, noting the increased attendance by governments, international organizations, professional associations, industry, and academia. In his opening remarks, the Chair introduced the sequence of events for the meeting. He noted with appreciation that six of the sessions during the meeting were organized as workshops in cooperation with the United Nations Development Account project "Integrated energy and water resource management in support of sustainable development in South-East Europe and Central Asia".

17. The Chair noted the sad loss of a number of Expert Group members: Mr. John Brooks CBE, Mr. Ferdi Camisani, Mr. John Etherington, Mr. Paul Msoma, and Mr. Paul Worthington and shared tributes for each. The Expert Group recognized with appreciation their significant contribution and dedication to the work of the Expert Group, the important role each had played and their legacy to the Expert Group and its activities.

18. The Chair drew attention to the draft set of conclusions and recommendations circulated prior to the meeting, noting that this was the method of working previously adopted by the Expert Group and that it is in line with the Guidelines on Procedures and Practices for ECE Bodies that were adopted by ECE at its sixty-fifth session in April 2013. He emphasized that the draft conclusions and recommendations were not intended in any way to prejudice the discussions but rather to provide a draft text to facilitate discussions. The Expert Group agreed to consider and approve conclusions as the agenda items were discussed rather than considering them *en bloc* at the end of the meeting.

19. The Chair updated members on the status of the development and implementation of UNFC and UNRMS.

20. The Chair also informed how UNFC and UNRMS can help governments, industry, investors, and international organizations respond to modern challenges in the sustainable development of energy and mineral resources, including socio-economic recovery from the COVID-19 pandemic.

21. Other issues raised by the Chair included: the significant interest of ECE member States in the socio-environmental-economic contract to operate based on just transition and a long-term vision aimed at having a positive impact on nature; the requirement for a comprehensive framework for traceability, transparency, and sustainability in supply chains;

the need for development of a sustainable finance taxonomy to promote a circular economy; and the requirement for a unifying sustainable resource management system.

VI. Workshop on the United Nations Framework Classification for Resources and the United Nations Resource Management System: the role of resource management in attaining the Sustainable Development Goals (agenda item 4)

22. A workshop on UNFC and UNRMS was held via a series of short sessions (workshops) exploring the application of UNFC and UNRMS to facilitate the attainment of the 2030 Agenda for Sustainable Development (2030 Agenda) and addressing resource management challenges and opportunities in the raw materials and energy sectors related to green transitions and progress towards a circular economy.

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

23. The Director of the Sustainable Energy Division described the activities and priorities of the Committee on Sustainable Energy and other matters for consideration by the Expert Group on Resource Management. The Committee endorsed the UNFC Update 2019 and approved its submission to the Economic Commission for Europe for further transmission to the United Nations Economic and Social Council (ECOSOC) with a recommendation that it be disseminated and deployed globally. The Committee requested that development of the United Nations Resource Management System be accelerated. With respect to development, dissemination, and deployment of both UNFC and UNRMS, the Committee solicited financial support from countries and affiliated organizations for the network of International Centres of Excellence on Sustainable Resource Management (ICE-SRM) that is being instituted for those purposes.

24. At its sixty-ninth session, the Commission session endorsed the UNFC Update 2019 and recommended its global dissemination and application. The Commission further agreed to submit the draft "Decision on the Updated UNFC" to ECOSOC for further action. The Commission also requested the Committee on Sustainable Energy to undertake further development, dissemination, education and research, consultation, and engagement among stakeholders on UNFC and UNRMS.

25. The Committee has undertaken a strategic review of the ECE sustainable energy subprogramme. All of the groups of experts contributed to the preparation of a draft strategic review, and the Committee welcomed the draft and requested an intergovernmental consultation on the strategic review with the expectation that the review will be submitted to the upcoming thirtieth session of the Committee (22-24 September 2021) for endorsement. In parallel, the Committee noted the request of the ECE Executive Committee that it develop a concept note to provide full context for projects and financing proposals submitted under the Pathways to Sustainable Energy Programme, notably including Phase II of Pathways and the related project "Enhancing the understanding of the implications and opportunities of moving to carbon neutrality in the ECE region across the power and energy intensive industries by 2050" (Carbon Neutrality project). Consultations regarding the concept note for the pathways programme are being conducted in parallel with the consultations on the strategic review.

26. The thirtieth session of the Committee will focus on concrete actions and nexus activities to deliver on the 2030 Agenda and 2°C. The Committee meeting will take place between the high-level dialogue on energy that the UN Secretary-General is convening at the seventy-sixth session of the UN General Assembly (UNGA) (New York, United States of America, 14-30 September 2021) to promote the implementation of the energy-related goals and targets of the 2030 Agenda for Sustainable Development, and the twenty-sixth session of the Conference of the Parties (COP26) to the United Nations Framework Convention on

Climate Change (UNFCCC) (Glasgow, United Kingdom, 1-12 November 2021) – both of those meetings point to the urgency of action. With respect to sustainable resource management, the United Nations Secretary-General is pursuing an initiative on financing attainment of the 2030 Agenda, and as part of that initiative, the UN's regional commissions convened virtual roundtables on the extractive industries. The ECE roundtable was held on 20 January 2021. Shortly thereafter, ECE participated in an event on critical raw materials that was hosted by the United Kingdom, and during the sixty-ninth session of the Commission, ECE joined with the United Kingdom to host a dedicated event on a new framework for international cooperation on sustainable resource management. At all of these events, ECE proposed a five-point plan action plan to secure needed resources:

(a) **Social Contract:** a comprehensive Socio-Environmental-Economic Contract to Operate is needed that integrates quality of life, just transition, climate change mitigation and adaptation, and environmental stewardship;

(b) **Sustainable Finance Principles and Taxonomy:** Investors should move towards Environmental, Social and Governance (ESG)-focused funding based on a common sustainable finance framework;

(c) **Sustainable Resource Management System:** The industry should align with a principles-based sustainable resource management framework offered in ECE's UNFC and UNRMS;

(d) **Supply Chain Traceability:** Stakeholders can develop a comprehensive framework for traceability, transparency, and sustainability in resource supply chains;

(e) **Strategic environmental assessments of plans** can help manage negative impacts and provide a comprehensive planning tool that promotes governance and innovation.

27. At all three events there was consideration of resources as a service rather than as commodities. The UN Secretary-General will convene a global roundtable on extractive industries on 25 May 2021 at which these points will be presented. The Director noted that securing critical raw materials will be essential for not only the green transition but also for safeguarding future economic resilience.

28. In closing, the Director outlined the role that the ICE-SRMs will be expected to play in the further development and global deployment of UNFC and UNRMS. They will be essential actors in building cross-cutting competencies and delivering on the Sustainable Development Goals (SDGs). The Director re-issued the call for support of the ICE-SRMs.

29. The Expert Group noted with appreciation the recommendation from the Committee on Sustainable Energy at its twenty-ninth session to consider submitting the draft revised ECOSOC Decision on UNFC to the sixty-ninth session of ECE. It was noted that the Commission at its sixty-ninth session agreed to submit the draft revised ECOSOC Decision on UNFC to ECOSOC.

30. The Expert Group noted that it had participated in the preparation of the draft strategic review of the ECE sustainable energy subprogramme (ECE/ENERGY/2020/12) initiated at the twenty-ninth session of the Committee. The Expert Group further noted that sustainable resource management is a strategic priority of the subprogramme and that resource production, transformation and use, if properly managed, can ensure beneficial social and environmental outcomes.

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

VIII. United Nations Framework Classification for Resources and United Nations Resources Management System guidelines and best practices for the delivery of the Sustainable Development Goals (agenda item 6)

32. A panel session discussed enabling sustainability principles in resource management. The perspectives from governments, companies and the financial reporting sector were provided by Ms. Jennifer McCoy, Senior Manager – Energy, Ernst & Young LLP, Ms. Teresa Ponce de Leão, President, Laboratório Nacional de Energia e Geologia (LNEG), Portugal, and Mr. Igor Shpurov, General Director, State Committee on Mineral Reserves of the Russian Federation.

33. The Chair presented the draft vision and strategy for the Expert Group prepared by the Bureau of the Expert Group and as contained in document ECE/ENERGY/GE.3/2021/7.

34. The Expert Group supported developing and deploying UNFC and UNRMS as a framework to support the management of resources to attain the SDGs. The Expert Group agreed in principle on its vision and strategy for application of UNFC and UNRMS for furthering sustainable development (ECE/ENERGY/GE.3/2021/7) and, in particular, its vision statement *"Using the convening power of the United Nations, we support attainment of the 2030 Agenda for Sustainable Development by providing and facilitating use of a universal information framework for integrated, circular and sustainable resource management."* The Expert Group requested the Bureau to circulate the vision and strategy electronically for broad consultation and, should the feedback indicate that this would be useful, to conduct a virtual session to explain the vision and strategy and collect additional inputs. Following this, the vision and strategy should be finalized and circulated to the Expert Group.

35. The Expert Group requested the Bureau, in cooperation with the secretariat, to examine the working group structure of the Expert Group to ensure that all stakeholder and user groups of UNFC and UNRMS are well represented and that cross-cutting activities are promoted.

36. The Expert Group noted with appreciation the work of the SDGs Delivery Working Group and requested it to develop detailed guidelines and best practices on the effective use of UNRMS for sustainable development, taking into consideration resource management as a public good and a transition vehicle to a circular economy (ECE/ENERGY/GE.3/2021/15).

37. Ms. Ana Rachael Powell, Executive Office of the Secretary-General, United Nations, New York, provided a summary of the United Nations regional roundtables on extractive industries and sustainable development organized during the previous five months. She also provided an overview of the proposed policy paper on extractive industries and the United Nations Global Roundtable on "Extractive Industries: Transforming the Sector into an Engine for Sustainable Development - Financing for Development in the Era of COVID-19 and Beyond" to be held virtually on 10 May.

38. The Expert Group noted the outcome of the United Nations Deputy Secretary-General-led High-level Roundtable on "Extractive Industries and Sustainable Development in the UNECE region" and the forthcoming Global Roundtable on Extractive Industries on 25 May. The Expert Group requested the Committee on Sustainable Energy to recommend to member States to develop and deploy a five-point resource management framework on (i) a comprehensive social contract to operate; (ii) sustainable finance principles; (iii) a sustainable resource management system; (iv) supply chain traceability; and, (v) strategic environmental assessment for global adoption.

39. In the session, "Critical Raw Materials: The driver for the new low-carbon economy: How can we make supply sustainable?", a panel moderated by Ms. Alessandra Hool, CEO, ESM Foundation and Project Manager, International Round Table on Materials Criticality, provided insights on the sustainability of critical raw materials (CRMs) supply. Inputs were provided by Mr. Milan Grohol, Policy Officer, DG GROW, European Commission and Vice-Chair of the Expert Group; Mr. Magnus Ericsson, RMG Consulting, Sweden; Ms. Luisa Moreno, Tahuti Global, Uganda/Canada; Mr. Carlos Peiter, Centre for Mineral Technology,

Brazil; Mr. Gavin Mudd, RMIT University, Australia; Mr. Nathan Williams, Minespider, Germany; Mr. Thirtha Biswas, CEEW, India; and Ms. Dieuwertje Schrijvers, WeLOOP, France.

40. The Expert Group noted the G7 economic resiliency initiative on CRMs led by the United Kingdom of Great Britain and Northern Ireland and agreed to include the framework for sustainable management of CRMs in UNRMS, as well as details in support of the "Resources as a Service" model.

41. A rich panel session debated the topic of women advancing net zero in the oil and gas sector. Ms. Marcela Vaca, General Director, Geo-Park, Latin America, presented on GeoPark as an independent oil and gas company with one of the industry's lowest upstream carbon intensities. She outlined greenhouse gas (GHG) emissions reduction challenges in Latin America as well as filling the gender gap in the oil and gas industry. Mr. Chike Nwosu, Chief Executive Officer, WalterSmith Petroman, Nigeria, discussed a new Social Contract on Natural Resources from the perspective of his company as an independent energy company in Nigeria. Ms. Åshild Hanne Larsen, Chief Information Officer and Senior Vice President, Corporate IT, Equinor, shared how technology and diversity enable a low carbon future. Ms. Elisabetta Purlali, Senior Vice President and Head of LNG Equity Valorization, ENI, presented a roadmap to zero emissions, including the relevance of the local sustainable energy, people and the contribution of women to the energy transition.

42. The Co-Chairs of the Women in Resource Management Working Group, Ms. Maria Capello and Ms. Cristina Marras-Robinson, presented an update on the activities of the Working Group and its vision for future work.

43. The Expert Group noted with appreciation the work of the Women in Resource Management Working Group (ECE/ENERGY/GE.3/2021/14).

44. Mr. Vitor Correia, Secretary-General, International Raw Materials Observatory (INTRAW) and Chair of the Competent Person Working Group of the Expert Group, provided an overview of the activities and recommendations of the Working Group.

45. The Expert Group agreed with the recommendation of the Competent Person Working Group to merge the two guidance documents on (i) Evaluator qualifications, and (ii) Competent Person Requirements and to submit the new guidance to the Expert Group at its thirteenth session.

46. The Expert Group agreed to the need to be ESG-focused on competency requirements and requested the Competent Person Working Group to focus on what is required for producing a qualified assessment as opposed to what is required to be a Competent Person.

IX. Development of the United Nations Resource Management System (agenda item 7)

47. Ms. Teresa Ponce de Leão, Chair, UNRMS Subgroup, presented an overview of the provisional structure and guidelines of UNRMS. She outlined a tentative timeline for the accelerated development of UNRMS with widespread engagement by all stakeholder groups and conducting of pilot studies in collaboration with the ICE-SRMs.

48. Mr. Julian Hilton, Chair, SDGs Delivery Working Group, presented on "Redefining resource management as a public good: UNRMS as a transition vehicle to the circular economy" (ECE/ENERGY/GE.3/2021/15).

49. The Chair described UNFC as a system of project classification and presentation of the associated quantities of product. It accounts, in its classification, for project maturity as well as for social, environmental and financial considerations. It is unique amongst resource classification schemes in this aspect and brings great value to the stakeholders in understanding the projects being evaluated. However, it is only one piece of the considerations that may need to be made in the choice of projects to progress – stakeholders need a management system that provide this additional data, again in a consistent manner. UNRMS will provide this additional information, as well as more guidance on key issues

such as competency and quality measures in the estimates, and of particular importance how to work on education within communities on the impact of different project choices.

50. UNRMS will have a project classification component to describe the readiness or maturity of a project –UNFC will clearly inform this. It will also capture, though, those additional measures that stakeholders need to make decisions. This could include data such as GHG emissions, number of indigenous community jobs created, and the length of the project to understand the timeframe of impacts. Quantity of product is only the start in deciding which projects to take forward. UNRMS will be an "instrument" in a broad sense for the management of resources to support the attainment of the 2030 Agenda. UNRMS will provide the framework to gather this data in a consistent manner.

51. Policymaking stakeholders also need guidance on the principles of what resource management means in the context of achieving the 2030 Agenda. UNRMS will contain a discussion of what issues need to be considered and how the aims of a truly circular and sustainable resource economy can be attained. UNRMS hence will have two facets: the practical data tool and the broader view of how to perform management in a new manner.

52. The Expert Group noted the progress in the development of UNRMS as a global framework for integrated and sustainable resource management. UNRMS will offer both a universal Information Framework to provide stakeholders the information they need and Guidance on increasingly Circular and Sustainable Management of Resources that will benefit society in alignment with the 2030 Agenda for Sustainable Development.

53. Following the request of the Committee on Sustainable Energy, the Expert Group requested the UNRMS Subgroup to accelerate development of UNRMS as a system in line with the proposals outlined in the document "Draft UNRMS: Provisional structure and guidelines" (ECE/ENERGY/GE.3/2021/10).

54. The Expert Group further requested the UNRMS Subgroup to agree with the Bureau a detailed plan for development and adoption of UNRMS, including a timeline with specific and measurable deliverables. The Expert Group requested the UNRMS Subgroup to develop communication briefs to explain the system to all stakeholders. The Expert Group also requested the UNRMS Subgroup, in cooperation with the Bureau, to inform the Committee on Sustainable Energy at its thirtieth session on progress made.

X. Development, maintenance, and implementation of the United Nations Framework Classification for Resources (agenda item 8)

55. Mr. Alistair Jones, Chair, Technical Advisory Group, provided an overview of the activities of the Group during the period October 2020 to April 2021. He emphasized that a significant amount of work was achieved despite the COVID-19 pandemic, including the development of four draft supplementary specifications on minerals, petroleum, nuclear fuel resources and groundwater, as well as a significant amount of other work, including the ongoing update of the Geothermal Specifications and the Anthropogenic Resource Specifications.

56. The Expert Group noted with appreciation the work of the Technical Advisory Group to coordinate and support the activities of all the sectoral Working Groups of the Expert Group. The Expert Group further recommended that the Technical Advisory Group continue to review and validate documents developed by the Working Groups. The Expert Group recommended updating the UNFC Supplementary Specifications and Bridging Documents as required to be consistent with UNFC (2019), as well as development of a Common Glossary.

57. The Expert Group requested the Technical Advisory Group to propose a plan for a project Information Framework, reflecting UNFC and providing key information to support sustainable resource management, and further developing UNFC and other instruments as necessary.

(a) Minerals

58. Mr. Johann Gotsis, Chair, Minerals Working Group, provided an update on the activities and details of the new supplementary specifications for the application of UNFC to minerals. Mr. Mark Burnett, AMC, United Kingdom, provided information on raw materials required for the economic transition.

59. The Expert Group noted with appreciation the work of the Minerals Working Group and the progress made to develop supplementary specifications for the application of UNFC to minerals (ECE/ENERGY/GE.3/2021/5). The Expert Group recommended harmonization, to the extent possible, of titles, content and structure with other sectoral specifications. The Expert Group approved the draft supplementary specifications for the application of UNFC to minerals for public consultation. Subject to the document being approved through its agreed procedures, the Expert Group recommended it be submitted to the Committee on Sustainable Energy for review and endorsement.

(b) Petroleum

60. Mr. Satinder Purewal, Chair, Petroleum Working Group, provided an overview of the achievements of the Working Group and details of the supplementary specifications and guidelines for the application of UNFC to petroleum projects.

61. The Expert Group noted with appreciation the work of the Petroleum Working Group and the progress made in the development of supplementary specifications and guidelines for the application of UNFC to petroleum projects (ECE/ENERGY/GE.3/2021/4). The Expert Group noted that the draft supplementary specifications for the application of UNFC to petroleum were issued for public comment from 3 December 2020 to 1 February 2021 and requested that the text be revised to respond to the comments received. The Expert Group recommended harmonization, to the extent possible, of titles, content and structure with other sectoral specifications. Subject to the document being approved through its agreed procedures, the Expert Group recommended it be submitted to the Committee on Sustainable Energy for review and endorsement.

(c) Renewable energy resources

62. Mr. Jeremy Webb, Chair, Renewable Energy Working Group, provided a summary of the benefits of the application of UNFC to renewable energy. Mr. Kostiantyn Gura, Chair, ECE Group of Experts on Renewable Energy, provided remarks on the cross-cutting collaboration between the two groups of experts and emphasized the importance of aligning the work to Water-Food-Energy-Ecosystems Nexus activities.

63. Ms. Gauri Singh, Deputy Director General, IRENA, delivered a keynote on fast-track energy transitions pathways to win the race to zero and emerging information needs.

64. An expert panel moderated by the Chair of the Expert Group addressed the question "Do integrated energy companies need integrated information systems?" Ms. Long Seng To, Research Fellow, Loughborough University, and Chair, Solar Subgroup; Mr. Bernard Seiller, Past Chair, Society of Petroleum Engineers Oil and Gas Reserves Committee; Mr. Markus Klingbeil, Senior Resource Consultant; and Mr. Matthias Hartung, Independent Energy Expert provided inputs. The need to bring certainty to business and to make projects comparable was highlighted.

65. In the panel discussion on transition to net zero GHG emissions, moderated by Ms. Teresa Ponce de Leão, Vice-Chair the Expert Group, Ms. Gioia Falcone, Chair, Geothermal Subgroup and Rankine Chair and Professor of Energy Engineering Systems, Power and Energy Division, School of Engineering, University of Glasgow; Mr. Mike McCurdy, Managing Director, Energy Advisory Services, ICF; and the Economic Affairs Officer of the ECE Sustainable Energy Division, provided inputs.

66. Ms. Teresa Ponce de Leão, President, LNEG, Portugal, and Mr. Manajit Sengupta, Chief Scientist, National Renewable Energy Laboratory, United States of America, provided inputs on government regulation and planning.

67. The Expert Group noted the benefits of standardized renewable energy resource classification and management, including renewable energy project development; banking and investment; energy and utilities (including integrated energy companies); regulation and accounting; and government policy and planning. The use of standardized resource classifications, including common project milestones and harmonized reporting, promises to reduce transaction costs while improving the quality of information being shared between businesses and governments. The Expert Group further noted the importance of standardized renewable energy resource classification and management in the post-COVID-19 green recovery (ECE/ENERGY/GE.3/2021/13).

68. The Expert Group requested the Renewable Energy Working Group to cooperate closely with the ECE Group of Experts on Renewable Energy in its work and to develop jointly the study outlined in the concept note (ECE/ENERGY/GE.3/2021/13) for presentation to the eighth meeting of the Group of Experts on Renewable Energy and the thirteenth session of the Expert Group.

69. The Expert Group noted the importance of further testing the classification of renewable energy projects using UNFC and agreed to facilitate case studies or pilot projects by countries in cooperation with the Group of Experts on Renewable Energy for presentation at its thirteenth session.

70. The Expert Group further requested the Working Group to continue development of draft specifications for hydropower and marine energy.

(d) Nuclear fuel resources

71. Mr. King Lee, Chair, Nuclear Fuel Resources Working Group and World Nuclear Association, provided an update on the activities of the group including the finalization of the report on "Application of the United Nations Framework Classification for Resources and the United Nations Resource Management System: Use of Nuclear Fuel Resources for Sustainable Development - Entry Pathways." He presented details on the development of the specifications for application of UNFC to nuclear projects. Ms. Luminita Grancea, Nuclear Energy Analyst, NEA, provided details on maximizing uranium mining's social and economic benefits.

72. The Expert Group noted with appreciation the work of the Nuclear Fuels Working Group and the progress made to develop the specifications for the application of UNFC to nuclear projects (ECE/ENERGY/GE.3/2021/11). The Expert Group recommended harmonization, to the extent possible, of titles, content and structure with other sectoral specifications, and approved the draft supplementary specifications for the application of UNFC to nuclear projects for public consultation. Subject to the document being approved through its agreed procedures, the Expert Group recommended it be submitted to the Committee on Sustainable Energy for review and endorsement.

(e) Injection projects

73. The Expert Group noted with appreciation the contribution of the Injection Projects Working Group to the Carbon Neutrality project and the work of ECE Group of Experts on Cleaner Electricity Systems, in particular to the technology brief on Carbon Capture Use and Storage (CCUS)² and the study on Geologic CO₂ storage in Eastern Europe, Caucasus and Central Asia - An initial analysis of potential and policy.³

74. 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. The Expert Group further requested the Working Group to explore the extension of the specifications to encompass storage of hydrogen.

² https://unece.org/sites/default/files/2021-03/CCUS%20brochure_EN_final.pdf

³ https://unece.org/sites/default/files/2021-04/Geologic%20CO2%20storage%20report_final_EN.pdf

(f) Anthropogenic resources

75. Mr. Ulrich Kral, Chair, Anthropogenic Resources Working Group, provided an update on the activities and achievements of the group. Ms. Andrea Winterstetter, Flemish Institute for Technological Research; Mr. Carlo Cormio, Vice President and CEO SERENGEO SRL; Mr. Rudolf Suppes, Project Engineer, CBM GmbH; Ms. Soraya Heuss-Aßbichler, Professor, Ludwig-Maximilians-Universität München, presented a number of case studies on the application of UNFC to secondary resources, including mine tailings.

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

(g) Groundwater resources

77. Mr. Kevin Parks, Chair, Groundwater Working Group, presented an overview of the activities and achievements of the Working Group and details of the draft specifications for the application of UNFC to groundwater.

78. The Expert Group noted with appreciation the work of the Groundwater Working Group and the progress made to develop the specifications for the application of UNFC to groundwater (ECE/ENERGY/GE.3/2021/12). The Expert Group recommended harmonization, to the extent possible, of titles, content and structure with other sectoral specifications and approved the draft specifications for the application of UNFC to groundwater for public consultations. Subject to the document being approved through its agreed procedures, the Expert Group recommended it be submitted to the Committee on Sustainable Energy for review and endorsement.

(h) Social and environmental considerations

79. Mr. Jim Jenkins, Co-Chair, Social and Environmental Considerations Working Group, presented highlights of the revised version of the Guidance for Social and Environmental Considerations for UNFC.

80. The Expert Group reviewed the revised Guidance for Social and Environmental Considerations for UNFC (ECE/ENERGY/GE.3/2021/6) and recommended that the Guidance be posted to the ECE website, and its use encouraged.

(i) Commercial aspects and financial reporting

81. Mr. Sigurd Heiberg, Chair, Commercial Applications Working Group and Petronavit A.S., provided an overview of the activities of the Working Group. A panel comprising Mr. David MacDonald, Chair of the Expert Group; Ms. Kathryn Campbell, Lawyer, Partner, Sullivan & Cromwell LLP; and Mr. Matthias Hartung, Independent Energy Expert, provided inputs on commercial applications of UNFC. Ms. Campbell provided an overview of the ongoing processes for upgrading financial reporting to include sustainability reporting with a focus on the United States Securities and Exchange Commission. Mr. Hartung presented a digital tool on reporting resource projects.

82. The Expert Group noted with appreciation the work of the Commercial Applications Working Group and the information provided in document ECE/ENERGY/GE.3/2021/9. The Expert Group reviewed the draft document "The United Nations Framework Classification for Resources applied to Commercial Assessments – Introductory Guidance" (ECE/ENERGY/GE.3/2021/8) and requested the Commercial Working Group to finalize the guidance. The Expert Group requested to continue building links with external organizations working on sustainability reporting.

83. Mr. Lee White, Executive Director International Financial Reporting Standards (IFRS) Foundation, presented a keynote on developments in sustainability reporting and future plans of the Foundation in this area.

84. In 2020, the Foundation issued a consultation paper on sustainability reporting, which ECE submitted comments on. The responses received confirmed an urgent need for global sustainability reporting standards and support for the Foundation to play a role in their development. The Trustees of the IFRS Foundation are therefore continuing their work on the establishment of an international sustainability reporting standards board within the existing governance structure of the IFRS Foundation.⁴

85. The strategic direction of a new board includes: (a) Investor focus for enterprise value; (b) Sustainability scope, prioritizing climate: due to the urgent need for better information about climate-related matters, the new board would initially focus its efforts on climate-related reporting, while also working towards meeting the information needs of investors on other ESG (environmental, social and governance) matters; (c) Build on existing frameworks: the new board would build upon the well-established work of the Financial Stability Board's Task Force on Climate related Financial Disclosures (TCFD), as well as work by the alliance of leading standard-setters in sustainability reporting focused on enterprise value; and (d) Building blocks approach: by working with standard-setters from key jurisdictions, standards issued by the new board would provide a globally consistent and comparable sustainability reporting baseline, while also providing flexibility for coordination on reporting requirements that capture wider sustainability impacts. The goal is to make a final determination about a new board in advance of COP26.

86. The Expert Group recommended that the Bureau, in cooperation with the Commercial Applications Working Group, explore cooperation with the IFRS Foundation and other relevant bodies on sustainability reporting recognizing the need of all stakeholders and considering issues of real or perceived conflict of interest.

(j) Other potential applications

87. The Expert Group noted with appreciation the work undertaken to apply UNFC to coal associated gas, including coal bed methane (CBM) resources, and requested draft specifications for the application of UNFC to coal associated gas to be submitted to the thirteenth session subject to identification of volunteers.

88. The Expert Group recommended that, subject to volunteers and extrabudgetary funds being identified, subgroups be established to explore the applicability of UNFC and UNRMS to other resources such as hydrogen. The Expert Group requested that any work on hydrogen be integrated and coordinated with the Injection Projects Working Group.

XI. Application of the United Nations Framework Classification for Resources and the United Nations Resource Management System in different geographical contexts (agenda item 9)

89. H.E. Tatiana Clouthier, Minister of Economy, Mexico, provided a brief summary of a planned pilot project to classify mineral projects based on UNRMS and UNFC in Mexico. She emphasized the importance of the mineral industry to the economy of Mexico and the need to align the activities to support the realization of the SDGs.

90. Mr. Juan Miguel Durán, President, National Mining Agency of Colombia, presented an overview of the mining sector in Colombia and plans to implement a pilot project on application of UNFC in the minerals sector in Colombia.

91. Mr. Bob Felix Ocitti, Manager, Operations and Compliance, Petroleum Authority of Uganda and Member, AMREC Working Group, presented progress on the "UNFC Africa" initiative including AMREC and the Pan-African Reporting Code (PARC). He provided an overview of pilot projects to apply AMREC in Uganda and Namibia.

92. Mr. Slavko Solar, Secretary-General, EuroGeoSurveys (EGS), moderated a session on showcasing the "UNFC Europe" initiative and the activities of EuroGeoSurveys of relevance to the Expert Group. Mr. Zoltán Horváth, EGS and Mining and Geological Survey

⁴ The <https://www.ifrs.org/news-and-events/news/2021/03/trustees-announce-strategic-direction-based-on-feedback-to-sustainability-reporting-consultation/>

of Hungary (MBFSZ); Mr. Daniel Oliveira, EGS and LNEG Portugal; Ms. Antje Wittenberg on behalf of GeoERA and the Federal Institute for Geosciences and Natural Resources (BGR), Germany; Mr. Tom Bide, British Geological Survey (BGS), United Kingdom; Ms. Kari Aslaksen Aasly, Norwegian Geological Survey (NGU), Norway; Ms. Erika Ingvald, Swedish Geological Survey (SGU), Sweden; Mr. Pasi Eilu and Mr. Janne Hokka, Geological Survey of Finland (GTK), Finland; Mr. Sebastian Pfeleiderer, Geological Survey of Austria (GBA), Austria; Mr. Gábor Kovács, MBFSZ, Hungary; and Mr. Serge Van Gessel, TNO, Netherlands, delivered presentations and provided valuable inputs.

93. The Expert Group noted the "UNFC Europe" initiative's progress to harmonize classification and management of raw materials at the European Union level under the European Commission's Raw Materials Initiative. The Expert Group further 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 Africa Mining Vision under the leadership of the African Union Commission's AMREC Working Group.

XII. 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 10)

94. The Director of the ECE Sustainable Energy Division, presented the urgency to address sustainable resource management comprehensively. Pointing to the centrality of energy and resources for attainment of the 2030 Agenda, the imperatives to address both climate change and humanity's resource footprint, and the necessity to secure the resources needed to transition to a sustainable future, he outlined three specific areas where action could accelerate attainment of country commitments and objectives: high-performance buildings, methane management, and sustainable resource management. On the latter there is a clear need to put in place a global framework to which all stakeholders can commit.

95. Mr. Igor Shpurov, First Vice-Chair of the Expert Group, presented on the progress to establish an International Centre of Excellence on Sustainable Resource Management (ICE-SRM) in Moscow. He outlined the goal of the ICE-SRM Moscow to focus on countries of Eurasia. He also outlined the plans of the ICE-SRM Moscow to develop a "clean energy index" that would allow comparison of diverse energy projects on an equal platform, including the carbon footprint.

96. Mr. Viktor Babashev, Director, LLP "Timal Consulting Group", Kazakhstan and Vice-Chair of the Expert Group, presented the status of reserve reporting in Kazakhstan.

97. Mr. JU Jianhua, Director-General, Department of Mineral Resources Protection and Supervision, Ministry of Natural Resources, China, provided a summary of the activities in China related to UNFC and UNRMS, including the updating of the Chinese UNFC Bridging Documents (Bridging Document between the National Standard of the People's Republic of China Classification for Petroleum Resources/Reserves (GB/T 19492-2004) and the Bridging Document between 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 facilitation of global sustainable resource development. Ms. Yang Hua, Deputy Director, Overseas Research Center, China National Oil and Gas Exploration and Development Corporation (CNODC), China, and Mr. Li Jiang, President, Chengdu Kuyun Technology Company Ltd., provided inputs on the development of a UNFC and UNRMS tool kit. The Expert Group commended the Chinese delegation for its efforts in building the tool kit.

98. The Expert Group noted the interest in establishing national and/or regional centres of excellence on sustainable resource management (ICE-SRMs) worldwide based on UNFC and UNRMS, with technical and coordination support from the ECE secretariat and the Expert Group. The Expert Group in particular noted the progress made to establish a centre of excellence on sustainable resource management in Russia for the Eurasia region, in China, and in Mexico for the Latin America region.

99. In the session on UNFC and UNRMS to support food-water-energy nexus and "build back better" from the COVID-19 pandemic, the ECE Regional Advisor for Energy provided an update on UN Development Account Projects and Regular Programme of Technical Cooperation (RPTC) activities of relevance for the Expert Group. Case studies on the application of UNFC for integrated water-energy management were presented by Mr. Boban Jolović, Head of Department for GIS, Geological Survey of Republic of Srpska, Bosnia and Herzegovina, Mr. Radoslav Vukas, Consultant, Serbia; Mr. Georgiy Freiman, Chairman of the Executive Committee, Public Association of Independent Subsoil Experts of Kazakhstan; Mr. Arkady Rogalsky, Executive Director, Kyrgyz Society of Subsoil Experts, Kyrgyzstan; and Mr. Raymond C. Pilcher, President, Raven Ridge Resources Inc, Chair, Group of Experts on CMM and Just Transition Lead.

100. UN Development Account Project activities on Micro, Small & Medium Enterprises (MSMEs) and Resource Management in response to COVID-19 were discussed. Guidelines and best practices for MSMEs to assure resiliency and progress towards a circular economy in sustainable resource management and critical raw material supply chain solutions was presented by Mr. Hartwig Gielisch, DMT, Germany. Mr. Heorhii Rudko, Chairman, State Commission of Ukraine on Mineral Resources, Ukraine; and Mr. Rahmonbek Bakhtdavlatov, Chairman of the State Commission of Tajikistan on Mineral Reserves, Tajikistan, discussed customization of the guidelines and best practices for Ukraine and Tajikistan respectively.

101. Ms. Kankana Dubey, University of Strathclyde, United Kingdom and ECE Consultant, presented the results of the ECE study Women Entrepreneurship in Natural Resource Management: Challenges and Opportunities for the Micro-, Small and Medium-sized Enterprises (MSMEs) Sector in the post-COVID-19 Socio-economic Recovery.⁵ The study was funded by RPTC.

102. The Expert Group noted with appreciation the ongoing projects that support the application of UNFC, in particular (i) the European Commission-funded project to support UNECE member States in the development and implementation of UNFC and UNRMS; (ii) 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); and (iii) Global Initiative towards post-COVID-19 resurgence of the MSMEs sector (funded by the United Nations Development Account).

XIII. Communications, promotion, and outreach (agenda item 11)

103. Ms. Carolina Coll, Chair, Communications Working Group and the secretariat provided an update on the extensive communications and outreach activities undertaken in 2020 and 2021, including the Resource Management Young Member Group proposal. The future work plan of the Working Group was introduced.

104. The Expert Group noted with appreciation the work of the Communications Working Group and, in particular, the progress made on the Young UNFC initiative. The Expert Group agreed to the Resource Management Young Member Group (RMYMG) proposal as presented (EGRM-12/2021/INF.2) and requested an update on its implementation at the thirteenth session.

105. The Expert Group recommended that an educational and training session on UNFC and UNRMS be organized on the first day of the thirteenth session.

XIV. Cooperation with other organizations and entities (agenda item 12)

106. The Chair noted the need for the Expert Group to cooperate with a broad array of organizations and entities, including but not limited to: African Minerals Development Centre (AMDC), African Union Commission (AUC), Establishing the European Geological Surveys Research Area to deliver a Geological Service for Europe Project (GeoERA), European Federation of Geologists (EFG), EuroGeoSurveys (EGS), European Cooperation

⁵ <https://unece.org/sed/documents/2020/12/reports/women-entrepreneurship-natural-resource-management-challenges-and>

in Science and Technology (COST) Mining Association of Canada, Mining the European Anthroposphere Project (MINEA), GeoScientists Canada, European Investment Bank (EIB), Extractive Industries Transparency Initiative (EITI), Global Reporting Initiative, International Accounting Standards Board (IASB), International Atomic Energy Agency (IAEA), International Electrotechnical Commission (IEC), International Organization for Standardization (ISO), Natural Resources Canada (NRCan), and the UN Environment Programme International Resource Panel. The need to achieve synergies and complementarity of efforts and to avoid overlap and duplication was emphasized.

107. The Chair further noted that the vision and strategy for the Expert Group discussed under item 5 would necessitate engaging new stakeholders and experts in the work of the Expert Group.

XV. Work plan for 2020-2021 and work plan for 2022-2023 (agenda item 13)

108. The Chair noted that a comprehensive update on the implementation of the work plan for 2020-21 had been provided under the previous agenda items.

109. The Chair introduced the draft work plan for 2022-2023, noting that it was extremely ambitious.

110. The Expert Group noted with appreciation the work of the Bureau and the secretariat to manage and direct the Group's activities between annual sessions despite human and financial resource constraints and the unprecedented situation caused by the COVID-19 pandemic.

111. The Expert Group noted that it had made good progress to implement its work plan for 2020-2021 despite the challenging situation caused by COVID-19. The Expert Group agreed to its draft work plan for 2022-2023 (ECE/ENERGY/GE.3/2021/3) subject to the amendments agreed at the meeting and reflecting any changes in the work plan implied in the light of the vision and strategy for UNFC and UNRMS discussed under item 5, and requested the secretariat to submit it to the thirtieth session of the Committee on Sustainable Energy for approval.

XVI. Other business (agenda item 14)

112. 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 thirteenth 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.

XVII. Adoption of conclusions and recommendations (agenda item 15)

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

XVIII. Adoption of the report and close of the meeting (agenda item 16)

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